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中国通号

中國鐵路通信信號股份有限公司

China Railway Signal & Communication Corporation Limited*

(A joint stock limited liability company incorporated in the People's Republic of China)

(Stock Code: 3969)

**INTERIM RESULTS ANNOUNCEMENT
FOR THE SIX MONTHS ENDED 30 JUNE 2023**

The board of directors (the “**Board**”) of China Railway Signal & Communication Corporation Limited* (中國鐵路通信信號股份有限公司) (the “**Company**”) hereby announces the unaudited interim results of the Company and its subsidiaries for the six months ended 30 June 2023. This announcement is in compliance with the relevant requirements of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “**Hong Kong Stock Exchange**”) in relation to information to accompany preliminary announcements of interim results.

PUBLICATION OF THE INTERIM RESULTS ANNOUNCEMENT AND INTERIM REPORT

This interim results announcement is published on the HKEXnews website of the Hong Kong Stock Exchange at www.hkexnews.hk and the website of the Company at www.crsc.cn.

The 2023 interim report will be dispatched to the Company’s H shareholders in due course and will be published on the aforesaid websites of the Company and the Hong Kong Stock Exchange.

By order of the Board
China Railway Signal & Communication Corporation Limited*
ZHOU Zhiliang
Chairman

Beijing, the PRC
24 August 2023

As at the date of this announcement, the executive directors of the Company are Mr. ZHOU Zhiliang and Mr. Zhang Quan, the non-executive director of the Company is Mr. GUO Yonghong and the independent non-executive directors of the Company are Mr. YAO Guiqing, Mr. YAO Cho Fai Andrew and Mr. FU Junyuan.

* For identification purpose only

IMPORTANT NOTICE

THE BOARD AND THE SUPERVISORY COMMITTEE OF THE COMPANY AND THE DIRECTORS, SUPERVISORS AND MEMBERS OF THE SENIOR MANAGEMENT WARRANT THE TRUTHFULNESS, ACCURACY AND COMPLETENESS OF THE CONTENTS HEREIN AND CONFIRM THAT THERE ARE NO MISREPRESENTATIONS OR MISLEADING STATEMENTS CONTAINED IN, OR MATERIAL OMISSIONS FROM, THIS INTERIM REPORT, AND ACCEPT SEVERAL AND JOINT LEGAL RESPONSIBILITIES.

WARNING OF SIGNIFICANT RISKS

The Company has described the risk factors in detail in this report. For the description of relevant risks, please refer to "Management Discussion and Analysis" under Section III of this report.

ALL DIRECTORS OF THE COMPANY ATTENDED THE BOARD MEETING.

THIS INTERIM REPORT WAS UNAUDITED.

ZHOU ZHILIANG, PERSON-IN-CHARGE OF THE COMPANY, LI LIANQING, CHIEF FINANCIAL OFFICER, AND ZHANG SHIHU, HEAD OF THE FINANCE DEPARTMENT (PERSON IN CHARGE OF ACCOUNTING), CONFIRM THAT THE FINANCIAL REPORT IN THIS INTERIM REPORT IS TRUE, ACCURATE AND COMPLETE.

PROFIT DISTRIBUTION PLAN OR RESERVES-TO-EQUITY TRANSFER PLAN DURING THE REPORTING PERIOD AS CONSIDERED BY THE BOARD

None

WHETHER THERE ARE IMPORTANT MATTERS SUCH AS SPECIAL ARRANGEMENTS FOR CORPORATE GOVERNANCE

Applicable Not applicable

DISCLAIMER OF FORWARD-LOOKING STATEMENTS

Applicable Not applicable

This report contains forward-looking statements that are based on some subjective judgements and prospective assumptions with precedent conditions to the domestic and overseas economic trends and macro policies in the future. The judgements and assumptions may change under the influence of constraints. The final results or trends may differ from these forward-looking statements.

The forward-looking statements included in this report in relation to future plans, development strategies, etc. do not constitute any substantive commitment to investors by the Company. Investors should be aware of investment risks.

WHETHER THE CONTROLLING SHAREHOLDER OR OTHER RELATED PARTIES HAVE MISAPPROPRIATED THE COMPANY'S FUNDS FOR PURPOSES OTHER THAN FOR BUSINESS

No

WHETHER THE COMPANY HAS PROVIDED EXTERNAL GUARANTEES IN VIOLATION OF ANY PRESCRIBED DECISION-MAKING PROCEDURES

No

WHETHER THE COMPANY HAS MORE THAN HALF OF THE DIRECTORS THAT CAN NOT GUARANTEE THE TRUTHFULNESS, ACCURACY AND COMPLETENESS OF THE INTERIM REPORT DISCLOSED BY THE COMPANY

No

OTHERS

Applicable Not applicable

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Documents Available
for Inspection

The financial statement signed and stamped by the legal representative, chief financial officer and the person in charge of accounting of the Company.
Original copies of all documents and announcements of the Company disclosed publicly during the Reporting Period.

SECTION I DEFINITIONS

Unless otherwise stated in context, the following terms should have the following meanings in this report:

Definition of common words

A share(s)	ordinary share(s) in the share capital of the Company, with a nominal value of RMB1.00 each, which are listed on the SSE and traded in RMB
ATO	Automatic Train Operation, the automatic train operation system, a system that automatically adjusts the speed and operation status of trains to automatically control a train's operation
ATP	Automatic Train Protection, the automatic train protection equipment that automatically brakes train when it exceeds speed limits
Board	the board of directors of the Company
CBTC	Communication Based Train Control System, train control system for urban transit, the wireless communication-based automatic train control system, a wireless communication system for urban transit that enables bidirectional communication between vehicle and ground facilities to control the operation of trains
China or the PRC	the People's Republic of China, which for the purposes of this report excludes Hong Kong, Macau and Taiwan
CNRG	China National Railway Group Co., Ltd. (中國國家鐵路集團有限公司)
CRSC Group	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司), the controlling shareholder of the Company
CRSC or our Company or Company	China Railway Signal & Communication Corporation Limited* (中國鐵路通信信號股份有限公司)
CSRC	China Securities Regulatory Commission (中國證券監督管理委員會)
CTCS	Chinese Train Control System, developed by China for ensuring the safe operation of trains, which is divided into 0 to 4 levels based on function and equipment configuration according to the operational requirements of different lines. The higher the level, the faster the train speed applied and the higher the technical difficulty
Director(s)	the director(s) of the Company
EPC	Engineering Procurement Construction, the whole process or certain stages of the contract entrusted by the owner to the Company to carry out the design, procurement, construction, and trial operation of the construction project in accordance with the contract

SECTION I DEFINITIONS

Group	the Company and its subsidiaries
Hong Kong Stock Exchange	The Stock Exchange of Hong Kong Limited
Reporting Period	the six months ended 30 June 2023
SASAC	the State-owned Assets Supervision and Administration Commission of the State Council (國務院國有資產監督管理委員會)
SSE	the Shanghai Stock Exchange
TACS	Train Autonomous Circumambulation System, the automatic train operation system, a signal system for a train to realize autonomous resource management and active interval protection based on the operation plan and real-time location of the train

Note: In this report, figures shown as totals may not be an arithmetic aggregation of the figures preceding them due to rounding adjustments.

SECTION II

BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

CORPORATE INFORMATION

Chinese name of the Company	中國鐵路通信信號股份有限公司
Chinese abbreviation	中國通號
English name of the Company	China Railway Signal & Communication Corporation Limited
English abbreviation	CRSC
Legal representative of the Company	ZHOU Zhiliang
Registered office of the Company	20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing
Historical change of registered office of the Company	In November 2017, the Company's registered office was changed from B 49 Xisihuan South Road, Fengtai District, Beijing to 20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing
Principal place of business	CRSC Building, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing
Postal code of principal place of business	100070
Website of the Company	www.crsc.cn
E-mail	ir@crsc.cn
Principal place of business in Hong Kong	40th Floor, Dah Sing Financial Centre, No. 248 Queen's Road East, Wanchai, Hong Kong
Index to changes during the Reporting Period	None

CONTACT PERSONS AND CONTACT METHODS

Name	Secretary to the Board
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BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

INFORMATION DISCLOSURE AND PLACE OF INSPECTION

Newspapers designated by the Company for information disclosure	China Securities Journal (www.cs.com.cn), Shanghai Securities News (www.cnstock.com), Securities Times (www.stcn.com) and Securities Daily (www.zqrb.cn)
Website for publishing the interim report of the Company	www.sse.com.cn, www.hkexnews.hk
Place of inspection of the interim report of the Company	Board Office of the Company
Index to changes during the Reporting Period	None

BASIC INFORMATION OF SHARES/DEPOSITARY RECEIPTS OF THE COMPANY

(I) Basic information of shares of the Company

Applicable Not Applicable

Basic information of shares of the Company

Class of share	Place of listing and sector	Stock abbreviation	Stock code	Stock abbreviation before change
A share	SSE STAR Market	CRSC	688009	None
H share	Hong Kong Stock Exchange Main Board	CRSC	03969	None

(II) Basic information of depositary receipts of the Company

Applicable Not Applicable

OTHER RELEVANT INFORMATION

Applicable Not Applicable

SECTION II

BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

KEY ACCOUNTING DATA AND FINANCIAL INDICATORS OF THE COMPANY

(I) Key accounting data

Unit: Yuan Currency: RMB

Key accounting data	For the Reporting Period (from January to June)	Corresponding period of last year	Change as compared with the corresponding period of last year (%)
Revenue	16,633,010,199.97	18,383,362,437.75	-9.52
Net profit attributable to shareholders of the listed company	1,823,846,746.52	1,934,084,073.92	-5.70
Net profit deducting non-recurring profit or loss attributable to shareholders of the listed company	1,714,426,935.25	1,881,314,263.17	-8.87
Net cash flows from operating activities	-871,102,628.48	-1,091,172,765.94	-
	As at the end of the Reporting Period	As at the end of last year	Change as compared with the end of last year (%)
Net assets attributable to shareholders of the listed company	45,264,557,562.17	45,323,917,197.95	-0.13
Total assets	118,721,134,594.77	116,806,544,483.88	1.64

(II) Key financial indicators

Key financial indicators	For the Reporting Period (from January to June)	Corresponding period of last year	Change as compared with the corresponding period of last year (%)
Basic earnings per share (RMB/share)	0.17	0.18	-5.56
Diluted earnings per share (RMB/share)	0.17	0.18	-5.56
Basic earnings per share after deduction of non-recurring profit or loss (RMB/share)	0.16	0.18	-11.11
Weighted average rate of return on net assets (%)	4.03	4.25	Decreased by 0.22 percentage point
Weighted average rate of return on net assets after deduction of non-recurring profit or loss (%)	3.79	4.13	Decreased by 0.34 percentage point
R&D investment as a percentage of revenue (%)	4.31	4.11	Increased by 0.20 percentage point

Explanations on the key accounting data and financial indicators of the Company

Applicable Not Applicable

BASIC CORPORATE INFORMATION AND KEY FINANCIAL INDICATORS

DIFFERENCES IN ACCOUNTING DATA BETWEEN DOMESTIC AND OVERSEAS ACCOUNTING STANDARDS

Applicable Not Applicable

(I) **Differences in net profit and net assets attributable to shareholders of the listed company in financial reports disclosed in accordance with international accounting standards and Chinese accounting standards**

Applicable Not Applicable

(II) **Differences in net profit and net assets attributable to shareholders of the listed company in financial reports disclosed in accordance with overseas accounting standards and Chinese accounting standards**

Applicable Not Applicable

(III) **Explanation of differences between domestic and overseas accounting standards:**

Applicable Not Applicable

NON-RECURRING PROFIT OR LOSS ITEMS AND AMOUNTS

Applicable Not Applicable

Unit: Yuan Currency: RMB

Non-recurring profit or loss items	Amount	Notes (if applicable)
Gains or loss from disposal of non-current assets	14,026,928.28	—
Government grants included in profit or loss for the period (except for those closely related to the Company's normal operation and which were granted on a recurring basis subject to certain amount or volume upon fulfillment of specific standards in compliance with the national policies and regulations)	109,332,132.39	—
Reversal of the impairment provision for receivables and contract assets which are tested individually for impairment	—	—
Other non-operating income and expenses apart from the aforesaid items	8,761,430.17	—
Other gain or loss items falling within the definition of extraordinary items	—	—
Less: Effect of income tax	11,890,735.46	—
Effect of minority interest (after tax)	10,809,944.11	—
Total	<u>109,419,811.27</u>	<u>—</u>

Explanations on the non-recurring profit and loss items as defined under the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss 《公開發行證券的公司信息披露解釋性公告第 1 號—非經常性損益》 of the Company, and defining the non-recurring profit and loss items listed in the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss as recurring profit and loss items.

Applicable Not applicable

EXPLANATION OF PERFORMANCE INDICATORS OF NON-ENTERPRISE ACCOUNTING STANDARDS

Applicable Not applicable

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

I. DESCRIPTION OF THE INDUSTRY WHERE THE COMPANY OPERATED AND ITS MAJOR BUSINESSES DURING THE REPORTING PERIOD

During the Reporting Period, the core businesses of the Company remained the rail transportation control system and its derivative businesses. Meanwhile, it carried out the construction of supporting rail transportation projects, the general contracting of municipal informationization and its supporting projects and relevant businesses on the construction of overseas rail transportation. There were no significant changes in business components.

The Company has been deeply rooted in the field of rail transportation control system in China and has deeply participated in the formulation of standards on relevant industries, the R&D and application of autonomous systems, the construction of relevant projects and the upgrading and maintenance of systems. It has a deep understanding of China's railway and urban rail transit policy, operating model, market environment and other market elements, a strong ability to predict market changes and adjust resources for operation and can adapt to changes of the industry rapidly and lead the development of the industry. There were no marked changes in the production and operation models of the Company during the Reporting Period. The Company mainly obtains orders through public bidding, and mainly obtains raw materials for production through centralized procurement. The Company provides integrated and comprehensive services of rail transportation control system or customizable specialized services to its customers under the mature business model of design and integration, equipment manufacturing and system implementation.

There were no significant changes in the overall situation of the industry during the Reporting Period. Seen from the perspective of global railway industry, railroad infrastructure construction will maintain a relatively high growth momentum around the globe while technology, market and resources will continue to concentrate in leading enterprises. The rising trade protectionism in the European and US markets, and changes in the international situation intensified competitions in the international market.

With respect to the railroad industry in China, the continuity of national policies provided development opportunities for railroad infrastructure construction in China, which is expected to maintain a relatively high growth momentum in the next few years. However, as the Company's businesses are at the tail end of the railroad infrastructure business, there is some delay in the effect of relevant favorable factors. Meanwhile, there is a notable tendency that the focus of high-speed rail investment is shifting from new construction to reconstruction, operation and maintenance. Based on the lines that have been in operation for more than 10 years, it is estimated that over 10,000 kilometers of high-speed railroads have entered the stage of overhaul and renovation as of now. For normal-speed railroads, the focus will be on the reconstruction of existing railway corridor projects, such as electrification, standards upgrading, capacity expansion and renovation. Meanwhile, taking into account the analysis of projects that are carrying out preliminary research and planning, the new normal-speed railroads will see a year-by-year growth trend after the "14th Five-Year Plan".

Seen from the perspective of the global urban rail transit industry, there is still some space in the overall market. Southeast Asia, Middle East, Central and South America and other regions have a relatively big market space.

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MANAGEMENT DISCUSSION AND ANALYSIS

Seen from the perspective of the domestic urban rail transit industry, despite the tightening national policies, new metro plans approved are sufficient to support the development of the industry. During the “14th Five-Year Plan” period, the investment in the domestic new metro market will maintain a relatively high level. The proportion of urban express rail construction increased year by year, and it has become a new growth point in construction work. Meanwhile, due to the restrictions of access thresholds, rail transportation with medium and small carrying capacity will become an important option for more cities, the total construction work of which is expected to increase gradually in the future.

The characteristic of high threshold of core technology in the rail transportation control system industry is still a basic factor and there are extremely high requirements for the safety, reliability, stability and sustainability of the products and services provided by enterprises, which requires relevant enterprises to have a strong anti-risk and technology R&D ability to consistently provide reliable and high-quality products and services in the long run. It also has significant cyclical characteristic in the industry, which is determined by the nature of rail transit construction and maintenance itself and the iterations of the core components of the related product systems. According to the requirements of relevant technical specifications and industry practices, the life cycle of high-speed rail transportation control system is generally about 10 to 15 years, while certain outdoor equipment systems are subject to shorter update cycles due to environmental factors. The cyclical characteristics empower certain self-cycling ability of relevant businesses, ensuring enterprises to carry out business at a relatively stable state during a certain period.

II. CORE TECHNOLOGY AND RESEARCH AND DEVELOPMENT PROGRESS

1. Core technology and its leading edges and changes during the Reporting Period

The Company focuses on technology research & development, and promotes sustainable development of its overall business by technology innovations. Since its establishment, the Company has been working in the field of rail transportation control system, and owned many industry-leading core technologies leveraging on its outstanding technology innovation strength. As of 30 June 2023, the Company had 3,901 authorized patents, including 1,902 invention patents issued, to protect its core technologies in the PRC. Meanwhile, the Company signed special confidentiality agreements with relevant technicians regarding core technologies to ensure that core technologies would not be disclosed or spread.

The core technologies owned by the Company primarily include but not limited to the below:

No	Core technology	Source of technology	Technical level and degree of application
1	Train operation control technology	Independently researched and developed	Train operation control technology has been widely used in HSRs, ICRs and urban transit, which provides core technical guarantee for safe and high-efficient operation of rail transportation. Responding to the demand for highly safe and reliable operation of rail transportation, this technology has addressed certain significant technology issues such as dynamical control curve model of train, precise positioning of train, speed and distance detecting of train, onboard fully functional seamless switch, wireless redundancy coverage of multiple doubling railways, moving blocking and railway network connectivity.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
2	Automatic unmanned train operation technology	Independently researched and developed	Automatic unmanned train operation technology has been successfully applied in the fields of HSRs, ICRs and urban transit. Based on train control system, by using this technology, automatic train operation is realized; through advanced automatic driving control algorithm, certain significant technology issues such as calculation of desired speed curve of train operation, the algorithm of precise stop of train, intelligent control of multiple objects, perception of status in complex operation environment, remote safe control have been addressed, and multiple indicators such as punctuality rate of operation and train parking accuracy and ride comfort and operation consumption have been improved.
3	Integrated automation technology of freight railway	Independently researched and developed	Integrated automation technology of freight railway has been widely used in many marshalling yards in national railway and dispatch centers of railway bureaus, which provides core technology guarantee in improving railway freight efficiency, benefit and safety. The technology has addressed some significant technology issues such as intelligent calculation of freight traffic, intelligent adjustment of running line of railway wagons, intelligent preparation of locomotive usage plan and shunting plan, smart issuance of periodical maintenance and repair plan of vehicles, source control of train operation, as a result, the railway freight efficiency and intellectualization level have been improved.
4	Train traffic control automation technology	Independently researched and developed	Train traffic control automation technology has been widely used in HSRs, ICRs, urban transit and some normal-speed railways. This technology integrates computer technology, network technology and control technology, forms a closed-loop system of train operation dispatch and instruction, addresses technology issues such as train tracing, automatic control for hump rolling routes, prevention and control of mistaken receiving-departure at multi-directional hub station, train dispatch management and control at sectional station and intermediate station and intelligent adjustment of operation plan, as a result, automation level of operation instruction and emergent handling level under fault conditions have been improved.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
5	Intelligent detection, operation and maintenance technology of rail transportation	Independently researched and developed	Intelligent detection, operation and maintenance technology of rail transportation has been successfully used in the fields of HSRs, normal-speed railways, urban transit. This technology has used big data system and cloud service technology to promote the development of rail transit inspection operation and maintenance to the direction of digitization, intelligence and informatization. With the technologies such as diverse integration of intelligent perception, multi-drive engines integration of analysis and judgement, big data health assessment analysis as breakthrough points, through expert system, mode identification, trend analysis, comprehensive appraisal, comprehensive positioning and mobile internet, it has realized the advance prediction of rail transit operation risks, active maintenance and health management of key equipment during whole lifetime based on all factors such as personnel, equipment, environment and operation and maintenance processes, improved the maintenance efficiency of equipment, effectively shortened breakdown time, and significantly decreased the failure rate of equipment.
6	Train control integration technology	Independently researched and developed	The train control integration technology has been widely used in the fields of HSRs, ICRs, urban transit. Through the integrated engineering software design platform integrating data platform technology and graphic software technology, the technology has been applied to make engineering design, data allocation, automatic compiling an organic entirety, resulting in the improvement of software integration; by summarizing features of domestic hub and utilization scenario, an integration process of site installation, commissioning, test and construction standardization has been built. This technology is appropriate for the connectivity of different modes of equipment with various operation grades at newly-built routes, reconstructed routes and complex hubs.
7	Safe computer platform technology	Independently researched and developed	The safe computer platform technology has been widely used at the train operation control system centers, stations, onboard safe control devices, which provides a very safe, reliable, high-performed and expandable basic software and hardware platform for products. This technology has addressed some core technology issues such as safe drive and collection based on electronic components, clock level multi-machine synchronous comparison, operation fault detection and fast redundancy switch, and it has been granted highest grade safety certification of the International Functional Safety Standard.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
8	Mobile frequency key control signal safety modulation technology	Independently researched and developed	Mobile frequency key control signal safety modulation technology has been widely used in the fields of HSRs, ICRs and normal-speed railways. This technology has built a set of fault-safety rail circuit system with mobile frequency key control signal as power and rail as conductor, addressed contactless safety signal source technology, mobile frequency key control signal digital spectrum analysis technology, all-region at transmission channel detection technology, and realized safe and core functions covering rail section occupancy-idling detection, transmitting information to train through rail, and real-time detection of completeness of rails.
9	Turnout switch technology	Independently researched and developed	Turnout switch technology has been widely used in the fields of HSRs, normal-speed railways, heavy-haul railways and urban transit in the PRC. This technology has addressed the major problems in large-size turnout switch synchronization technology, industrial and electrical interface integration, the switch technology of movable point frog of high-speed turnout, external-locking technology of turnouts, established world-leading high speed turnout switch system technology system, and provided powerful safeguard to the development of railway in the PRC.
10	Rail transportation simulation test technology	Independently researched and developed	Rail transportation simulation test technology has been widely used in the fields of HSRs, ICRs, freight railways, urban transit, which provides support to test and verification processes at various stages of lifetime from plan verification, function development, system integration to engineering execution of train control system, freight and train operation instruction system. This technology has addressed some significant technology issues such as simulation test structure based on distribution semi-physical, modelling approach for complex engineering system, multi-source data at multi-level traceable test management method, automatic test, reappearance of fault and analysis, safe control system interface monitoring, test of optimization deployment of environmental resources, aiming at the requirements of large scale of simulation of tested object, greater isotacticity and strong instantaneity and higher automation, and the utilization of such technology improved the defect remediation rate and quality reliability of tested system.

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No	Core technology	Source of technology	Technical level and degree of application
11	High precision simulation technology based on coupling of multi-physics	Independently researched and developed	High precision simulation technology based on coupling of multi-physics enables ground rail circuit system to work safely and reliably under railway natural conditions, electromagnetic environment and complicated route conditions, including in the circumstances of coupling of multi-physics of high-speed train rails contact electric shunt, high power electrification traction current disturbance, high-frequency transient signal shock caused by lightening, bridge-roadbed-tunnel multispace structure routes, alternating dry-wet ballast bed and parallel running on complex hub multi routes. This technology has been applied to build a high precision simulation analysis platform with error within 0.5%. The platform was used for precise analysis of transmission features of approximately 10,000 typical deployment rail circuits at engineering.
12	Manufacture technology of rail transportation safety products	Independently researched and developed	The operation control system of rail transportation has a high requirement to safety and reliability. Based on complete identification of product manufacture risk, the manufacture technology of rail transportation safety products targets the control in the whole process from material selection, manufacture equipment, production technology, test and detection, reliability verification to lifetime analysis, thus providing a systematic quality assurance basis for the safety and reliability of products.
13	Application technology in broadband wireless communication industry	Independently researched and developed	Application technology in broadband wireless communication industry is based on broadband wireless communication technology of LTE-M/R, which can actualize data transmission and integration of multiple operations, improve the efficiency and experience of trunking command direction system. This technology can meet the railway operation business's demand for wireless broadband, terminal intellectualization and business mobilization.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
14	Comprehensive video monitoring technology for rail transportation	Independently researched and developed	Comprehensive video monitoring technology for rail transportation has been widely used in the transportation fields such as HSRs and ICRs, which provides comprehensive management system containing video monitoring, Big Data display and visualization for safe operation of rail transportation. Aiming at the demand for all-weather and full-coverage monitoring of rail transportation, this technology has addressed the technology issues such as decoding and forwarding of high definition video stream, concurrent read-write, unity and connect of railway three-stage platform, massive video retrieval, intelligent face recognition and certification, intelligent operation and maintenance, clustering of platform management, dynamic load balance of storage resource and engineering, thus, leading the development of comprehensive video monitoring technology for rail transportation.
15	Collaborative transportation and service technology of regional rail transportation	Independently researched and developed	Collaborative transportation and service technology of regional rail transportation focuses on the operation and collaborative linkage of trunk railways, ICRs, urban (suburb) railways and urban rail transportation network in city clusters/metropolitan areas to improve the overall regional transportation capacity, and makes breakthroughs in technologies such as refined prediction of passenger flow in composite road networks, preparation and dynamic adjustment of collaborative transportation plans, global safety situation control and emergency linkage command, intelligent station safety management, and passenger information service in the whole trip chain to improve the overall regional transportation capacity, enhance emergency response and operation and maintenance efficiency, and shorten cross-mode travel time of passengers.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
16	Intelligent transportation and control technology of light rail transit	Independently researched and developed	With train control as the core, intelligent transportation and control technology of light rail transit, based on cloud computing, sets a unified rail transit cloud platform which is deeply interconnected with and intelligently integrates trains, passengers, environment, facilities, equipment, resources and other information, to realize the functions integrating independent train operation control, comprehensive automation, intelligent travel services, and collaborative transport and emergency command. The intelligent transportation and control system applies to a variety of light rail transit systems such as medium and low speed maglev lines, mountain rail transit, and special tourist lines, presenting the trend of data synthesis and business integration of each professional system equipment and guiding the technical development and application direction of the rail transit systems.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
17	Train autonomous operation technology	Independently researched and developed	Train autonomous operation technology has realized autonomous resource management and active interval protection for the train through three key innovations, namely the optimization of platforms, the streamlining of systems and the refinement of resources. With a simplified structure of the system from a complex one and easily-driven complicated functional applications, it achieved full-process and comprehensive protection. It may apply for rail side resources and achieve direct communication among trains based on the tasks on train operation. With on-board autonomous computing and mobile authorization, it improved the utilization rate of rail side resources. The capability on the real-time handling of key businesses and accurate speed detecting and positioning improved the efficiency of train operation. It may formulate corresponding handling mechanisms based on different business demands and meet the demand for the upgrading of different systems.
18	BeiDou navigation system-based train autonomous operation control technology	Independently researched and developed	With BeiDou Navigation Satellite System as the basis, BeiDou navigation system-based train autonomous operation control technology has applied diverse integration and train autonomous positioning technology, integrated longitudinal dynamics models, multi-particle longitudinal dynamics models and safety braking models of trains, combined inspection technologies with high safety, autonomy and completeness on wind pressure, location and speed information and applied the block dynamic swift technology with traffic control as the centre and the dynamic railway capacity allocation strategy, achieving the highly-efficient operation of trains, the simplification of rail side equipment and the centralization of central equipment. It shortened train tracking interval and improved the freight transport capacity.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
19	Full-electronic computer interlocking control technology	Independently researched and developed	All-electronic execution unit for the full-electronic computer interlocking control system has applied safe output, safe cut-off, turnout safety control, safe design of self-inspection on modulo conversion, the structure of double two out of two, network redundancy structure and other technology. Full electronic interlock system and electronic modules have passed third-party safety assessment with the level of safety completeness reaching level SIL4, meeting the requirements on the high safety and reliability of the rail transit signal interlock system and being characterized by small size, easy construction, high reliability, high maintainability and high safety. It full leveraged the industrialization advantages of CRSC and initiated “standardized design, factory commissioning and on-site plugging and splicing” in the industry. It can save the time on on-site indoor construction and installment and equipment commissioning at typical stations by 80% and enjoys a bright future with wide market application.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
20	CTCS2+ATO automatic turnback technology	Independently researched and developed	CTCS2+ATO automatic turnback technology can be widely applied in urban railways to improve the services in the “as-frequent-as-buses” operation of urban railways. The technology addressed technology issues such as safety communication between head and tail of trains, rapid automatic starting, on-site automatic end change and automatic turnback after reaching the destination. It achieved automatic turnback in 3 minutes after reaching the destination and on-site automatic end change in 20 seconds, which can effectively cut down the interval time for turnback, further shorten the tracking interval of trains, reduce the average waiting time of passengers, meet the public travelling demand for “high speed, high density and as-frequent-as-buses services” and relieve urban traffic jam.
21	Video intelligent analysis technology	Independently researched and developed	Video intelligent analysis technology adopted intelligent analysis algorithm, allowing the video system to automatically adapt to all-weather lighting conditions with different density, improving the capacity of resisting disturbance under complicated video background and effectively enhancing the comprehensive analysis performance. It adopted the deep learning technology in artificial intelligence sector and developed a professional algorithm exercise platform through long-term accumulation and improvement of intelligent algorithm sample database for railways, which can flexibly and rapidly meet customized demands under complicated scenarios and achieve automatic empowerment of relevant businesses through accurate judgment, dynamic analysis and ancillary decision-making.
22	400MHz wireless dispatching and communication technology of railway digital trains	Independently researched and developed	Leveraging on digital and wireless advantages, the 400MHz wireless dispatching and communication technology of railway digital trains addresses technical issues such as the bridging of wire SIP communication and wireless PDR communication and business guarantee under failure and weakened conditions. It adopted a professional and integrated hardware platform and fully combined the demand in the wireless dispatching business, achieving data transmission in joint control of trains and railways and reliable communication in voice cluster for wireless dispatching, providing a safe, reliable, effective and convenient means of communication for rail transit, improved the driving safety, transportation efficiency and management and enhanced the quality of wireless communication services.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
23	Full automatic flexible train formation technology	Independently researched and developed	Based on the characteristics of traffic flows at different ranges and hours, the full automatic flexible train formation technology is a transportation organization technology achieving the best collaboration of passenger transport demand and vehicle capacity through the full automatic train formation under vehicle scheduling. It has advantages in improving operation services, reducing energy consumption in traction power supply, cutting down vehicle inspection and repair fees and enhancing the capability on responding to traffic uncertainties and can effectively resolve the problem of unbalanced traffic flows at different operation stages, different operation hours and different areas and facilitate the “high cost performance” in train operation.
24	Heavy-haul train group operation control system technology	Independently researched and developed	Heavy-haul train group operation control system achieves information transmission based on train-ground wireless communication and train-train communication, with advanced functions such as efficient matching of train and hump rolling routes, optimal control strategy of automatic driving, and cooperative driving of multiple vehicles. The system can effectively improve transportation efficiency, decrease labor intensity of drivers, reduce transportation energy consumption, and greatly improve comprehensive efficiency of freight railway transportation.
25	Higher-speed train control system technology (CR450)	Independently researched and developed	Higher-speed train control system technology breaks through the bottleneck of the reliability of safety control and equipment supporting 450km/h high-speed operation, overcomes the difficulty of excessive speed difference between main and backup systems, improves the automatic driving ability of high-speed railway ATO system, enriches and expands the basic theory and engineering practice experience of high-speed railway train control technology in China, which will further enhance the full independence of China’s railway science and technology, consolidate China’s leading position in the global high-speed railway industry and strongly promote the upgrading and transformation of China’s railway network in scale.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
26	High-speed maglev/low vacuum pipeline (tunnel) train control system technology	Independently researched and developed	High-speed maglev train control system technology supports train operation and control of ultra-high speed maglev trains with a speed of 600km/hour or higher, which can be divided into on-board operation control, sectionalized operation control, central operation control and positioning and speed measurement subsystem. Different from the traditional high-speed rail operation control system, the system architecture has overcome various technical difficulties, such as positioning and speed measurement, vehicle-ground communication, levitation guidance and electromagnetic compatibility, and is of great significance to the research of ultra-high speed transportation technology in China.
27	Digital integrated management and control technology of freight yard	Independently researched and developed	Digital integrated management and control technology of freight yard can manage the whole process of goods from mobilization to unloading, transshipment, inspection, loading and exit in the freight yard, build a digital integrated management and control system of freight yard for centralized scheduling of container handling/transshipment equipment such as IGV automatic guided vehicles in the freight yard, improve the automation and intelligent level of key equipment such as front loading and unloading equipment, horizontal transport vehicles, security monitoring in the freight yard, and enhance the efficiency of goods transshipment in the yard.
28	Safety railway intelligent signal display technology	Independently researched and developed	Based on the safety railway intelligent signal display technology, a series of equipment, including intelligent LED annunciator of SIL4 safety level, lighting detection unit and lighting alarm devices, are developed. The intelligent LED annunciator can replace the existing incandescent annunciator and is characterized by high energy-efficiency, high safety, long service life and adjustability, which is an upgraded product of existing railway signal display equipment.
29	System RAM modelling and evaluation technology	Independently researched and developed	System RAM modelling and evaluation technology is to model the system and its components from the perspective of the cognition of system law, estimate and evaluate the reliability, maintainability and usability of the system based on the accumulated product data, structural characteristics and composition of the system, as well as the working environment of the system and other factors, and also identify the main factors affecting the reliability, maintainability and usability of the system, locate key points, and provide a basis for design and iterative optimization; it can help shorten the equipment validation cycle of train control systems and guarantee the performance quality of the product.

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Core technology	Source of technology	Technical level and degree of application
30	Integrated technology on “factory-based” construction in railway signaling & communication projects	Independently researched and developed	Based on BIM modeling, with the target of factory preassembly and fabricated on-site construction and through modularization, unification, plugging and splicing, clustering and fabrication, the integrated technology on “factory-based” construction in railway signaling & communication projects brings forward operation with high on-site labour intensity and high quality requirements at traditional construction sites to the curing process at the factory preassembly stage, which significantly reduces the workload of on-site operation, on-site labor, technical difficulties in on-site construction as well as risks and hidden hazards and improves the quality of projects.
31	Video analysis technology in high-speed railway tunnels	Independently researched and developed	Video analysis technology in high-speed railway tunnels adapts to special conditions such as low illumination level, high temperature and humidity, strong vibration and high wind pressure in tunnels, forming video analysis algorithms such as intelligent disaster prevention and detection, target detection in dark light, front/background separation for the line patrol of the track maintenance division, which provides basic support for the application of integrated video monitoring system in high-speed railway tunnels and guarantees the safety of railway transportation.
32	Vision networking fusion algorithm warehouse technology	Independently researched and developed	With the vision networking fusion algorithm warehouse technology, a warehouse is formed to manage algorithm models, centralize the management of all AI algorithm models and provide AI analysis service capabilities, to realize the rapid integration of multi-manufacturers and multi-versions of algorithms, improve the management capabilities of the lifecycle of the algorithm, enhance the intelligent analysis capabilities of vision networking fusion video and other related products, and boost the performance improvement of the product.

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

The Company actively deployed innovation chain surrounding industrial chain, and was dedicated to transformation and industrialization of core technology achievements. It applied its core technology to rail transportation core systems such as train control system of railway, train control system of ICRs, train control system of urban transit, freight automation system, operation command automation and detection system and communication information system. Through its automatic train operation technology, the Company has realized autonomous resource management and active interval protection, and the corresponding processing mechanism can be customized according to different business requirements; the automatic train and control technology based on BeiDou Navigation Satellite System (BDS) can actualize multi-mode and two-way radio communication through multiple channels such as satellite and public network to satisfy the dynamic configuration of train tracking interval, which can enable moving blocking and improve freight transportation capacity; for the full-electronic computer interlocking control technology, its execution unit has applied safe output, safe cut-off, turnout safety control, safe design of self-inspection on modulo conversion, the structure of double two out of two, network redundancy structure and other technology, meeting the requirements on the high safety and reliability of the rail transit signal interlock system; the CTCS2+ATO automatic turnback technology further shortened the tracking interval of trains, reduced the average waiting time of passengers, met the public travelling demand for “high speed, high density and as-frequent-as-buses services” and relieved urban traffic jam; the video intelligent analysis technology endowed the video system with intelligent analysis and deep learning capabilities, improved the automatic adaptability under all-weather lighting conditions with different density and enhanced the capacity of disturbance resistance under complicated video background, accurate judgment and dynamic analysis; the 400MHz wireless dispatching and communication technology of railway digital trains achieved data transmission in joint control of trains and railways and reliable communication in voice cluster for wireless dispatching and improved the driving safety, transportation efficiency and management; the new full automatic flexible train formation technology has advantages in improving operation services, reducing energy consumption in traction power supply, cutting down vehicle inspection and repair fees and enhancing the capability on responding to traffic uncertainties and can effectively resolve the problem of unbalanced traffic flows at different operation stages, different operation hours and different areas and facilitate the “high cost performance” in train operation; the new heavy-haul train group operation control system technology has advanced functions such as efficient matching of train and hump rolling routes, optimal control strategy of automatic driving, and cooperative driving of multiple vehicles. The system can effectively improve transportation efficiency, decrease labor intensity of drivers, reduce transportation energy consumption, and greatly improve comprehensive efficiency of freight railway transportation; the new higher-speed train control system technology supports safe control and reliable operation at a high speed of 450km/h, improves the automatic driving ability of high-speed railway ATO system, and strongly promotes the upgrading and transformation of China’s railway network in scale; the new high-speed maglev train control system technology supports train operation and control of ultra-high speed maglev trains with a speed of 600km/h or higher, which overcomes various technical difficulties, such as positioning and speed measurement, vehicle-ground communication, levitation guidance and electromagnetic compatibility, and is of great significance to the research of ultra-high speed transportation technology in China; the new digital integrated management and control technology of freight yard can manage the whole process of goods from mobilization to unloading, transshipment, inspection, loading and exit in the freight yard, which improves the automation and intelligent level of the equipment in the freight yard of railway, and enhances the efficiency of goods transshipment in the yard; for the new safety railway intelligent signal display technology, the intelligent LED annunciator it developed is characterized by high energy-efficiency, high safety, long service life and adjustability, and is an upgraded product of existing railway signal display equipment; the new system RAM modelling and evaluation technology provide theoretical basis for the design optimization of the system equipment to further improve the reliability, maintainability and usability of the system, help shorten the equipment validation cycle of train control systems and guarantee the performance quality of the product; the new integrated technology on “factory-based” construction in railway signaling & communication projects brings forward operation with high on-site labour intensity and high quality requirements at traditional construction sites to the curing process at the factory preassembly stage, which significantly reduces the workload of on-site operation, on-site labor, technical difficulties in on-site construction as well as risks and hidden hazards and improves the quality of projects; the new video analysis technology in high-speed railway tunnels adapts to conditions such as low illumination level, high temperature and humidity, strong vibration and high wind pressure in tunnels, forming relevant video analysis algorithms, which provides basic support for the application of integrated video monitoring system in high-speed railway tunnels and guarantees the safety of railway transportation. With the new vision networking fusion algorithm warehouse technology, multi-manufacturers and multi-versions of algorithms will be rapidly integrated to improve the intelligent analysis capabilities of vision networking fusion video and other related products, and boost the performance improvement of the product. The development of core businesses such as design and integration, equipment manufacturing, system implementation of rail transportation operation and control system of the Company will fully depend on its core technology. During the Reporting Period, no material changes in the core technology occurred.

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MANAGEMENT DISCUSSION AND ANALYSIS

The details of awards for the National Technology Award

✓Applicable □Not applicable

Name of Awards	Year of Awards	Name of Projects	Levels of Rewards
National Award for Science and Technology Progress	2002	Integrated technology and equipment for projects related to raising the speed of China's railways	First Prize
National Award for Science and Technology Progress	2006	Model ZPW-2000A jointless frequency shift automatic blocking system	Second Prize
National Award for Science and Technology Progress	2007	Comprehensive Technology and Application of Heavy Haul Transportation for the Datong-Qinhuangdao Railway Line	First Prize
National Award for Science and Technology Progress	2008	Qinghai-Tibet Railway Engineering Project	Grand Prize
National Award for Science and Technology Progress	2009	Key technology and application of onboard safety control system under complex and high-speed conditions	Second Prize
National Award for Science and Technology Progress	2010	Research and application of key technology for the Suining-Chongqing ballastless track	First Prize
National Award for Science and Technology Progress	2012	Beijing-Tianjin Intercity Railway Project	First Prize
National Award for Science and Technology Progress	2015	Beijing-Shanghai High-Speed Railway Project	Grand Prize

Awards of China Patent Award

No.	Name of Patents	Name of Awards	Year of Awards	Awarding Entity
1	A method for dynamically tracking train position in the urban rail transit signal system	Excellent Award under the 17th China Patent Award	2015	China National Intellectual Property Administration
2	A computer interlocking system with centralized control function	Excellent Award under the 18th China Patent Award	2016	China National Intellectual Property Administration
3	A data collection, transmission and processing equipment for the railway CTC system	Excellent Award under the 19th China Patent Award	2017	China National Intellectual Property Administration
4	An on-board device and rail transit train for the automatic operation of CTCS-3 level trains	Excellent Award under the 19th China Patent Award	2017	China National Intellectual Property Administration
5	A track circuit transmitter and the method for realizing fault-oriented safety	Silver Award under the 20th China Patent Award	2018	China National Intellectual Property Administration
6	Train operation control method and device, on-board equipment and train control system	Silver Award under the 21st China Patent Award	2019	China National Intellectual Property Administration
7	Methods and devices for realizing shunting route control by combining STP and CTC	Excellent Award under the 22nd China Patent Award	2021	China National Intellectual Property Administration
8	A track circuit	Excellent Award under the 23rd China Patent Award	2022	China National Intellectual Property Administration
9	A method for realizing wheel diameter calibration by satellite positioning	Excellent Award under the 23rd China Patent Award	2022	China National Intellectual Property Administration
10	A method and device for online fault detection of track circuit cables	Silver Award under the 24th China Patent Award	2023	China National Intellectual Property Administration
11	A method for implementing flexible train formation operation in urban rail transit	Silver Award under the 24th China Patent Award	2023	China National Intellectual Property Administration

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The recognition situation of the National Specialized and New “Small-giant” Enterprises and the Model Enterprise of the manufacturing industry

✓Applicable Not applicable

Awarding body	Title awarded	Year of recognition	Name of products/ name of companies
Ministry of Industry and Information Technology of China	Single Manufacturing Champion Demonstration Enterprise	2020	Complete sets of equipment for rail transit control system
Ministry of Industry and Information Technology of China	Single Manufacturing Champion Demonstration Enterprise	2020	Development and integration of complete sets of equipment for rail transportation control system
Ministry of Industry and Information Technology of China	Single Manufacturing Champion Demonstration Enterprise	2021	Rail transit signal infrastructure
Ministry of Industry and Information Technology of China	Single Manufacturing Champion Demonstration Enterprise	2021	Train operation control system
Ministry of Industry and Information Technology of China	Single Champion Product	2022	Railway signal relay
Ministry of Industry and Information Technology of China	National Specialized and New “Small-giant” Enterprise	2022	Casco Signal (Beijing) Ltd.
Ministry of Industry and Information Technology of China	National Specialized and New “Small-giant” Enterprise	2022	Tianjin Railway Signal Co., Ltd.
Ministry of Industry and Information Technology of China	National Specialized and New “Small-giant” Enterprise	2022	CRSC Wanquan Signal Equipment Co., LTD.
Ministry of Industry and Information Technology of China	National Specialized and New “Small-giant” Enterprise	2023	CRSC Communication & Information Group Shanghai Company Ltd.

2. Research and development achievements during the Reporting Period

During the Reporting Period, in terms of fundamental and forward-looking researches, the Company completed the research on electromagnetic environmental effects of rail transportation and the construction of the test platform, carried out the development of the low-vacuum pipeline ultra-high-speed maglev operation control system, completed the R&D of the sectionalized operation control system and the on-board operation control system and completed the first-stage field test on the ultra-high-speed maglev in the Yanggao test line in Datong, Shanxi and is conducting second-stage equipment optimization. The “Electromagnetic Environmental Effects and Electromagnetic Safety Engineering Research Center in the Railway Industry” and “Engineering Research Center for Intelligent Operation and Maintenance Application Based on New Generation Communication Information Technology in the Railway Industry” became a technological innovation base in the railway industry recognized by the National Railway Administration of the PRC. The Company carried out technical research on SIL4 safety cloud platform, finished the research on the demand for interlocking products and urban rail ancillary products, and is conducting technical solution research on the safety cloud platform.

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In terms of supporting the construction of overseas projects, the joint commissioning and testing of the Jakarta-Bandung Railway, a key flagship project of pragmatic cooperation between China and Indonesia, for which the Company provided with independent CTCS-3 train control system equipment, was completed, which laid a solid foundation for the full operation of China's high-speed railway overseas in terms of system, factors and industrial chain. The Company completed the construction of laboratory in Serbia, supporting the application of ground equipment of ETCS train control system based on baseline 3 in Beograd-Stara Pazova section of the Hungary-Serbia Railway in Serbia; obtained the German DeBo authentication certificate on the JRU part for on-board ATP equipment; completed the DeBo certification on signaling machines and INDUSI transponders in Serbia and obtained the DeBo authentication certificate; completed the construction of the laboratory in Thailand, which strongly supported the renovation of railway signal systems in Thailand.

In terms of supporting significant national strategies, based on long and big ranges, big and long tunnels, long and steep slopes as well as other extreme conditions of Sichuan-Tibet Railway, the Company finished the adaptability analysis and technical route selection of the existing communication signal system in Sichuan-Tibet Railway, developed the opinions on the selection of equipment for the communications and signaling system for Sichuan-Tibet Railway and prepared the analysis report and demand analysis report on the characteristics of Sichuan-Tibet Railway for the selection of the train control system; for CR450 science and technology innovation project, the Company studied solutions on train control systems under two application scenarios, namely the construction of new high-speed rail with a speed of over 400km/h and the speed increase and transformation of existing high-speed rail with outstanding conditions, and developed key technology and equipment; in terms of the group operation control technology for heavy-haul trains of 30,000 tons, the Company completed the study on fundamental TVP train control theories, developed the formal model of railway transportation work flow based on the group operation of unit heavy-haul trains and developed a full set of freight signaling system equipment for heavy-haul trains based on ad-hoc network technologies, which pioneered and led the development direction of heavy-haul trains around the world.

In terms of promoting the technological development of the rail industry, the Company completed the on-site comprehensive trial and verification of new train control system based on BDS and is now conducting an one-year on-site trial; completed the development of on-board and ground equipment of train control system for normal-speed railways and the field test for on-board and ground communication equipment; completed the testing and confirmation on the systems of digital track circuit of railway stations and the SIL4 safety certification; developed the C2+ATO onboard system on train control for urban railways and achieved successful conversion; carried out the research on key technology for 5G-R rail transit and developed the CIR prototype based on full 5G functions; carried out the research of the first 400MHz train digital radio dispatching communication system in China and completed the demonstration test on the Anhui-Jiangxi line of Shanghai Railway Bureau; completed the architecture design, main function development, general algorithm development and packaging of the integrated analysis platform module of the Internet of Videos and deployed it in the field; conducted research on an integrated video surveillance system and completed video containerization and verification and performance testing.

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In terms of promoting the construction of smart urban rail transit, the Company launched its highly effective Qiji autonomous train control system with high-reliability vehicle-to-vehicle communication and vehicle-ground coordination, and authorized to adopt one type of low-speed EMUs for Shanghai Metro Line 3/4, opening a new chapter for the first time in the industry to launch the renovation of the most complex metro signal system; it carried out the development of the TAPS system on autonomous perception of automatic unmanned train environment, won the bid for Ningbo Subway Line 7, and led the industry in technological innovation; in Beijing Subway Line 12 for which the Company won the bid, the Company took the lead in the application and research of key technologies of full automatic and flexible train formation, broke through the traditional operation and organization mode of train control system, which contributed to save energy and reduce carbon. At present, Beijing Subway Line 12 has entered the stage of on-site implementation, and is expected to deliver the model section by the end of the year; “multi-standard compatible signal system for integration of line and network” has been successfully applied in Changchun Subway Line 4, which realized the use of CBTC system at extension line under the condition of digital track circuit signal system of the existing line, and met the operation need in the whole line with compatible standard equipment.

In terms of the development of fundamental equipment, the Company completed the on-road trial of locomotive on-board relays and obtained the application report; completed the development of on-board relay and passed the IEC standard type test conducted by a third party; completed the development of high-frequency digital AC power supply module and the prototype test of the lightweight power system under normal temperature and high and low temperature; achieved the on-road trial, the promotion and application of the outdoor monitoring system (split) for ZPW-2000 range rail circuit, the intelligent diagnosis system on turnout switch, the rail breakage monitoring system of turnouts and other products.

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MANAGEMENT DISCUSSION AND ANALYSIS

Regarding the Company's core technologies and main products, in the first half of 2023, newly applied patents increased by 629, including 549 applied invention patents; newly authorized patents increased by 333, including 259 invention patents. According to the announcement on the preliminary list of the 24th China Patent Award released by the China National Intellectual Property Administration, two invention patents of CRSC, namely "a method and device for online fault detection of track circuit cables" (Patent No. ZL 201810333255.8) and "a method for implementing flexible train formation operation in urban rail transit" (Patent No. ZL 202010457840.6) were awarded the Silver Award under the China Patent Award. The "research and application of a radio block center (RBC) system" and the "research and application of an intelligent operation command system for heavy-haul railway" undertaken by the Company as the main contractor were awarded the first prize under the Scientific and Technological Progress Awards by China Communications and Transportation Association. The project on the "research and development of key technologies and complete equipment for self-sensing and inter-control safety redundant track circuit adapted to multi-physics coupling" undertaken by the Company as the main contractor was awarded the first prize under the Scientific and Technological Awards by China Railway Society; the Company undertook 12 research projects supported by governmental authorities at national and ministerial levels, 14 research projects supported by industrial administration organizations, and the preparations of more than 20 standards at national and industrial levels, and the progress of the four international standards edited by the Company as the lead editor was smooth, and the Company organized and held four online international conferences, and two offline international expert meetings were organized in Beijing and Paris respectively. As a sponsor of authoritative journal Railway Signaling & Communication Engineering in the rail transportation control industry, the Company has published R&D and application achievements in the industrial authoritative journals, such as Railway Signaling & Communication sponsored by CNRG, Journal of the China Railway Society and Railway Signaling & Communication Engineering sponsored by China Railway Society.

List of intellectual property rights obtained during the Reporting Period

	Increase for the period		Accumulative number	
	Number of applications	Number of approvals	Number of applications	Number of approvals
Invention patent	549	259	4,653	1,902
Including overseas patent	30	12	552	223
Utility model patent	74	66	2,649	2,193
Design patent	6	8	181	161
Software copyright	130	95	2,069	1,888
Others	0	0	4	4
Total	759	428	9,556	6,148

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MANAGEMENT DISCUSSION AND ANALYSIS

3. Research and development investment

Unit: RMB

	Amount for the current period	Amount for the corresponding period of last year	Change (%)
Expensed research and development investment	648,673,283.76	648,574,665.76	0.02
Capitalized research and development investment	68,317,319.70	106,704,500.35	-35.98
Total research and development investment	716,990,603.46	755,279,166.11	-5.07
Percentage of total research and development investment in revenue (%)	4.31	4.11	Increased by 0.20 percentage point
Percentage of capitalized research and development investment (%)	9.53	14.13	Decreased by 4.60 percentage points

Reasons for material change on total research and development investment as compared to last year

Applicable Not applicable

Reasons for material change on percentage of capitalized research and development investment and explanation on its reasonableness

Applicable Not applicable

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4. Projects under development

✓Applicable Not applicable

Unit: RMB0' 000

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
1	Research on electromagnetic environmental effects of rail transportation and construction of test platform	4,319.00	768.26	3,988.50	Completed the research on electromagnetic environmental effects of rail transportation and construction of test platform, with the ability for carrying out high-speed rail electromagnetic interference spot test and laboratory simulation. The "Electromagnetic Environmental Effects and Electromagnetic Safety Railway Industry Engineering Research Centre" became scientific and technological innovation base in the railway industry recognized by National Railway Administration of the PRC.	To complete the research on electromagnetic environmental effects of rail transportation and construction of test platform with the ability for carrying out simulation tests such as high-speed rail all-digital electromagnetic environment simulation, off-line electromagnetic interference test of pantograph network, and high-speed rail typical electromagnetic interference coupling simulation.	It can provide technical supports, including real-time collection, simulation analysis, faults reoccurrence and analysis for products electromagnetic interference problems; the testing capability and technical level in the field of electromagnetic environmental effects research of the train control system will reach the domestic leading level.	It can provide theoretical and data support for electromagnetic compatibility design

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No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
2	Research and development of a new generation of centralized traffic control system	15,858.06	1,097.90	9,475.55	Combined with the automatic adjustment requirements of high-speed railway operation plan and the demands for integration of OCC and ESC, the functions related to intelligent CTC were further optimized, completed the application of intelligent CTC automatic adjustment for high speed rail optimization and normal speed railway projects; completed the R&D on the extended application of external interfaces such as ESCs and applied in the Guangzhou Railway Bureau; achieved the combination with current train systems, developed serialized control on hump rolling of shunting trains among sectional stations, completed the application in Xiangyang Station, Yanzhou North Station, Jinzhou Station and other large-scale hub stations and improved the safety and efficiency of operation.	To complete the research and development of a new generation of centralized traffic control system and apply it in engineering practice.	The new generation of centralized traffic control system adopts the principle of intelligent decentralized and self-discipline design to realize the unified control of train and shunting operation, and realize the safety management and card control of station-level operation.	It can be applied in the field of railway

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No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
3	Research and application of high-density automatic operation control technology for ad-hoc network of heavy-haul trains	18,180.98	3,153.05	8,799.72	Completed the research and development and testing of onboard and ground prototype equipment for the ad-hoc network and high-density automatic operation control system of heavy haul train; completed the on-site investigation in the test section to form an implementation plan.	To assemble the equipment for the ad-hoc network and high-density automatic operation control system of heavy haul train.	Based on China's high-speed rail control and autonomous driving technology, the project aims to improve the efficiency and safety of heavy-haul freight rail transportation, which is at the leading level in China.	It can be applied to domestic heavy-haul railways
4	Development of a new train control system	16,294.01	1,139.71	11,925.78	Completed the on-site test of new train control system in the Hetian-Ruoqiang Railway and is trying out in the field; completed the second-stage on-site EMU test at the Pingdingshan Coal Project and the on-site transportation test is under preparation.	To assemble a complete set of equipment for the new train control system.	Based on the mature technical application of the existing train control system and combined with the BDS positioning technology, it builds a moving block technical scheme suitable for heavy-haul railway, shortening the train tracking interval and improving the overall transport capacity of heavy-haul railway.	It can be applied to domestic heavy-haul railway

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
5	Development of train fully-autonomous operation and control system	20,169.63	4,642.90	11,835.06	The system has been put into commercial operation on Shenzhen Metro Line 20, becoming the first TACS system in the industry to operate commercially. The system has been basically stable since its operation for more than one year.	To assemble the train fully-autonomous operation and control system.	It completed the development of the first Train Autonomous Circumambulate System (TACS) based on vehicle-to-vehicle communication in China, which has reached the advanced level in the world.	It can be applied in the field of urban rail transit
6	Basic technology research	7,084.00	624.43	6,176.14	Shanghai Metro Line 3/4 have completed the software developments of large systems, and met the requirement for on-site low-speed testing.	To complete the fundamental and deep-level scientific mechanism research on lightning protection and electromagnetic compatibility of signal products under complex environment to provide scientific basis for subsequent product research and development.	The research aims to improve the safety and reliability of rail side signal equipment of railway and develop digital track circuit and railway safety signal display equipment, which has reached the leading level in the industry.	It can be applied in the field of railway and urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
7	Research on key technology and equipment development of train control system for normal-speed railways	7,420.54	566.71	5,705.63	Digital track circuitry at stations completed confirmation on its systems and safety LED signalling machines have obtained certification from Serbia.	To form a complete set of CTCS-1 system suitable for normal-speed railways.	The system can realize the detour of high-speed railway trains on normal-speed train lines, and the interconnection between high-speed railway network and normal-speed railway network, which has reached the leading level in the industry.	It can be applied in the field of railway
8	Development and application of train control interlocking integration	14,199.21	746.84	14,530.66	Completed the overall technical plan for the locomotive C1 train control system, completed the research and development of the prototype of locomotive C1 vehicle equipment, prototype of ground data server, LKJ and C0 units, and completed the stage safety certification. Completed field tests of vehicle-ground communication and other equipment.	To create train control interlocking integration equipment.	The existing interlocking and train control system is optimized and integrated into a compact-structured and simplified system from a complex one, thus improving the maintainability and reliability of the signal system with higher cost performance.	It can be applied in the field of railway

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
9	Development of basic signal equipment	2,390.00	61.68	1,769.21	Completed the equipment development and production and put into operation in Hetian-Ruoqiang Railway. The system has run stably and reliably for one year, which has been recognized by the users.	To complete the development of a new generation of rail transit signal basic equipment, such as small-sized relay, light-rail switch machine, safe, light-weighted and intelligent railway signal power supply.	This project aims to improve the technical level of signal basic products and develop a new generation of rail transit signal basic products that meet the international and domestic technical needs.	It can be applied in the fields of railway and urban rail transit
10	Integrated development and certification of onboard systems in five European nations	1,148.00	599.16	1,410.09	Completed the on-road trial of locomotive on-board relays and obtained the application report; carried out small-batch trial production and the on-road trial of onboard relays.	To develop ETCS onboard system applicable to the operation requirements of five European nations, and complete safety certification, NoBo certification and DeBo certification, so as to support the promotion and application of our ETCS onboard products in European core markets.	It meets the B3R2 technical standard of the highest version of ETCS baseline 3, supports E2 and E1 operation levels, meets the local functional requirements of five European nations and the non-stop operation requirements of transnational interconnection, and boasts the world-class level.	It can be applied in the railways in five European nations (Germany, Austria, Switzerland, Hungary, Slovakia)

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
11	Development and application of intelligent subway operation and maintenance	9,030.77	457.44	6,105.26	Completed the development of high-frequency digital AC power supply module, and completed the small batch trial production of DC high-frequency switching power supply module ; completed the trial production of the prototype of light-weighted power system.	To realize the condition maintenance based on intelligent operation and maintenance system, comprehensively improve equipment reliability, prolong equipment service life, greatly improve maintenance efficiency and greatly save labor cost.	The proposed digital operation and maintenance theory of the whole life cycle of train control system, adopts technologies such as train control multi-source digital perception, multi engine intelligent analysis and diagnosis, and health management based on cloud platform, which are at domestically and internationally leading level.	It can be applied in the fields of railway and urban rail transit
12	Development of rail side target controller	10,424.27	717.78	8,132.90	Completed the review of scheme design and conversion of drawings of switch-tie switch machine with information output function, and the trial production of prototype parts; completed the assembly and commissioning and testing of power units and other components, and completed the assembly of the whole machine.	To create rail side target controller, and adapt to each control system based on the application scenario.	As the direct control unit of rail side signal equipment, the target controller adopts the architecture of double two out of two, which has the characteristics of high safety, high reliability, high integration and intelligence, and greatly reduces the workload of installation, commissioning and maintenance. The electronic module can be flexibly applied to each signal system.	It can be applied in the fields of railway and urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
13	Research on electromechanical integration system and equipment for rail transportation	5,130.04	197.01	5,200.28	Completed the integration testing of the on-board equipment ETCS-400T with LZB/PZB in Vienna, Austria and the acceptance of the owners' laboratory. Completed the VUZ loop test in Czech and the main line tests in Germany and Austria. The German DeBo authentication certificate on the JRU part for on-board ATP equipment was obtained.	To establish an electromechanical integration system for light rail transportation supporting full industrial chains with advanced technology and the intelligent and independent operation control of train as the core.	The electromechanical integration system for light rail transportation with the intelligent and independent operation control of train as the core reached the advanced level in China.	It can be applied to the medium and low speed maglev lines, mountain (rack) rail transportation, suburban light rail, urban express rail, special tourist lines and other lines
14	Security integration platform for urban rail transportation	800.00	18.00	706.24	Completed the development of network-level panoramic cockpits, equipment health assessment, emergency disposal assessment and functions related to production management and put them into trial application in Shanghai Metro, Chengdu Railway and Zhengzhou Railway.	To form a security integration platform for urban rail transportation.	On the basis of public security resources and in line with security policies, prevention procedures and prevention activities, it developed the security system to improve the prevention and control ability, and reduce the possibility of safety threats in rail transportation areas.	It can be applied in the field of urban rail transit
15	Research on high-speed maglev/low-vacuum pipeline (tunnel) high-speed train operation control system and production of equipment	1,525.00	779.75	972.00	The system was released, and applied into Shenzhen Metro Line 20. Some baseline requirements for Shanghai Metro Line 3/4 was released, and used for the on-site installation and commissioning of Shanghai Metro Line 3/4.	To establish the maglev train control system and equipment with proprietary intellectual property rights and supporting high-speed maglev with a speed of 600km/hour and low-vacuum pipeline (tunnel) high-speed train with a speed of 1,000km/hour.	It filled the blankness in the rail transportation system with a speed of 600-1,000 km/hour, which is the first in China at an internationally leading level.	It can be applied to high-speed maglev

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
16	Research and construction of experiment platform for train control systems of overseas railways	4,004.60	51.15	4,055.15	Completed the research on electromechanical integration system, completed the production of ATP, ATO, STC, ATS and other equipment, obtained certification on project safety and opened for operation in Fenghuang Maglev.	To complete the preparation of the overall technical plan on the construction of the experiment platform for train control systems of overseas railways, the construction of two laboratories for ETCS-2 train control systems of overseas railways in Beijing and Belgrade and complete the construction of the laboratory in Thailand.	For the construction of laboratories for train control systems of overseas railways, it provides a safe and reliable experimental environment with high-efficiency operation through being equipped with software and hardware meeting local demands and guarantees the smooth implementation of overseas projects. They have the same technical level with laboratories of major overseas projects.	It can be applied in overseas railway projects
17	Safety simulation test software	3,550.00	2,020.02	3,238.64	Completed the development of security integration platform and the test on equipment connected to the security integration platform.	To construct the development and test platform for the safety simulation test software, support test on functional safety and information safety and further improve the safety performance of products.	It supports unified test on functional safety and information safety, supports the integrated development, test and application of functional safety and information safety in various industrial control sectors and will reach a leading level in China.	It can be applied in railways, urban transit, nuclear power and other sectors

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
18	Development of new train control systems and equipment for urban (suburb) railways	428.30	283.80	388.13	Completed the R&D of the sectionalized operation control system and the on-board operation control system, and completed first-stage field tests on the ultra-high-speed maglev test line in Yanggao, Datong, Shanxi. The development of high-speed maglev second-stage sectionalized and vehicle-mounted software functions is carried out, and the development of high-speed maglev positioning and speed measuring loop is carried out.	To study new train control systems for urban railways with low cost, easy implementation, high compatibility, high safety and high efficiency and meet the demands in the construction of intercity railways in the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Chengdu-Chongqing Economic Circle, the Guangdong-Hong Kong-Macau Greater Bay Area and other metropolitan areas.	New train control systems for urban railways support the integrated operation of urban transit, intercity, urban railways and national railways with a leading level in the industry.	It can be applied in urban railways, extended lines of urban transit and access to arterial railways in domestic metropolitan areas
19	Development of interlock equipment in Thailand	412.30	23.22	434.54	Completed the construction of laboratories in Beijing and Serbia, providing guarantees to the successful opening of railways in Serbia; completed the construction of automatic test platform for ETCS2/CTCS-3 train control systems; completed the construction of the laboratory in Thailand, greatly supporting the transformation of the signal system of railways in Thailand.	To complete the development of interlock equipment applicable to Thailand and obtain the SIL4 safety authentication certificate. To apply in railway projects in Thailand.	The interlock equipment in Thailand developed has outstanding operation performance with excellent electromagnetic compatibility and lightning protection performances. With a reasonable design on the structure of the application software, it is conducive to expansion and realizing its functions.	It can be applied in railway projects in Thailand

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
20	Development of autonomous perception system of trains	2,338.00	628.08	1,417.78	Completed the construction of the development and test platform for the safety simulation test software and achieved simulation test on functional safety and information safety.	To achieve the perception and prevention of rail side obstacles in rail transit, offer auxiliary assistance to the safe operation of trains and provide the function of manual intervention by the dispatcher.	With laser radar-based obstacle detection devices, it detects trains ahead and identifies route signals in advance to safeguard the safe driving in rail transit. It is at the leading level in the industry.	It can be applied in the field of urban rail transit
21	Development of key technology for the integrated analysis platform of the Internet of Videos	1,464.00	421.75	1,266.44	Conducted integrated research on multimode control systems, completed the development of compatible on-board equipment, achieved automatic reversal in 3 minutes and automatic end change in 20 seconds in the CTCS2+ATO system for urban railways and successfully completed the test on unmanned automatic reversal.	To develop a platform for access and convergence of universal videos on the Internet of Videos.	With the adoption of cloud computing, the Internet of Things, big data, artificial intelligence and other advanced technology, it achieves the access and convergence, classified governance, integration and sharing, centralized resolution and other functions for videos and improved the utilization efficiency of video resources.	It can be applied in the field of smart cities and urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
22	Research and application of the surrounding intrusion alarming system based on videos and radar in rail transit	867.00	308.73	711.01	Completed the development and test on interlock equipment and projects in Thailand and obtained the phased letter of confirmation.	To develop a platform for the surrounding intrusion alarming system based on videos and radar in rail transit	It conducts the upgrading of technical framework, the reshaping of the plans on intrusion detection equipment and the restructuring of the business functions and maintains a leading level in the industry.	It can be applied in the prevention of surrounding intrusion in surrounding areas of rail transit, bridges, tunnels and roadbeds
23	LTE-M-based wireless intelligent dispatching and communication systems for urban rail transit	516.00	144.51	449.30	The hardware scheme design has been completed and the software development of the initial version has been completed.	To develop the LTE-M-based new-generation wireless intelligent dispatching and communication systems for urban rail transit.	The LTE-M-based voice, dispatch orders, wireless train numbers and other key technologies on dispatching and communications of urban railways, taking into account the technical specifications compilation on Shanghai Metro with its participation, which are at the leading level in the industry.	It can be applied in the field of urban rail transit
24	Research of key technology on 5G application in rail transit and development of the next-generation communication equipment	1,898.00	118.29	1,643.14	Completed the structural design and construction of core modules for the access and convergence, algorithm warehouse, classified governance, integration and sharing, centralized resolution and other modules for universal videos, as well as the development of the first version model of general target detection and classification, obstacle detection under dark light, universal foreign object detection and regional demographics algorithms in dark light, which have been deployed in the field for trial.	To research the systematic technologies on the next-generation communications (5G-R) and key engineering technologies and the research on next-generation communication technology; to develop 400MHz digital dispatching and communication equipment and 5G-based railway communication equipment.	It masters exclusive key technologies on wireless communications and develops relevant railway communication equipment with leading level in the industry.	It can be applied in the field of railways and urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
25	Research on application of integrated technology on railway videos	1,818.40	284.43	284.43	Completed the development of the surrounding intrusion alarming system and completed the assembly of the model of integrated radar-camera units.	To meet the three-level railway management systems on comprehensive videos of railways and achieve the intelligent connection of comprehensive videos through the front end and cloud platforms; to develop the cloud application management platform for videos of railways; to develop the three-dimensional real-scene video system for dispatch and command scenarios of railway stations.	It achieved containerized application, achieved easy deployment through the visualized cloud native and met the monitoring and operation maintenance demand for videos on all business with a leading level in the industry.	It can be applied in the field of rail transit
26	Research on application of comprehensive monitoring technology on railway communications	1,323.00	121.92	121.92	Completed the development of equipment for train mounted platform and fixed platform and supported the completion of the field test on the automatic reversal function of the CTCS2+ATO train control system as the carrier of communication equipment of urban railways.	To study the monitoring system and platform for railway communication towers based on the BDS system; to develop the new version of the monitoring systems on power and machine room environment for railway communications.	It achieved the monitoring systems on towers based on the BDS system and the dynamic monitoring systems on communications with a leading level in the industry.	It can be applied in the field of rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
27	Research and application of train control systems for Zhunchi Railway	6,350.00	85.69	85.69	Completed the research on systematic technologies and the planning on standard and systems of the next-generation communications (5G-R); completed the development of the 400MHZ wireless dispatching and communication model of digital trains and completed the field test.	To complete the research on integrated key technology for the BDS-based train control system of heavy-haul normal-speed railways; to complete the R&D of on-board and ground equipment for train control systems of heavy-haul railways and civil defense systems and equipment for on-road operation; to complete on-site trials of Zhunchi Railway.	It laid solid safety foundations for the construction of intelligent heavy-haul railways, developed a set of BDS-based train control systems for heavy-haul railways with easy implementation and renovation and low cost and reliance by fully leveraging on the basis of existing signal equipment and met the demands for application and interconnection in projects with a leading level in the industry.	It can be applied in the fields of normal-speed railways, heavy-haul railways and local railways for special uses
28	Train Control System Research of Sichuan-Tibet Railway	2,000.00	131.00	131.00	Demand investigation and analysis were conducted	To develop the overall technical program, system architecture and key technical program of communication and signal system with high reliability, low maintenance and comprehensive safety suitable for Sichuan-Tibet Railway, support the equipment development of Sichuan-Tibet Railway, and ensure the construction, operation and maintenance of Sichuan-Tibet Railway and other railways in the western regions.	In light of the problems and challenges of reliable communication, operation control, equipment maintenance, disaster perception and decision-making of the communication signal system caused by the extremely complex working conditions of the Sichuan-Tibet Railway, it develops the high reliability technology of trackside equipment under extreme application conditions, the construction of efficient and safe braking model with multiple complex factors and automatic driving technology, disaster holographic perception technology, multi-level redundancy and high toughness mobile communication technology emergency monitoring, dispatching and command with comprehensive linkage of multiple disciplines and other key technologies.	It can be applied in Sichuan-Tibet Railway, Western Railway

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
29	Research on trail control systems of high-speed rail with higher speed	1,367.00	58.21	58.21	Demand investigation and analysis were conducted	To study solutions on train control systems under two application scenarios, namely the construction of new high-speed rail with a speed of over 400km/h and the speed increase and transformation of existing high-speed rail with outstanding conditions, and to develop key technology and equipment.	It achieved breakthroughs in the difficulty on safety control and equipment reliability in the high-speed operation supported with the existing C3 system with a speed of 450km/h and further diversified and expanded the basic theory of train control technology and engineering practice experience in high-speed rail in China with a leading level in the industry.	It can be applied in high-speed rail with a speed of over 400km/h
30	Integration of Rail Transit Dispatch and Control and Connecting Transportation Service Technology	1,450.00	73.47	73.47	Prepared general technology plan and conducted software development and product functional tests for ground equipment (TSRS/data control equipment) and vehicle-mounted ATP equipment and train assistant driving equipment.	To target the rail transit "control-dispatch-service" business, aim at "autonomous operation control, intelligent comprehensive dispatch, connecting transportation services, integrated dispatch and control, and precise supply and demand matching", and make a breakthrough in technical and system limitations on high-speed and high-automation rail transit theoretical and technical research, system equipment development and demonstration engineering application, to realize the integrated operation from "passenger flow to wheels".	It effectively improves the operation and equipment technologies of regional rail transportation, reaching the domestic leading level.	It can be applied in intercity railways, urban (suburban) railways, urban rail transit and other various rail transits

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
31	Research on digital control technology for freight yards	1,407.00	99.09	99.09	Completed the research report on user demand, adaptability analysis of existing systems, and technical route selection of Sichuan-Tibet Railway.	To set up digital control systems on freight yards with intelligent equipment, digital business, information-based operation and integrated control to assist in freight and production at railway stations, the improvement of operational efficiency, the standardization of basic management and the enhancement of safety guarantee.	It improved the automatic and intelligent operation of loading and unloading equipment at the front of wharfs, horizontal transportation vehicles, loading and unloading machinery at yards and other key equipment and improved the efficiency of reloading operation of goods at the wharf.	It can be applied in the field of freight railways

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
32	New-generation network-based and intelligent train control system	13,200.00	4,602.09	4,602.09	Overall technical plan on the new-generation network-based and intelligent train control system was completed and R&D and indoor testing of sample machines with key technical principle of high-performance reaction were completed.	To conduct independent innovation in the network-based train control systems for urban rail transit based on the new-generation communications and artificial intelligence technology with the focus on the strategy on the building of national strength in transportation. To innovate the flexible formation, the refined resources control, the intelligent transportation organization based on traffic demand and the multi-dimensional data analysis theories, achieve breakthroughs in intensive systems and structures, high-performance reaction, intelligent train control, smart dispatching, intelligent operation and maintenance as well as other key technologies, promote the network-based, intelligent, green, digital and rapid development of urban rail transit and improve the dispatch, command and emergency response capability and the intelligent dispatch, operation and maintenance of urban rail transit.	While achieving high-efficient operation through the adoption of the simplified systems and structures, it retained the complete degrading model, innovated the preparation, adjustment and simulation of the network-level operation plan, the automatic linkage of emergency proposals on train dispatch, the resources refinement and coordinate control of on-board active routes, the control on energy-saving operation, the decisions on active repair alarming and other advanced rail transit technologies and develop an efficient and intensive urban rail transit signal system towards green and intelligent urban rail transit. Core technologies can achieve integrated application with existing systems with the technology reaching the advanced level in the world.	It can be applied to CBTC, FAO and other new and renovated lines in urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
33	As-frequent-as-buses and networking train dispatching system for urban railways	4,493.89	601.58	601.58	Completed the full-process development of new functions of the Shanghai Urban Airport Line, released relevant data and software and met the conditions for testing.	To achieve the self-organized dispatching, interoperable and optimized dispatching, multi-layered active and coordinated dispatching as well as emergency linkage and dispatching of networking trains for extra-large urban railways; to improve the emergency response efficiency and the emergency handling capacity in scheduling and command and guarantee the operation safety and efficiency of extra-large networking urban railways.	It can establish analysis models on the travelling network of passenger flows and their evolution mechanism as well as analysis models on disturbance correlation and passenger flow coupling and mutual-feedback mechanism under network-based operation. For different levels of operation disturbances of network, it can establish models on the adjustment of operation plans based on active control as well as automatic matching models and algorithm at the bottom of trains to rapidly solve and generate scheduling adjustment plans with high optimization and availability. The technology will reach the domestic leading level.	It can be applied in the field of urban railways

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
34	Comprehensive automation system on the operation of urban rail transit for train traffic control	5,809.36	94.48	94.48	Conducted demand analysis and carried out the design, development and joint commissioning of functions, intelligent dispatching as well as relevant development for the improvement of intelligent dispatching of trains.	To build multidisciplinary, integrated and coordinated engines with train traffic as the core and achieve the effective integration and coordinated linkage of train traffic control, supervision on power supply, environment and equipment, safety protection, passenger service, wireless communications as well as multidisciplinary systems.	It can accurately track the location and operation conditions of trains in a real-time manner by leveraging on the train operation control system, decide the generation of the best trans-disciplinary linkage proposals and apply the integrated communication and linkage execution technologies based on distributed message bus and real-time database to conduct real-time driving and coordinated control on multidisciplinary systems and equipment in the full process and effectively improve the accuracy, timeliness and safety of trans-disciplinary linkage. The technology will reach the domestic leading level.	It can be applied in the field of urban rail transit
35	Research of multidimensional energy compound range rail breakage inspection technology based on ultrasonic guided wave	1,025.50	55.11	55.11	For the research of multidimensional energy compound range rail breakage inspection technology based on ultrasonic guided wave, it conducted preliminary researches and communications on the basic methods for rail breakage inspection on steel rails based on sonic guided wave and developed preliminary technical routes and the research orientation.	To study multidimensional energy compound testing technology based on ultrasonic guided wave and develop range steel rail breakage inspection systems and equipment with high reliability, engineering application, few maintenance and high technological and economical efficiency towards the demand for range rail breakage inspection in normal-speed railways and urban rail transit.	It can achieve new technological breakthroughs in the product-based application of long-range rail breakage inspection and will reach the advanced level in the world.	It can be applied in the field of railway and urban rail transit

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MANAGEMENT DISCUSSION AND ANALYSIS

No	Project name	Estimated total investment	Investment amount in the current period	Cumulative investment amount	Progress or phased achievements	Intended goal	Technical level	Specific application prospects
36	Development of fundamental equipment and safety products for rail transit	5,608.94	1,385.99	2,838.90	Carried out the development of switch equipment for the project in Tanzania, the research on the reliability of density detectors and the research on new external-locking devices; conducted the development of JC-C AC and high-sensitivity locomotive on-board relays; completed the principle of AC power supply modules; and completed the design on the full electronic axle counting plan between stations.	To complete the development of turnout switch equipment, relays, AC power supply modules, axle counting equipment and other new-generation fundamental equipment and safety products for rail transit.	It can improve the technical level of fundamental equipment and safety products for rail transit and develop new-generation fundamental equipment and safety products for rail transit meeting international and domestic technical requirements. It will reach the advanced level in the world.	It can be applied in the field of railway and urban rail transit
37	Research on the BIM-based integrated technology on "factory-based" construction in railway signaling & communication projects	1,500.00	235.88	235.88	Setting cabinet for new portfolios and equipment was developed; unified cabinet applicable to the installment of communication equipment in machine rooms of large-scale stations was developed; establishment of a trial communication station and a trial signal station was completed.	To solve the difficulties in unstable construction quality and high construction cost in the construction of railway communication signal machine rooms, the renovation projects, overseas projects and construction of projects under severe environment in particular, as a result of the right construction schedule, the difficulty in labor recruitment, the shortage of materials and the adverse construction environment.	Based on BIM modeling, with the target of factory preassembly and fabricated on-site construction and through modularization, unification, plugging and splicing, clustering and fabrication, it brought forward operation with high on-site labour intensity and high quality requirements at traditional construction sites to the curing process at the factory preassembly stage, which significantly reduces the workload of on-site operation, on-site labor, technical difficulties in on-site construction as well as risks and hidden hazards and improves the quality of projects.	It can be applied to the professional construction of domestic and overseas railway signaling & communication projects
Total	/	196,804.80	27,399.11	119,619.00	/	/	/	/

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

Explanation

For all rail transit sectors such as high-speed railway, normal-speed railway, local railway, heavy-haul railway, urban rail transit, urban (suburban) railway, maglev and special tourist line, the Company analyzed the corresponding scenarios and special demands, carried out research and development activities oriented to market targets, and developed industry-leading and advanced technologies, such as automatic unmanned train operation, train autonomous circumambulation, coordinated transportation and management for regional passenger traffic, train traffic control automation, safe computer platform, full-electronic computer interlocking control, intelligent detection, operation and maintenance of rail transportation, rail transit simulation test, turnout switch and electromagnetic shielding. It developed control systems and fundamental equipment applicable to target scenarios with complete functions and outstanding performance, such as the new train control system based on BDS, the train control system for normal railways, the high-density automatic operation control system for ad-hoc network of heavy-haul trains, the new generation of centralized traffic control system, the intelligent passenger traffic analysis system, the train autonomous circumambulation control system, the CBTC system based on full-electronic interlocking, the intelligent light rail transit control system, the intelligent urban rail dispatching system, the intelligent diagnosis system on turnout switch, the integrated train control interlocking equipment and the full-electronic interlocking equipment. It also conducted demonstration, opening and application in domestic and overseas markets, vigorously supporting the rapid market expansion of the Company in the rail transit sector.

5. Research and development personnel

Unit: 0'000 Yuan Currency: RMB

Basic Information

	Amount for the current period	Amount for the corresponding period of last year
Number of research and development personnel in the Company (person)	4,274	4,270
Percentage of total research and development personnel in total personnel of the Company (%)	22.36	21.65
Total remuneration for research and development personnel	35,301.78	35,971.36
Average remuneration for research and development personnel	8.26	8.42

Educational background

Composition by education	Number (person)	Percentage (%)
Doctoral degree	66	1.54
Master's degree	1,596	37.34
Bachelor's degree	2,407	56.32
Junior college diploma	205	4.80
Total	4,274	100.00

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Age structure

Range of age	Number (person)	Percentage (%)
Below 35	2,368	55.40
36 to 40	885	20.71
41 to 45	547	12.80
46 to 50	250	5.85
51 to 54	134	3.14
55 to 59	90	2.11
Total	4,274	100.00

6. Other explanations

Applicable Not applicable

III. ANALYSIS OF THE CORE COMPETITIVENESS DURING THE REPORTING PERIOD

(I) Analysis of Core Competitiveness

Applicable Not applicable

1. Leading market position

As the main force of China's rail transit construction, the Company provides products and services for the rail transit construction of CNRG, 18 Railway Administrations, more than 40 cities and many factories and mining enterprises. The Company enjoys a good reputation all over the country and is the most trusted expert of rail transit control system. The Company provides core train control technology and equipment for more than 95% of China's high-speed railways that have been in operation; the Company occupies about 40% of the domestic market share of urban rail transit control system, and participates in the design, integration and construction projects of rail transit control system in more than 30 cities such as Beijing, Shanghai and Shenzhen. According to statistics, in the first half of 2023, among 10 metro signal control system projects for which the bid results have been disclosed, CRSC won 4 bids which accounted for 42%, maintaining top in the list, and is the leading provider of urban rail transit control system solutions in China. The ultra-high market share has also laid a solid foundation for the Company's future efforts to update, transform and operate and maintain in the market.

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

2. *Outstanding comprehensive technological innovation strength and core technology reserves*

The Company has adhered to independent innovation with about 3,900 registered patents and realized the absolute independent ownership of intellectual property rights and 100% domestic production of products for the core technologies of train operation control, thus helping its new rail transportation control technologies, automatic unmanned train operation technology, train autonomous circumambulation technology, coordinated transportation and management technology for regional passenger traffic, train traffic control automation technology, safe computer platform technology, fully electronic computer interlocking control technology, train control integration technology, intelligent detection, operation and maintenance technology of rail transportation, rail transportation simulation test technology and turnout switch technology applied in all rail transit sectors such as high-speed railways, normal-speed railways, local railways, heavy haul railways, urban rail, urban (suburban), maglev and special tourist lines hold a leading position among peers. Relying on the world-leading comprehensive research and development strength, the Company has developed core technologies of rail transportation control system with independent intellectual property rights and its products and services have been widely used in fields including railway and urban rail transit, which has established the Company's leading position in the industry.

As the entity responsible for general affairs of each of the Communication and Signaling Technical Subcommittee under the National Railway Transportation Electrical Equipment and System Standardization Technical Committee (全國軌道交通電氣設備與系統標準化技術委員會通信信號分技術委員會) (in relation to national standards) and the Communication and Signaling Technical Subcommittee under the Railway Industry Electrical Equipment and System Standardization Committee (in relation to industry standards, being the original entity responsible for the management of equipment standards, technical standards and product standards in relation to rail transportation control system in China), the Company has promoted the establishment of the national technical standards system and railway industry technical standards system for the rail transit communication and signaling in China, and has led the establishment of the most important, advanced and fundamental technical standards for railway and urban transit control systems in the PRC, such as CTCS and CBTC. The Company has extremely rich experience in the construction and operation of high-speed railway control systems, complex railway hub revamping experience, existing line upgrading and revamping experience, customization experience to meet transportation needs in different regions, and construction and maintenance experience for all forms of urban rail transit including urban rail, subway and maglev. In addition, the Company also has advanced research and development ("R&D"), experiment and test institutions. The completeness and scale of its laboratory facilities are in a leading position in the world.

The Company has built a high-level innovation platform and technical support capabilities, vigorously promoted innovation platform and demonstration construction, gathered innovation elements, optimized the allocation of innovation resources, and formed a leading sci-tech innovation platform and demonstration pattern, including 3 postdoctoral workstations, 4 academician workstations, 12 national and industry innovation platforms, and more than 30 provincial and ministerial innovation platforms providing strong platform support for the realization of high-quality innovation and development of enterprises.

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3. Extensive engineering project management experience

Over the years, the Company has served the construction of national railway and urban rail transit, deeply participated in the speed increase of national railway for six times, and successively participated in the construction of all major domestic high-speed railway projects. It has experience in many projects involving long mileage, high altitude, alpine region and heavy-haul trains with capacity of over 10,000 tons. Many projects have been ranked “first” in China and even the world, and the standardized management of engineering services has become the industry benchmark, which has improved the weak current process standard and image of China’s rail transit, and established and maintained the Company’s leading position in the industry.

4. One-stop service capabilities for the entire industrial chain

The Company professionally provides integrated services covering investment and financing, design and integration, equipment manufacturing, system implementation, supporting project construction and repair and maintenance for rail transportation control system. As a company with the most comprehensive technology mix and the most system products in the domestic industry, it has 13 modern production bases all over the country, creating a complete industrial chain in the field of rail transit control. It is the only company in the world that can provide one-stop services for the entire industrial chain from investment and financing to R&D and design, equipment manufacturing, engineering services and operation and maintenance. The one-stop services can effectively reduce the construction, operation and management costs of customers and the system compatibility related risk in complex lines, and minimise the impact of renovation projects on normal operations. While adapting to common requirements, it can also provide customers with a flexible combination of different products and services based on the actual needs of customers; with the Company’s internal efficient and accurate information-based management, such one-stop services can help to effectively reduce marketing cost, and lay a good foundation for tracking and carrying out maintenance, repair and upgrading business.

5. Highly reliable and safe core services and products

The Company establishes classified enterprise standards according to relevant international, national and industrial standards, implements strict and prudent quality and safety control measures, so as to ensure the high reliability and safety of rail transportation control system solutions and core products, and provide support for the safe and efficient operation of national rail transportation. The Company focuses on its main responsibilities and businesses, deeply analyses the business development model, establishes system management thinking, deepens system integration, improves operational efficiency and builds a whole industrial chain safety and quality control system. The Company’s quality management follows the requirements of ISO9001: 2015 Standard, establishes quality control rules and system process, maintains continuous improvement and passes independent third-parties’ certifications. All subordinate enterprises of the Company which engage in the fields of R&D and design, system integration and industrial manufacturing have passed the ISO/TS22163: 2017 (the upgraded standard of International Railway Industry Standard (IRIS)) certification; all subordinate enterprises of the Company engaged in the field of R&D and design have passed the maturity assessment and certification of CMMI software. The Company’s rail transportation control system products meet the European EN50126 standard for railway product safety, and the Company strengthens the supervision of product safety and security, and effectively strengthens the control of new product development process and existing product change process and meets the generally accepted international quality requirements regarding safety, reliability, availability and maintenance.

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6. *Stimulating innovation and vitality and promoting development through scientific research*

The Company implements the innovation-driven development strategy and accelerates the training of innovative talents through multiple channels. The Company makes good use of existing human resources, increases the training of expert-level leading talents and key researchers, facilitates the career development of scientific and technological talents, and improves the incentive and evaluation system for result transformation to stimulate the innovation and vitality of researchers. The Company improves quality, increases efficiency, and achieves upgrade and sustainable and healthy development under the support and guidance of technology innovation. The Company unwaveringly takes the road of independent innovation, truly contributing to promoting corporate transformation and upgrading.

4,274 employees of the Company are engaged in technological research and development, accounting for 22.36% of the total employees, 38.89% of whom have master degree or above. The excellent talent team has laid a solid foundation for the Company to develop core technologies and maintain technical advantages.

(II) Events which have a serious impact on the Company's core competitiveness, impact analysis and measures during the Reporting Period

Applicable Not applicable

IV. DISCUSSION AND ANALYSIS ON BUSINESS OPERATIONS

In the first half of 2023, the Company took the initiative to enhance our competitiveness, made every effort to exploit the market, continuously strengthened its leading position in operation, and reasonably controlled the scale of the general contracting business, and the overall operation of the Company remained basically stable. In the first half of 2023, the aggregate value of newly-signed contracts of the Company amounted to RMB31.672 billion, representing a year-on-year increase of 10.49%, among which, the value of newly-signed contracts in railway sector amounted to RMB9.776 billion, representing a year-on-year increase of 30.15%; the value of newly-signed contracts in urban transit sector amounted to RMB5.852 billion, representing a year-on-year decrease of 9.57%; the value of newly-signed contracts in overseas sector amounted to RMB1.384 billion, representing a year-on-year increase of 2,390.11%; the total value of newly-signed contracts for general contracting and other sectors amounted to RMB14.661 billion, representing a year-on-year increase of 0.22%, maintaining overall growth momentum. As of the end of the first half of 2023, the Company's order in hand amounted to RMB152.275 billion.

In terms of the main business of weak electricity system integration in high-speed railways, among 5 projects for which the bid results have been disclosed, CRSC has undertaken 4 projects, namely the Xiong'an New Area-Xin Zhou High-speed Railway, the Chongqing-Qianjiang High-speed Railway, the Guangzhou-Zhanjiang High-Speed Railway (Guangzhou-Foshan Section) and the "Shanghai-Chongqing-Chengdu High-speed Railway (Hankou-Hanchuan Section), with a market share of 81%. On such basis, it has undertaken project in respect of the integrated procurement of supporting electrical on-board equipment for 350 km/h Fuxinghao EMU, the lump sum contracting construction project of GGTZZH-2 bidding section of quality improvement and renovation construction in respect of the Guiyang-Guangzhou Railway (section managed by Nanning authority), the JWQG-HB1 bidding section project of "three power" and relocation of pipes (Hebei section) construction in respect of the new-constructed Tianjin-Weifang High-speed Railway, the lump sum contracting construction project in respect of the integrated video surveillance system reinforcement of the Tianjin-Qinhuangdao High-speed Railway and other key projects, which jointly promoted the year-on-year increase in the railway market. In the field of railway signal control system, the market share of core systems achieved a steady increase with the integrated share of the high-speed railway market reaching over 65%.

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In the field of urban transit signal system integration, the Company undertook 4 projects in succession, including Ningbo Subway Line 7, Changchun Subway Line 7, Tianjin Subway Line B1 and phase IV of Shenzhen Metro Line 3 (including the updating and renovation of the existing signal system of Line 3), securing a market share of 42% and maintaining its leading position in the industry. On that basis, it undertook the integration of special communication system for Xi'an Metro Line 8, the construction of the communication signal system for the Airport Link Line of Shanghai Suburban Railway, the installment and construction of weak electricity systems in phased I of Zhengzhou Subway Line 8, the section 01 for the installment of weak electricity systems in phase I of Xuzhou Subway Line 6 and other key projects, making a significant supporting role to the Company's urban transit business.

In the overseas market, preliminary results were achieved in the business organizational structure and network layout of the Company with a significant year-on-year increase in the value of newly-signed external contracts.

Regarding the general contracting business, the Company continued to strengthen the control requirements under which relevant businesses should be strongly related to and vigorously boost main business and generate high returns to ensure the risks of projects undertaken under control and the high quality of contracts. The Company reasonably controlled the undertaking of general contracting projects and adjusted the structure of contracts undertaken. During the undertaking of specific businesses, it continuously enhanced the EPC general contracting capacity, fully displayed the BIM application capability and technological advantages and improved the quality of projects undertaken, laying a solid foundation for its subsequent undertaking of rail transportation, municipal informationization and other businesses in relevant areas.

In the second half of 2023, the Company will firmly seize the favorable opportunity that more high-speed rail lines may be introduced, actively enhance the undertaking of projects in relevant sectors and markets, promote the market share steadily with an increase and support the achievement of the target on growth in the railway business. In the field of urban transit control system, it is expected that there is no significant change in the total number of bidding for the whole year. The Company will also spare no effort to strengthen the guidance and resource investment in related business to maintain its leading position in the industry. Meanwhile, the Company will increase efforts for the contracting of telecommunications integration and construction business to support the reasonable growth of urban transit business and complete the tasks for the whole year. In the field of overseas business, based on the development trend of the international situation, the Company will vigorously promote the implementation of key projects in the key regions and countries along "the Belt and Road" to complete the tasks on undertaking projects for the whole year. In the field of general contracting, the Company will adhere to the existing management and control requirements, continue to guide relevant subsidiaries to shift market focuses and reasonably allocate market resources, further develop in economic developed areas and appropriately improve the quality of projects undertaken on the basis of reasonably controlling the total number of projects with an aim to promote the urban transit, information technology and other core businesses.

Significant changes in the operations of the Company during the Reporting Period and events which had a significant impact on the operations of the Company during the Reporting Period and would be expected to have a significant impact on the operations of the Company in the future

Applicable Not applicable

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

V. RISK FACTORS

Applicable Not applicable

1. Core Competitiveness Risk

The rail transportation control system industry in which the Company is engaged is still in a healthy development stage. The new-generation information technology is gradually integrated with the traditional control system. The emerging technologies and the demand for new growth of railways and urban rail may lead to the upgrades of the Company's main system equipment, and put forward new and higher requirements on the Company's scientific and technological innovation. If research on new technologies moves slowly, the development progress of new-generation system products will be affected, which is not conducive to consolidating the Company's leading position in innovation.

Responsive measures: From the perspective of the industry and the long-term development needs of the Company, the Company will focus on scientific and technological issues, emerging technologies and new needs of the industry, plan major scientific research projects, deploy strategic forces, coordinate innovation resources, strengthen the management of the R&D projects of new technologies, and enhance the allocation of resources for the R&D projects of new technologies and new products, to ensure that R&D tasks are completed as planned. The Company will also strengthen the linkage between scientific and technological research and development and market operation, enhance the transformation of scientific and technological achievements, make precise market positioning, speed up the response to specific needs of users, and adjust the research and development strategy in a timely manner, to maintain the Company's leading position in scientific and technological innovation, and support the sustainable, healthy and high-quality development of the Company.

2. Operating risk

First, the Company's product market distribution is relatively concentrated, and its anti-risk ability is relatively weak, which leads to the hidden business risks; second, various factors such as the international political situation, international political emergencies, and changes in the pattern of international relations pose risks to the Company's overseas operations. In addition, based on the nature of the Company's business, liability compensation or government penalties may be involved in the design, research and development, manufacturing, installation, testing, maintenance and sales of rail transit control system products or services.

Responsive measures: The Company will continue to strengthen the construction of scientific and technological innovation capabilities, take the market demand as the guide, speed up the research and development of new technologies and new products and market transformation, continue to expand new fields and markets, form new growth points as soon as possible to enhance the Company's ability to resist risks; for overseas markets, the Company will strengthen the timely summary and analysis of the comprehensive information of the target country, maintain a high sensitivity to changes in the international market at all times, adjust response strategies in a timely manner to prevent and resolve overseas business risks.

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3. Financial Risk

The construction of certain railway, urban rail and infrastructure construction projects undertaken by the Company has the characteristics of long construction period, large investment amount, lagging settlement and lagging recovery, and some contract assets or accounts receivable have long settlement period and recovery period, which may have a negative impact on current profits.

Responsive measures: The Company will establish a normalized control mechanism to strengthen its source and process control and regularly analyze and dynamically monitor contract assets and account receivables of major projects, improve its appraisal mechanism and increase the frequency of appraisal to mobilize its staff's initiative, and speed up the progress of fund settlement and recovery.

4. Industry Risk

In view of the year-on-year decline in the scale of fixed asset investment in railway, the railway industry highlighted the prevention and resolution of debt risks in the field, and tightened the implementation of railway investment planning, translating into a shift from pursuing scale and speed to controlling investment pace. During the "14th Five-Year Plan" period, the NDRC will strictly control the debt risk incurred by local governments as a result of urban rail investment, raising the approval threshold for all urban rail transit projects, including large, medium and small carrying-capacity projects.

Responsive measures: The Company will strengthen communication with railway owners by leveraging the further improvement of the management layout and system, establish a leading brand image and reputation in the industry through benchmark projects and high-quality projects, and gradually shift the business focus from new line construction to an operation pattern that places equal emphasis on the construction of new lines and the upgrading of existing lines. At the same time, the Company will actively expand the management concepts, closely follow the urban rail construction model, give full play to the resources of the whole system, and adopt various methods such as investment-driven, joint operation, and joint venture to consolidate the existing metro market and expand the market of medium and small carrying capacity, thus forming a multi-point supporting market operation pattern in the rail transit industry.

5. Macro-environmental Risk

The convergence of multiple crises such as the energy crisis, soaring inflation and tightening debt, as well as the slowdown in global economic growth, lack of momentum and increased downward pressure are posing huge challenges to CRSC's expansion into overseas markets.

Responsive measures: The Company will actively explore the markets giving play to the dominant advantage brought by favourable foreign aid and overseas expansion policies of the State, obtain accurate information about the policies and dynamic trends of target countries, speed up the pace of overseas business expansion and industrial investment, strengthen efforts in international operations, actively fit into the competitive global market; optimize business structure, and innovate profit models and explore development opportunities.

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6. Market Competition Risk

There are more competitors in the railway construction and urban rail transit markets; the adjustment of the railway construction model and the change in bidding rules for railway project construction are diminishing the development space for the Company's traditional business, putting the Company under pressure from market competition.

Responsive measures: The Company will adhere to a market-and-technology-oriented management policy, strengthen the full linkage with technological innovation, stay ahead of industry peers in terms of overall competitiveness with technological development as the foundation, insist on providing customers with a good experience covering the whole life cycle of the project with efficient and quality services, and continuously enhance the brand influence.

VI. MAIN OPERATIONS DURING THE REPORTING PERIOD

For details, please see "IV. DISCUSSION AND ANALYSIS ON BUSINESS OPERATIONS" of this section.

(I) Analysis of major businesses

1. Table of analysis of changes in relevant items in financial statements

Unit: Yuan Currency: RMB

Items	Amount for the current period	Amount for the corresponding period of last year	Change (%)
Revenue	16,633,010,199.97	18,383,362,437.75	-9.52
Cost of sales	12,482,157,364.82	14,120,496,231.20	-11.60
Selling and distribution expenses	343,041,168.71	311,237,350.96	10.22
General and administrative expenses	970,225,656.74	955,395,376.86	1.55
Finance costs	-143,313,235.50	-187,784,678.88	N/A
Research and development expenses	648,673,283.76	648,574,665.76	0.02
Net cash flows generated from operating activities	-871,102,628.48	-1,091,172,765.94	N/A
Net cash flows generated from investing activities	-1,501,525,382.43	-2,775,279,996.13	N/A
Net cash flows generated from financing activities	973,019,657.22	654,158,084.88	48.74

Explanation on reasons for changes in revenue: Revenue decreased by 9.52% as compared to the corresponding period of last year mainly due to the decrease in revenue from construction projects as a result of the Company's proper control of the production pace with aims to meet the requirements of high-quality development in combination with the owners' financial position.

Explanation on reasons for changes in cost of sales: Cost of sales decreased by 11.60% as compared to the corresponding period of last year mainly due to the decrease in revenue from system implementation services and construction contracting, which resulted in a corresponding decrease in costs.

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Explanation on reasons for changes in selling and distribution expenses: Selling and distribution expenses increased by 10.22% as compared to the corresponding period of last year mainly due to the significant increase in travel expenses and tendering and bidding expenses as a result of the fact that the Company seized opportunities and vigorously expanded its market business under the changes in external environment and gradual recovery of domestic economy.

Explanation on reasons for changes in general and administrative expenses: General and administrative expenses increased by 1.55% as compared to the corresponding period of last year, which was basically the same as compared with the corresponding period of last year.

Explanation on reasons for changes in finance costs: Finance income in the current period was RMB143 million, as compared to finance income of RMB188 million for the corresponding period of last year, mainly due to the decrease in exchange income as compared with the corresponding period of last year.

Explanation on reasons for changes in research and development expenses: Research and development expenses increased by 0.02% as compared to the corresponding period of last year, which was basically the same as compared with the corresponding period of last year.

Explanation on reasons for changes in net cash flows generated from operating activities: Net cash flows from operating activities in the current period was a net cash outflow of RMB0.871 billion, as compared with a net outflow of RMB1,091 million in the same period of last year, mainly due to the decrease in taxes paid.

Explanation on reasons for changes in net cash flows from generated investing activities: Net cash flows from investing activities in the current period was a net cash outflow of RMB1.502 billion, as compared with a net outflow of RMB2,775 million in the same period of last year, mainly due to a significant decrease in cash paid for investment, whereas the Company incurred an expense of RMB1.900 billion for the establishment of a finance company in the same period of last year.

Explanation on reasons for changes in net cash flows generated from financing activities: Net cash flows from financing activities in the current period was a net cash inflow of RMB973 million, as compared with a net inflow of RMB654 million in the same period of last year, mainly due to the increase in low-interest borrowings in the current period.

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Performance of main businesses by industry, product, region and sales model

Unit: Yuan Currency: RMB

Main Businesses by Segment						
By segment	Revenue	Cost of sales	Gross profit margin (%)	Increase/ decrease in revenue as compared to the corresponding period of last year (%)	Increase/ decrease in cost of sales as compared to the corresponding period of last year (%)	Increase/ decrease in gross profit margin as compared to the corresponding period of last year (%)
Rail transit control system	13,450,058,390.29	9,669,752,586.98	28.11	-2.99	-5.22	Increased by 1.70 percentage points
Equipment manufacturing	2,472,735,477.33	1,600,845,802.86	35.26	11.11	21.38	Decreased by 5.48 percentage points
Design and integration	5,507,664,537.03	3,375,010,758.27	38.72	20.92	34.10	Decreased by 6.02 percentage points
System implementation	5,469,658,375.93	4,693,896,025.85	14.18	-22.79	-26.27	Increased by 4.05 percentage points
Construction contracting	3,134,631,115.38	2,791,452,207.32	10.95	-30.17	-28.47	Decreased by 2.12 percentage points
Others	48,320,694.30	20,952,570.52	56.64	58.91	29.98	Increased by 9.65 percentage points

Main Businesses by Terminal Market						
By terminal market	Revenue	Cost of sales	Gross profit margin (%)	Increase/ decrease in revenue as compared to the corresponding period of last year (%)	Increase/ decrease in cost of sales as compared to the corresponding period of last year (%)	Increase/ decrease in gross profit margin as compared to the corresponding period of last year (%)
Railway	8,868,717,469.26	6,182,200,572.14	30.29	4.88	0.20	Increased by 3.25 percentage points
Urban transit	3,994,614,471.38	2,963,512,980.80	25.81	-17.77	-20.00	Increased by 2.07 percentage points
Overseas businesses	586,726,449.65	524,039,034.04	10.68	6.59	59.93	Decreased by 29.79 percentage points
Construction contracting	3,134,631,115.38	2,791,452,207.32	10.95	-30.17	-28.47	Decreased by 2.12 percentage points
Others	48,320,694.30	20,952,570.52	56.64	58.91	29.98	Increased by 9.65 percentage points

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Main Businesses by Region

By region	Revenue	Cost of sales	Gross profit margin (%)	Increase/decrease in revenue as compared to the corresponding period of last year (%)	Increase/decrease in cost of sales as compared to the corresponding period of last year (%)	Increase/decrease in gross profit margin as compared to the corresponding period of last year (%)
China	16,046,283,750.32	11,958,118,330.78	25.48	-10.02	-13.30	Increased by 2.82 percentage points
Other countries and regions	586,726,449.65	524,039,034.04	10.68	6.59	59.93	Decreased by 29.79 percentage points

Segment and terminal market:

Revenue from construction contracting business and system implementation service business for the current period decreased by 30.17% and 22.79%, respectively as compared to the corresponding period of last year, mainly due to the Company's insistence on effective quality improvement and reasonable growth in volume to strictly control operation risks under complicated internal and external environment, as well as the decrease in the construction revenue for the current period as compared with the corresponding period of last year due to the slow availability of funds and delay in the construction period for certain construction projects. The revenue from the equipment manufacturing and design and integration business increased year-on-year, mainly due to the year-on-year increase in the revenue from design and integration and equipment manufacturing business as a result of the fact that the Company continued to increase its investment in R&D, actively promoted the construction of digital and intelligent equipment manufacturing production lines, strived to enhance its core competitiveness and strengthened its core functions.

Revenue from urban rail transit decreased by 17.77% as compared with the corresponding period of last year, mainly attributable to the decrease in construction business volume of metro projects as a result of the lack of orders.

Region:

Revenue from overseas business for the current period increased by 6.59% as compared to the corresponding period of last year, mainly due to the increase in recognized revenue as compared to those in the corresponding period of last year as the Company continued to push forward the progress of overseas projects such as the Novi Sad-Subotica section of the Hungary-Serbia Railway and the Jakarta-Bandung High-speed Railway.

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2. Particulars of material changes in business type, profit composition or source of the Company in the current period

Applicable Not applicable

(II) Explanation on material changes in profit due to non-main businesses

Applicable Not applicable

(III) Analysis of assets and liabilities

Applicable Not applicable

1. Assets-liabilities analysis table

Unit: Yuan Currency: RMB

Name of item	Amount at the end of the current period	Percentage of amount at the end of the current period to the total assets (%)	Amount at the end of the corresponding period of last year	Percentage of amount at the end of the corresponding period of last year to the total assets (%)	Change of the amount at the end of the current period as compared to that at the end of last year (%)
Cash and bank balances	22,269,181,227.27	18.76	22,215,371,337.81	19.02	0.24
Bills receivable	1,329,633,555.39	1.12	1,714,371,393.60	1.47	-22.44
Receivables for financing	575,977,092.01	0.49	1,048,965,771.85	0.90	-45.09
Accounts receivable	23,566,499,888.48	19.85	22,672,081,197.55	19.41	3.95
Prepayments	1,406,360,828.74	1.18	1,135,530,595.29	0.97	23.85
Inventories	2,970,305,224.68	2.50	2,378,763,660.23	2.04	24.87
Contract assets	39,164,422,647.06	32.99	38,617,088,327.03	33.06	1.42
Construction in progress	233,418,297.46	0.20	891,536,403.93	0.76	-73.82
Short-term borrowings	2,752,831,289.37	2.32	261,169,967.41	0.22	954.04
Bills payable	1,247,199,875.60	1.05	2,260,154,270.80	1.93	-44.82
Accounts payable	49,348,789,223.60	41.57	49,888,119,903.73	42.71	-1.08
Other payables	3,445,903,381.77	2.90	1,485,075,980.09	1.27	132.04
Other non-current liabilities due					
within one year	463,560,073.61	0.39	1,237,094,658.03	1.06	-62.53
Long-term payables	78,764,383.16	0.07	58,629,829.67	0.05	34.34

Other explanations

The decrease in bills receivable/receivables for financing was mainly due to the decrease in the acceptance bills received and the acceptance of bills upon maturity at the beginning of the period.

The increase in prepayments was mainly due to the increase in prepayments for procurement.

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The increase in inventories was mainly due to the increase in raw material reserves to enhance its risk resistance capability, and more efforts put into the production of stock goods according to the construction schedule of projects in the second half of 2023 by the Company.

The decrease in construction in progress was mainly due to the fact that One Center Tower of CRSC CASCO, the subsidiary, reached the expected usable condition and was transferred to fixed assets during the period.

The increase in short-term borrowings was mainly due to the increase of RMB2 billion in low-interest borrowings of the Company during the period.

The decrease in bills payable was mainly due to the decrease in new notes issued during the period and payment of notes due at the beginning of the period.

The increase in other payables was mainly due to the unpaid dividends distributed to shareholders.

The decrease in other non-current liabilities due within one year was mainly due to the repayment of long-term borrowings due within one year of RMB0.8 billion during the period.

The increase in long-term payables was mainly attributable to the increase in outstanding construction quality guarantee deposits.

2. *Information of overseas assets*

Applicable Not applicable

Explanation on higher proportion of overseas assets

Applicable Not applicable

3. *Major assets subject to restriction by the end of the Reporting Period*

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing book value
Cash and bank balances	432,866,588.20
Bills receivable	520,188,010.03
Accounts receivable	608,756,709.88
Long-term receivables	150,000,000.00
Other non-current assets	4,873,429,954.32
Total	6,585,241,262.43

4. *Other explanations*

Applicable Not applicable

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(IV) Analysis of investment

Overall analysis of investment in external equities

Applicable Not applicable

Unit: Yuan Currency: RMB

Investment amount during the reporting period (RMB)	Investment amount in the same period of last year (RMB)	Change
2,657,772,336.55	2,629,829,326.88	1.06%

1. Material equity investment

Applicable Not applicable

2. Material non-equity investment

Applicable Not applicable

3. Financial assets measured at fair value

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Gain or loss on changes in fair value for the period	Accumulated changes in fair value recognized in equity	Impairment accrued for the period	Amount of purchase for the period	Amount of sale/ redemption amount for the period	Other Changes	Closing balance
Others	1,124,819,159.20						79,774,948.00	1,204,594,107.20
Others	1,048,965,771.85						-472,988,679.84	575,977,092.01
Total	<u>2,173,784,931.05</u>						<u>-393,213,731.84</u>	<u>1,780,571,199.21</u>

Securities investment

Applicable Not applicable

Investment in private equity funds

Applicable Not applicable

Derivative investment

Applicable Not applicable

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(V) Disposal of significant assets and equity interest

Applicable Not applicable

(VI) Analysis of major companies controlled and invested by the Company

Applicable Not applicable

For details, please refer to “17. Long-term equity investment” in “VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS” and “IX. INTERESTS IN OTHER ENTITIES” of Section X Financial Report.

(VII) Status of the structured entity controlled by the Company

Applicable Not applicable

VII. OTHER DISCLOSURES

Applicable Not applicable

(I) Use of proceeds raised from H shares:

The proceeds raised from H shares amounted to approximately RMB9,104 million. As of 30 June 2023, a total of RMB8,536 million of proceeds raised from H shares have been used, of which RMB2,731 million was used in long-term research and development, including the construction of the CRSC Railway Transportation Research Center and technology research projects; RMB1,821 million was used in the fixed asset investments, including the technical overhaul of CRSC Xi'xin production base, the Company's subsidiary, and Changsha Industrial Park; RMB108 million was used in general equity acquisition; RMB1,253 million was used in investment of Tianshui Tramcar project and other PPP projects related to railway transportation; and RMB2,623 million was used to replenish working capital (On 12 June 2020, the Company convened the general meeting and considered and approved the Resolution on Change in the Use of Proceeds Raised from H Shares, according to which the Company intends to change the portion of the proceeds of RMB1,713 million allocated for general domestic and overseas acquisition to general domestic and overseas purposes (replenishing working capital)). The Company confirms that, apart from RMB1,713 million allocated for general domestic and overseas acquisition, the proposed usage plan of the aforesaid proceeds is consistent with the use of proceeds as disclosed in the prospectus. During the Reporting Period, the Company did not use any proceeds raised from H shares.

Apart from the aforesaid use of funds, as of 30 June 2023, the Company's remaining proceeds raised from H shares amounting to RMB568 million have not been used (PPP projects related to railway transportation), and are expected to be used up in the coming two years. The intended usage of the aforesaid proceeds is consistent with the use of proceeds as disclosed in the prospectus.

SECTION III

MANAGEMENT DISCUSSION AND ANALYSIS

(II) Employees

As of 30 June 2023, the Company had a total of 19,112 full-time employees, including 18,991 employees in subsidiaries. The total labour cost in the first half of 2023 was RMB2.254 billion. The Company has established a comprehensive performance evaluation system, linking the annual operation targets with the performance evaluation of all departments and employees. The Company attaches great importance to corporate culture construction and focuses on improving the overall employee quality by proactively implementing a comprehensive staff training initiative by levels and layers. The Company, based on different position categories, has established a performance-and-capability-oriented employee remuneration system and has effectively safeguarded the capability to recruit, retain and incentivize talents.

During the Reporting Period, the Company's remuneration policy and training plan remained unchanged. For relevant information, please refer to "XIV. EMPLOYEES OF THE PARENT COMPANY AND MAJOR SUBSIDIARIES AS OF THE END OF REPORTING PERIOD" in the 2022 annual report of the Company.

SECTION IV

CORPORATE GOVERNANCE

I. BRIEF INTRODUCTION TO SHAREHOLDER'S GENERAL MEETINGS

Name of meeting	Time of meeting	Index of website designated for publication of the resolutions	Disclosure date of the publication of the resolutions	Resolutions
2022 Annual General Meeting	9 June 2023	www.hkexnews.hk www.sse.com.cn	9 June 2023	<p>The following resolutions were considered and approved at the meeting:</p> <ol style="list-style-type: none"> 1. Resolution on the Work Report of the Board of Directors for 2022 of China Railway Signal & Communication Corporation Limited; 2. Resolution on the Work Report of the Supervisory Committee for 2022 of China Railway Signal & Communication Corporation Limited; 3. Resolution on the 2022 Annual Report of China Railway Signal & Communication Corporation Limited; 4. Resolution on the Final Account Report for 2022 of China Railway Signal & Communication Corporation Limited; 5. Resolution on the Profits Distribution Plan for 2022 of China Railway Signal & Communication Corporation Limited; 6. Resolution on Appointment of Auditor for 2023; 7. Resolution on Remunerations for Directors and Supervisors of the Company in 2022; 8. Resolution on Estimations on Ordinary Related Party Transactions for 2023-2025 of China Railway Signal & Communication Corporation Limited; 9. Resolution on Renewal of the Financial Services Framework Agreement between CRSC Group Finance Limited and China Railway Signal and Communication (Group) Corporation Limited and Its Related Party Transactions; 10. Resolution on General Authorization for the Issuance of Debt Financing Instruments; 11. Resolution on Amendments to the Articles of Association and the Rules of Procedure for the General Meetings.

Shareholders of preference shares with restored voting rights request convening extraordinary general meetings

Applicable Not applicable

Explanation on the general meetings

Applicable Not applicable

On 9 June 2023, the Company held the 2022 Annual General Meeting by way of a combination of on-site and online voting. For details, please refer to the Announcement on the Resolutions of the 2022 Annual General Meeting of China Railway Signal & Communication Corporation Limited dated 9 June 2023.

II. CHANGES IN DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT AND CORE TECHNICIANS OF THE COMPANY

Applicable Not applicable

Name	Position held	Information on the change
XU Zongxiang	Executive Director and President	Resignation
HUANG Weizhong	Vice President	Resignation
MA Lilan	Technical consultant of CRSC Research & Design Institute Group Co., Ltd.	Resignation

Explanation on changes in directors, supervisors, senior management and core technicians of the Company

Applicable Not applicable

Mr. XU Zongxiang ceased to serve as an executive Director and president of the Company with effect from 24 August 2023 as he has reached the legal age for retirement. Due to the expiration of the service agreement, Ms. MA Lilan ceased to serve as a technical consultant of CRSC Research & Design Institute Group Co., Ltd., a wholly-owned subsidiary of the Company, with effect from May 2023. For details, please refer to the announcement of the Company published on the website of the SSE on 6 May 2023.

Explanation on recognition of core technicians of the Company

Applicable Not applicable

Core technicians of the Company are comprehensively recognized based on their professional capabilities, research results, leadership in the implementation of significant projects, working background, education background and other factors. During the Reporting Period, the Company has no core technicians to be recognized but not recognized.

SECTION IV

CORPORATE GOVERNANCE

III. PROFIT DISTRIBUTION PLAN OR RESERVES-TO-EQUITY TRANSFER PLAN

Interim proposed profit distribution plan or reserve-to-equity transfer plan

Whether to distribute or transfer	No
Bonus shares for every 10 shares (shares)	–
Dividends distributed per 10 shares (yuan) (tax inclusive)	–
New shares for every 10 shares (shares)	–

Explanation of profit distribution plan or reserves-to-equity transfer plan

Nil

IV. INFORMATION ABOUT THE COMPANY'S SHARE INCENTIVE PLAN, EMPLOYEE STOCK OWNERSHIP PLAN OR OTHER EMPLOYEE INCENTIVE MEASURES AND THEIR IMPACTS

(I) Relevant incentive events disclosed in the temporary announcements and with no progress or change in subsequent implementation

Applicable Not applicable

(II) Incentives not disclosed in the temporary announcements or with subsequent progress

Share incentives

Applicable Not applicable

Other explanations

Applicable Not applicable

Employee stock ownership plan

Applicable Not applicable

Other incentive measures

Applicable Not applicable

V. CORPORATE GOVERNANCE PRACTICES

The Company strives to maintain high levels of corporate governance to safeguard the interests of its shareholders and to enhance corporate value and accountability.

In order to ensure that the Company is able to fully perform its obligations under the Rules Governing the Listing of Securities (“Listing Rules”) on the Hong Kong Stock Exchange, the Company has established an effective corporate governance structure and, from time to time, reviews and improves its internal control and corporate governance mechanism. The Company also operates in strict compliance with the Articles of Association of the Company, operating procedures for Board Committees, the Company Law and the requirements of relevant laws, regulations and regulatory documents, as well as the relevant rules and regulations of the Hong Kong Stock Exchange in relation to corporate information disclosure and investors’ relations management and services.

The Company has adopted the Corporate Governance Code set out in Appendix 14 to the Listing Rules of the Hong Kong Stock Exchange as its corporate governance code. During the Reporting Period, the Company has complied with all applicable code provisions as set out in the Corporate Governance Code and, where applicable, adopted recommended best practices.

VI. REPURCHASE, SALE OR REDEMPTION OF LISTED SECURITIES OF THE COMPANY

During the Reporting Period, neither the Company nor its subsidiaries repurchase, sell or redeem any of the listed securities of the Company under the Listing Rules of the Hong Kong Stock Exchange.

VII. REVIEW OF THE INTERIM REPORT BY THE AUDIT AND RISK MANAGEMENT COMMITTEE

Members of the Audit and Risk Management Committee of the Company comprise of Mr. FU Junyuan (an independent non-executive director, chairman of the Committee), Mr. GUO Yonghong (a non-executive director) and Mr. YAO Cho Fai Andrew (an independent non-executive director).

The Audit and Risk Management Committee of the Company has reviewed the unaudited interim condensed consolidated financial statements, the interim results announcement and interim report of the Company for the six months ended 30 June 2023.

VIII. SUBSEQUENT EVENTS

Save as disclosed in this report, from 30 June 2023 to the date of this report, the Company had no other significant subsequent events.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

I. ENVIRONMENTAL INFORMATION

Whether mechanisms related to environmental protection have been established	Yes
Amount of investment in environmental protection during the Reporting Period (unit: RMB0'000)	684.46

(I) Explanation on environmental protection of companies and their significant subsidiaries classified as the key pollutant discharging units announced by the environmental protection department

Applicable Not applicable

(II) Explanation on environmental protection of companies other than those classified as the key pollutant discharging units

Applicable Not applicable

1. Administrative punishment on environmental issues

Applicable Not applicable

2. Other environmental information disclosed with reference to the key pollutant discharging units

Applicable Not applicable

Pollutant discharging information: CRSC is an environmentally friendly “general class” enterprise with “low pollution emission.” Pollutant discharge mainly includes air pollutants, water pollutants and hazardous wastes. Air pollution emissions mainly include a small amount of nitrogen oxide and sulfur dioxide produced by boiler heating in the factory, and a small amount of volatile organic compounds (VOCS) in the production process; water pollution emissions mainly include ammonia nitrogen and chemical oxygen demand (COD); the hazardous waste is HW08, HW09, HW13 and HW49, mainly including the organic solvents used in the mechanical processing, organic solvents produced in the process of electronic product assembly and cable extrusion, and emulsions and waste oils generated during equipment maintenance. In the first half of 2023, the COD emission in sewage was 3.15 tons, the ammonia nitrogen emission was 0.33 ton, and the hazardous waste treatment capacity was 108.95 tons, maintaining a reasonable level, the air pollutant sulfur dioxide emission was 0.02 ton, and the nitrogen oxide emission was 0.51 ton. The discharge method of wastewater is mainly based on recycling, and unified discharge after complying with the standard treatment. The discharge method of VOCS and exhaust boiler is based on organized emission after adsorption treatment. All hazardous wastes are entrusted to professional enterprises with hazardous waste operation license, road transport of dangerous cargo license and other qualifications to handle. Enterprises involved in fixed pollutants have completed the registration of the fixed pollutants source discharge. The discharge of major pollutants meets the discharge standards stipulated by the state or the place where they operate.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

Construction and operation of pollution prevention and control facilities: CRSC has effectively treated the discharge outlets of pollution sources produced in all links of the production process, and the pollution control equipment is running well. For the links involved in the production of VOCS by cable processing, mechanical product processing and electronic product assembly in industrial enterprises, devices such as flue gas electronic purification systems, activated carbon purification systems, low temperature plasma and UV photolysis purification systems are equipped. The additional and upgraded enterprise-level sewage treatment stations resulted in a substantial increase in sewage treatment capacity and strong monitoring of water pollution discharge indicators. Hazardous wastes shall be stored and managed strictly in accordance with regulations. In the process of transfer and disposal of hazardous wastes, the joint bills of hazardous wastes transfer shall be filled out in accordance with the provisions of the Administrative Measures on the Joint Bills for the Transfer of Hazardous Wastes (《危險廢物轉移聯單管理辦法》), and qualified units shall be entrusted to carry out harmless and safe disposal according to law.

Environmental impact assessment and other administrative licenses in relation to environmental protection of construction projects: In the implementation of construction projects, CRSC implements the Environmental Impact Assessment Law (《環境影響評價法》) and the “three simultaneous” system of simultaneous design, construction and operation of environmental protection facilities and main projects. In the first half of 2023, CRSC Xi’an, a subsidiary of CRSC Xi’an Industry Group engaged a third-party agency to prepare the environmental impact assessment report of the construction project in respect of the distributed photovoltaic project, ensuring the environmental risks of the project were controllable. Shenyang Railway Signal Co., Ltd., made an investment of RMB98,000 in the environmental assessment for the digital and intelligent transformation project of the rail transit train control system basic equipment independent research and development base, which was carried out in an orderly manner.

Emergency plan for contingent environmental incidents: CRSC formulated the Measures for Reporting, Investigation and Handling of Environmental Emergencies (《突發環境事件報告和調查處理辦法》), issued the Safe Production Contingency Management Measures (《安全生產應急管理辦法》) and has set up emergency organizations, defined emergency responsibilities at all levels, refined the classification of events, formulated emergency plans and conducted practical exercises, carried out relevant safety education and training, strengthened safety awareness and effectively improved the level of response to emergency. During the June 5th World Environment Day, CRSC Xi’an, a subsidiary of CRSC Xi’an Industry Group, organized relevant workshops to carry out emergency drills for cleaning liquid leakage to further improve its employees’ emergency response capabilities for environmental emergencies.

Environmental self-monitoring program: CRSC strengthens the supervision and inspection of relevant enterprises’ pollution sources. Each of relevant enterprises has formulated pollution discharge outlets monitoring and management systems and third-party testing plans according to the actual conditions of the enterprise. In order to improve the monitoring effects, some enterprises have installed on-line monitoring system for wastewater and exhaust gas at the key pollutant discharge outlets as required, realizing 24-hour monitoring and warning of pollutant discharge and establishing a sound pollutant emission monitoring system.

During the Reporting Period, the Company has not received any administrative penalties due to environmental issues.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

3. *Reasons for non-disclosure of other environmental information*

Applicable Not applicable

(III) **Explanation of the follow-up progress of or changes in the disclosure of environmental information during the Reporting Period**

Applicable Not applicable

(IV) **Relevant information beneficial to ecological protection, pollution prevention and fulfillment of environmental responsibilities**

Applicable Not applicable

CRSC deeply applies Xi Jinping's thought on ecological civilization, fully implements the new development concept, vigorously develops modernization with harmony between man and Nature, adheres to ecological priority and green development and practices the green development concept. Focusing on protecting the environment and saving resources, CRSC follows the relevant laws and regulations of the state on ecological and environmental protection, implements pollutant reduction and environmental governance simultaneously and actively fulfills its social responsibility. None of subsidiaries under CRSC is a key pollutant discharging unit.

CRSC Xi'an Industry Group, an equipment manufacturing subsidiary of the Company, has completed the installment of ventilation facilities in production processes with exhaust gas and ensured that each discharge outlet is equipped with activated carbon adsorption treatment devices or photo catalyzing devices. It equipped spray towers and activated carbon adsorption devices in the cleaning process with alcohol to ensure the standard emission of waste gas. It completed the VOCs treatment in the electronic equipment workshop and the penetration and flaw detection working areas of the Inspection Department. The discharge method of VOCs is based on organized emission after treatment to meet the requirements on environmental protection.

CRSC Cables, an equipment manufacturing subsidiary of the Company, strengthened the treatment of volatile organic compounds (VOCs). Jiaozuo Railway Cable Co., Ltd. focused on the unified collection and treatment of organic exhaust gas from the process of extrusion molding. CRSC Tianshui Cable replaced the dust collection bags of 2 VOCs treatment equipment under use and installed remote alarming devices to conduct real-time monitoring on the operation of equipment and ensure the effective operation of equipment and facilities. CRSC Cables conducted the disposal of hazardous wastes, carried out centralized transfer and clearing of hazardous wastes stored and transferred a total of 12.5 tons of hazardous wastes. Jiaozuo Railway Cable Co., Ltd. implemented re-planning on the areas of hazardous waste storage rooms for classified storage. CRSC Tianshui Cable renovated hazardous waste storage rooms and has completed the measurement and planning of warehouses and the preparation of renovation plans.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

All engineering construction enterprises strengthened the protection of on-site ecology and environment. For municipal buildings under construction, they are required to be equipped with facilities and equipment such as enclosure, atomization and spraying facilities, fog cannon machines, sprinklers, dust and noise monitoring equipment, pile up as required and conduct regular repair and maintenance to ensure their normal operation. They shall harden roads at construction sites, wash vehicles and ensure coverage in the transportation process. They shall reasonably arrange the progress of projects and control construction noises; carry out the comprehensive utilization and disposal of construction wastes; and conduct the restoration of ecology and vegetation. CRSC Electrification Bureau fully considered energy-saving and emission reduction measures in the formulation of construction plans and adopted plans with high efficiency and low energy consumption. It accurately calculates the earth volume to be dug and filled before construction, selects the nearest borrow area with the construction site on the basis of meeting the project quality and reduces the fuel consumption of vehicles and machinery and the emission of greenhouse gas. It adopts CAD and other engineering software in drawing and simulation and conducts design and comparison on templates and wood materials to reduce waste materials and remnants to the maximum extent. It reasonably calculates and prepares materials and conducts the recycling and reuse of them.

CRSC CASCO, a design and R&D integration subsidiary of the Company, assisted in ecological and environmental protection in Zhongwei City, Ningxia and planted wolfberry forest with an area of 90 mu. CRSC CASCO actively practiced the public benefit concept of “protection,” devoted to afforestation and ecological protection, ploughed without rest, diligently practiced social responsibilities of enterprises and protected green mountains and clear water in China. CRSC CASCO organized the public riverside cleaning activity themed “Protecting the Blue Planet.” It practiced the environmental protection concept on low-carbon and environmental protection and green travelling. On 18 June 2023, CRSC CASCO and Zhengzhou Metro organized the public riverside cleaning activity themed “Protecting the Blue Planet” and joint party building activity on the banks of the Yellow River. 107 environmental protection volunteers collected 1,971 pieces of waste at the riverside with a total weight of 33.75kg, making active contributions to the treatment of plastic pollution in Yellow River Beach. In recent years, the public riverside cleaning activity themed “Protecting the Blue Planet” of CRSC CASCO was carried out across China. Over 500 party members and public volunteers fought against plastic pollution with practical actions and collected wastes of over 800kg at the riverside.

All subsidiaries under CRSC carefully carried out basic management of environmental protection, implemented ecological and environmental protection management system, dynamically managed relevant ledgers and guaranteed the normal operation of environmental protection equipment and facilities. They regularly conducted inspections on ecological and environmental protection and completed the rectification of problems identified in a timely manner. They transferred and disposed hazardous wastes according to regulations and promoted the orderly development of the ecological and environmental protection of enterprises.

(V) Measures adopted for reducing its carbon emission during the Reporting Period and the effects thereof

<p>Adopted carbon reduction measures or not</p> <p>Emissions of CO₂ equivalent reduced (unit: tons)</p> <p>Types of carbon reduction measures (such as use of clean energy in power generation, adoption of carbon reduction technology in production and R&D and production of new products conducive to carbon reduction)</p>	<p>Yes</p> <p>–</p> <p>The Company promoted the demonstration and application of new energy-saving and low-carbon technologies, processes and products, and proactively promoted green manufacturing and green construction, see the explanation for details</p>
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SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

Specific explanation

Applicable Not applicable

To implement the Opinions of CPC Central Committee and State Council on the Complete and Accurate Implementation of the New Development Philosophy to Work Well on Carbon Peak and Carbon Neutrality (《中共中央國務院關於完整準確全面貫徹新發展理念做好碳達峰碳中和工作的意見》), the Notice of State Council on Issuing the Action Plan on Carbon Peak Before 2030 (《國務院關於印發 2030 年前碳達峰行動方案的通知》) and SASAC's Guidance on Promoting Central Enterprises' High-quality Development and Working Well on Carbon Peak and Carbon Neutrality (《關於推進中央企業高質量發展做好碳達峰碳中和工作的指導意見》), CRSC formulated the Work Plan for Implementation of Carbon Peak (《落實碳達峰行動方案》) and all secondary enterprises of CRSC have formulated action plans on "carbon peak" and actively organized the implementation. CRSC sped up in structural adjustment, upgrading and renovation. With the focus on green and low-carbon transformation and development, CRSC developed low-carbon, clean and efficient energy, accelerated the demonstration, application and promotion of new energy-saving and low-carbon technologies, processes and products, and vigorously implemented green manufacturing and green construction.

1. Speeding up in promoting the utilization of non-fossil energy and advancing the construction of photovoltaic projects. CRSC Xi'an Industry Group carried out the preparation of feasibility study reports and on-site inspections, and sped up in promoting the construction of distributed photovoltaic projects; encouraged all enterprises to actively participate in local green power trading and peak shaving power consumption, and adopted practical measures to reduce energy consumption and promote the utilization of green energy and non-fossil energy. CRSC Construction Group and CRSC Engineering Bureau Group Construction Engineering Co., Ltd. won the bidding for photovoltaic EPC projects in Lijiang, Yunnan and photovoltaic EPC projects of Huaneng Renewables Corporation Limited in Funing District, Qinhuangdao City, making contributions to carbon reduction in society and fully demonstrating the undertakings of a central enterprise.
2. Promoting green manufacturing. The BRSC of CRSCD actively carried out the establishment of green credit systems and passed on the re-evaluation on "Four-Star Green Credit Enterprise" in June 2023. CRSC Xi'an, a subsidiary of CRSC Xi'an Industry Group, obtained the title of national "green plant" in 2022. The digital and intelligent transformation of the autonomous development base for basic equipment of the train control system for urban transit of Shenyang Railway Signal Co., Ltd. and the intelligent and digital transformation of the lead-free manufacturing of Shanghai Railway Communication were under installment and commissioning. The construction of the production line of intelligent power supply equipment for environmental gas from the railway construction of the CRSC has been completed and is under partial rectification and the optimization of machine tools.
3. Advancing green construction. CRSC actively carried out appraisal on green construction of construction projects. It has applied for appraisal on green construction for the "project on guaranteeing people's livelihood during the World University Games" of Shanghai Engineering Bureau Group and the "phase I of the logistics distribution center for rural revitalization in Linwu County, Hunan Province" by the China Association of Construction Enterprise Management to vigorously improve the green and low-carbon development of construction. It sped up the building of smart construction sites and improved the coverage of BIM technology to achieve refined and green construction. It comprehensively applied green construction processes and green and low-carbon building materials, advanced the reduction and recycling of building materials and facilitated the scaled development of low-carbon buildings with extra low and near-zero energy consumption.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

4. Optimizing product structure and production processes to reduce energy consumption. Jiaozuo Railway Cable Co., Ltd., a subsidiary of CRSC Cables, deeply tapped into the potential of products with the focus on key products, optimized and adjusted the processes of certain specifications of direct current and high voltage cables. It implemented trial production of 60 aluminum tapes without fine cutting for the aluminum clad process at the communication cable workshop, which reduced the consumption of raw materials, optimized the production processes, lowered the energy consumption of products, improved the energy utilization rate and reduced carbon emission on the basis of meeting the requirements on product quality and processes. CRSC Tianshui Cable upgraded and renovated the collection and control systems of water recycling equipment and completed the installment and commissioning of electric control cabinets, water collection and communication devices of water towers, equipment linkage control devices and other control systems.
5. Innovating green and low-carbon technology and empowering laboratories with digital technology. CRSCD carried out researches on group operation control technology for new-generation heavy-haul trains. Through the development of the new form of flexible transportation of unit trains with high density and unmanned driving, it achieved the improvement of capacity and the reduction of unit energy consumption and solved the problem of high energy consumption of heavy-haul railways. Through the PC-based ATP, ATO, ZC, CI and ATE software and the establishment of virtual test environment based on cloud platforms, the City Traffic Company achieved the overall cloud-based operation of signal systems, integrated IT resources, improved the resources utilization rate and test efficiency and reduced energy consumption in the operation of laboratories. The City Traffic Company promoted the adoption of train operation devices and the upgrading of the energy-saving ATO software in projects under construction to realize high-quality unmanned driving, improve the comfort of passengers in the operation of trains and achieve the purpose of saving operation cost and energy consumption.
6. Boosting efforts in energy-saving renovation and improving the energy use efficiency. CRSC Tianshui Cable completed the renovation of air compressors on frequency conversion and energy saving. With an input of RMB248,000, it installed 2 variable frequency control cabinets and 1 online operation platform for centralized monitoring, which eliminated the failure caused by heating in the long-term operation of air compressors and achieved remote starting and stopping as well as the switch of air compressors. With power frequency, variable frequency under constant pressure, variable frequency with zero load and other operation models, it reduced energy consumption by 35-40% compared with that before the renovation. CRSC Tianshui Cable completed the upgrading and renovation of energy measurement for production and invested RMB15,000 in the installment of 9 intelligent electricity meters and 27 current transformers with a measuring accuracy of 0.5s for major production workshops and special equipment with high energy consumption. Through the online energy management platform, it can conduct real-time monitoring on the electricity consumption, the electricity utilization rate, the peak-valley electricity use and load parameters at all workshops and achieve the output of daily, monthly and annual statistics with a load monitoring accuracy of > 500W to carry out effective analysis on the use of electricity at major workshops.

SECTION V

ENVIRONMENTAL AND SOCIAL RESPONSIBILITIES

7. Reinforcing ecological carbon sinks and project carbon sinks. CRSC fully displayed the advantages of construction contracting under the strategy of “six cores, one body and two wings”, participated in key ecological protection and restoration projects, afforestation actions as well as returning farmland to forest and grassland, strengthened the protection of forest and grassland resources, participated in comprehensive treatment of desertification, rocky desertification, water and soil erosion as well as local farmland development and ecological protection and restoration projects, implemented the lining and dry building of drainage channels, the building of slope protection at banks, soil improvement (deep ploughing with machinery) and the construction of gravel and concrete field roads to enhance ecological carbon sinks. CRSC Construction Group is conducting the construction of 14 green ecological projects covering photovoltaic roofs and ecological restoration and newly won the bidding for 7 green ecological projects covering domestic sewage treatment in rural areas, the renovation of ecological and environmental systems and the improvement of desertified soil.
8. Conducting the publicity of green and environmental protection. CRSC actively organized publicity activities on the Environment Day on 5 June 2023, the week for national publicity of energy conservation and the National Low-carbon Day in the whole system. All enterprises gave full play to the leading role of enterprises, shifted the focus of the activities to the production site and organized various interesting activities with edutainment and interactions. All enterprises widely publicized the low-carbon concept and relevant knowledge through the Internet, WeChat official accounts, display boards, banners, electronic screens and other forms, with over 37,390 participants, which greatly improved the environmental awareness of all employees. It promoted the development of green and low-carbon production modes and lifestyles and contributed the strength of a central enterprise in developing modernization with harmony between man and Nature.

II. DETAILS ON CONSOLIDATING AND EXPANDING THE ACHIEVEMENTS OF SHAKING OFF POVERTY AND RURAL REVITALIZATION

Applicable Not applicable

Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, CRSC deeply studied and implemented the spirit of the 20th National Congress of the CPC, earnestly studied and implemented the guidelines of General Secretary Xi Jinping’s Important Instructions on work related to “agriculture, rural areas and farmers” and implemented decisions and deployments of the CPC Central Committee and the State Council. Based on the work requirements of the SASAC, it performed assistance responsibilities and advanced assistance work. It held 6 special meetings on targeted assistance, appointed 1 temporary cadre and 1 major secretary, established the CRSC Sheqi County Special Fund for Agricultural Science and Technology, introduced assistance funds of RMB670 million, trained 105 primary cadres, 166 leaders in rural revitalization and 111 professional technicians and assisted in the sale of agricultural products with over RMB10 million from areas lifted out of poverty, playing an active role in consolidating and expanding the achievements of shaking off poverty and comprehensively advancing rural revitalization in Sheqi County in Henan Province.

I. THE PERFORMANCE OF UNDERTAKINGS

(I) Undertakings during or carried forward to the Reporting Period by the Company's actual controller, shareholders, related parties, acquirers and the Company and other relevant parties providing undertakings

✓ Applicable Not applicable

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Restricted shares	CRSC Group	The CRSC Group has made the following undertakings in respect of shares lock – up: (1) if the CRSC Group, within 36 months from the date when the CRSC's A shares upon initial public offering are listed on the Shanghai Stock Exchange, holds the CRSC's A shares, it shall not transfer or entrust others to manage the CRSC's domestic shares directly or indirectly held by it prior to the issuance, nor shall CRSC repurchase such shares. (2) if the closing price of CRSC's stocks for 20 consecutive trading days (except for all-day suspension of CRSC's stocks) is lower than the issue price of this offering within six months after the listing of CRSC, or the closing price at the end of six months after listing (if the day is not a trading day, it is the first trading day after that day) is lower than the issue price of this offering, the lock-up period of CRSC's A shares held by CRSC Group will be automatically extended for six months after the expiration of the above lock-up period. The issue price refers to the issue price of this offering of CRSC. If CRSC, after being listed, performs the ex-dividend and ex-right for reasons such as profit distribution, capital reserves to increase share capital, additional issuance, placement etc., it shall do so in accordance with the relevant provisions of the Shanghai Stock Exchange. (3) if CRSC Group violates the above undertakings, it will assume all legal liabilities arising therefrom. (4) if relevant laws, regulations and regulatory documents or other securities regulatory authorities such as China Securities Regulatory Commission and Shanghai Stock Exchange have other requirements for the lock-up period of shares, CRSC Group agrees to adjust the lock-up period of CRSC's shares held by it accordingly.	Is there a term for performance	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Restricted shares	CRSC Group	CRSC Group has made undertakings to extend the lock-up period of domestic shares held by CRSC upon its initial public offering by 6 months to 21 January 2023. During the extended lock-up period, CRSC Group shall not transfer or entrust others to manage the CRSC's A shares held by it, nor shall CRSC repurchase such shares.	Time of undertakings: 15 July 2022; term: 6 months till 21 January 2023	Yes	Yes	-	-
Undertakings associated with the initial public offering	Profit distribution	CRSC	CRSC has made the following undertakings in respect of profit distribution policies: The Company will distribute profits to shareholders in strict accordance with the profit distribution policies stipulated by relevant laws and regulations, the Articles of Association of China Railway Signal & Communication Corporation Limited, and Dividend Distribution Plan within the Three Years after the Initial Public Offering and Listing of A Shares of CRSC (2019-2021), and strictly implement the review procedures for the profit distribution plan. If the violation of the above undertakings causes losses to the investors, the Company shall be liable to the investors according to law.	Time of undertakings: 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Non-competition undertakings	CRSC Group	<p>CRSC Group have made the following undertakings in respect of the non-competition undertakings: (1) as of the date of the issuance of letter of undertakings, CRSC Group and the holding enterprises of CRSC Group (excluding CRSC and its holding enterprises, same hereinafter) have not engaged in or participated in the businesses or activities that constitute or may constitute a direct or indirect competitive relationship with the principal business currently engaged in by CRSC and its holding enterprises in any form domestically or abroad. (2) CRSC Group and its holding enterprises do not, currently or in the future, solely or jointly with others; directly or indirectly, in any form (including but not limited to investment, merger and acquisition, associates, joint ventures, cooperation, partnership, contracting or leasing operation, purchase of shares of listed companies or equity participation) domestically or abroad engage in or participate in, or assist to engage in or participate in any businesses or activities which compete or is likely to compete with the principal business engaged currently or in the future by CRSC and its holding enterprises. (3) If CRSC Group or its holding enterprises find any new business opportunities which directly or indirectly compete or is likely to compete with the principal business of CRSC and its holding enterprises, they will immediately notify CRSC in writing and try their best to procure that these business opportunities are first provided to CRSC and its holding enterprises on reasonable and fair terms and conditions. (4) If CRSC and its holding enterprises waive the above new business opportunities and CRSC Group or its holding enterprises engage in these competitive businesses, CRSC and its holding enterprises have the right to acquire any equity, assets and other interests in the abovementioned competitive business from CRSC Group or its holding enterprises at one or multiple times at any time, or choose to entrust operation, lease or contract to operate the assets or business of the above-mentioned competitive business in accordance with the PRC laws and regulations. (5) If CRSC Group or its holding enterprises intend(s) to transfer, sell, lease, license or otherwise transfer or permit to use the asset and business which competes or is likely to compete, directly or indirectly, with the principal business of CRSC and its holding enterprises, CRSC Group and its holding enterprises will provide priority transfer rights to CRSC and its holding enterprises. (6) CRSC Group will indemnify CRSC and its holding enterprises against all actual losses, damages and expenses suffered/occurred for CRSC Group or its holding enterprises' breach of any terms in the letter of undertaking. (7) The letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the temporary suspension of trading of CRSC's stock for any reason).</p>	Time of undertakings: 15 April 2019; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the temporary suspension of trading of CRSC's stock for any reason)	Yes	Yes	-	-

SECTION VI

SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Related Party Transactions	CRSC Group	<p>CRSC Group has made the following undertakings in respect of regulating Related Party Transactions: (1) CRSC Group and its holding enterprises (excluding CRSC and its holding enterprises, same hereinafter) will try their best to minimize the Related Party Transactions with CRSC and its holding enterprises. (2) for the Related Party Transactions related with operating activities of CRSC that are not avoidable, CRSC Group and its holding enterprises will perform the decision-making procedures of Related Party Transactions to ensure fair pricing and timely fulfill information disclosure obligations in strict compliance with the relevant laws and regulations and regulatory documents as well as the relevant requirements in CRSC's internal system related with Related Party Transactions. (3) CRSC Group will not take advantage of its position as a controlling shareholder to seek any favorable conditions or benefits over independent third parties for CRSC Group and its holding enterprises from CRSC and its holding enterprises in business operation and other business. (4) CRSC Group will indemnify CRSC and its holding enterprises against all actual losses, damages and expenses suffered/incurred for CRSC Group and its holding enterprises' violation of above-mentioned undertakings. (5) the above-mentioned undertakings remain effective when CRSC Group has the control right over CRSC and cannot be changed or cancelled.</p>	Time of undertakings: 15 April 2019; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the suspension of trading of CRSC's stock for any reason)	Yes	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Others	CRSC	CRSC has made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) if the relevant undertakings made publicly by the Company in the prospectus have already contained the restraints, such restraints specified in those undertakings shall prevail; if the Company breaches those undertakings, the Company agrees to adopt the restraints already specified in those undertakings. (2) if the Company fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings (except for the objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), the Company will take the following measures: 1) publicly explain the specific reasons for the failure to perform; inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to the Company and its shareholders to protect the rights and interests of the Company and its shareholders as much as possible. 3) if the public investors suffer losses due to their reliance on the undertakings of the Company in transactions, the Company will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities. (3) in the event that the Company fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings due to objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, the Company will take the following measures: 1) publicly explain the specific reasons for the failure to perform; inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to the Company and its shareholders to protect the rights and interests of the Company and its shareholders as much as possible.	Time of undertakings: No 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VI

SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Undertakings associated with the initial public offering	Others	CRSC Group	CRSC Group has made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) CRSC Group will strictly implement the public undertakings made by CRSC Group in the prospectus for this issue and actively accept public supervision. (2) if CRSC Group fails to fulfill its undertakings, confirms that it is unable to perform or fails to perform as scheduled, its undertakings (except for the objective reasons beyond the control of the Company such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), CRSC Group will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible. 3) in case of any gains (if any) due to the failure to perform the relevant undertakings, the gains shall be owned by CRSC. 4) if the public investors suffer losses due to their reliance on the undertakings of CRSC Group in transactions, CRSC Group will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities. (3) in the event that CRSC Group fails to perform its undertakings, confirms that it is unable to perform or fails to perform as scheduled its undertakings due to objective reasons beyond the control of CRSC Group such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, CRSC Group will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible.	Time of undertakings: No 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Others		The Company's Directors, Supervisors and senior management	The Company's Directors, Supervisors and senior management have made the following undertakings in respect of restraints on failure to comply with relevant public undertakings: (1) I will strictly perform the public undertakings made in the prospectus for this issue and actively accept public supervision. (2) If I fail to perform my undertakings, confirm that I am unable to perform or fail to perform as scheduled, my undertakings (except for the objective reasons beyond my control such as changes in relevant laws and regulations and policies, natural disasters and other force majeure), I will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible. 3) in case of any gains (if any) due to the failure to perform the relevant undertakings, the gains shall be owned by CRSC. 4) if the public investors suffer losses due to their reliance on my undertakings in transactions, I will compensate them in the way and amount determined by the securities regulatory authorities or judicial authorities; if I receive the salary from CRSC, I agree that CRSC can stop paying the salary to me and use it directly to perform my unfulfilled undertakings or to compensate for the loss caused to CRSC and its shareholders by my unfulfilled undertakings. (3) in the event that I fail to perform my undertakings, confirm that I am unable to perform or fail to perform as scheduled, my undertakings due to objective reasons beyond my control such as changes in relevant laws and regulations and policies, natural disasters and other force majeure, I will take the following measures: 1) publicly explain the specific reasons for the failure to perform, inability to perform or to perform as scheduled, the undertakings in the media designated by the CSRC. 2) make supplementary or substitute undertakings to CRSC and its shareholders to protect the rights and interests of CRSC and its shareholders as much as possible.	Time of undertakings: No 15 April 2019; term: long-term effective	No	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

Background of undertakings	Category of undertakings	Party providing undertakings	Contents of undertakings	Time and term of undertakings	Is there a term for performance	Whether or not timely and strictly performed	If the undertaking fails to be performed timely, please explain the specific reasons for the failure	If the undertaking fails to be performed timely, please state the plan in the next step
Other undertakings	Non-competition undertaking	CRSC Group	On 20 July 2015, CRSC Group issued to the Company a letter of non-competition undertakings, which is effective in the Relevant Period (as defined in the H share prospectus). Pursuant to the letter of non-competition undertakings, CRSC Group has confirmed that, as at the date of the letter of non-competition undertakings, CRSC Group has not engaged in or participated in any form of business activities which, directly or indirectly, compete with the Company's principal businesses. For further details of the letter of non-competition undertakings, please refer to the H share prospectus of the Company.	Time of undertakings: 20 July 2015; term: the letter of undertakings takes effect from the date of issuance and is terminated upon the occurrence of the following circumstances (whichever is earlier): CRSC Group is no longer the controlling shareholder of CRSC; CRSC terminates its listing (except for the suspension of trading of CRSC's stock for any reason)	Yes	Yes	-	-
Others	Others	CRSC	The Company undertook to the Hong Kong Stock Exchange that the Company would not use the proceeds from the global offering, as well as any other funds raised through the Hong Kong Stock Exchange, to finance or assist any activities or business, directly or indirectly, (i) relating to or with the target of any sanction, or relating to, with, or in any countries subject to sanctions administered by the U.S., the E.U., Hong Kong, Australia or the U.N. authorities, or (ii) relating to CRSC International, one of the Company's subsidiaries, considering the amount of its annual revenue related to projects in Iran during the Track Record Period. In addition, the Company also undertook to the Hong Kong Stock Exchange that the Company would not undertake any sanctionable transactions that would expose the relevant persons or us to risk of being sanctioned.	Time of undertakings: 28 July 2015; term: long-term effective	No	Yes	-	-

SECTION VI SIGNIFICANT EVENTS

II. APPROPRIATION OF FUNDS BY CONTROLLING SHAREHOLDERS AND OTHER RELATED PARTIES FOR PURPOSES OTHER THAN FOR BUSINESS DURING THE REPORTING PERIOD

Applicable Not applicable

III. ILLEGAL GUARANTEES

Applicable Not applicable

IV. AUDIT OF THE INTERIM REPORT

Applicable Not applicable

V. CHANGES TO AND HANDLING OF MATTERS INVOLVED IN NON-STANDARD AUDIT OPINIONS IN ANNUAL REPORT LAST YEAR

Applicable Not applicable

VI. EVENTS REGARDING BANKRUPTCY AND RESTRUCTURING

Applicable Not applicable

VII. MATERIAL LITIGATION AND ARBITRATION

The Company was involved in material litigation or arbitration during the Reporting Period
 The Company was not involved in material litigation or arbitration during the Reporting Period

VIII. SUSPECTED VIOLATION OF LAWS AND REGULATIONS, PUNISHMENTS AND RECTIFICATIONS INVOLVED BY THE LISTED COMPANY, ITS DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT, CONTROLLING SHAREHOLDER OR ACTUAL CONTROLLER

Applicable Not applicable

IX. EXPLANATION ON CREDIBILITY OF THE COMPANY AND ITS CONTROLLING SHAREHOLDER AND ACTUAL CONTROLLER DURING THE REPORTING PERIOD

Applicable Not applicable

SECTION VI

SIGNIFICANT EVENTS

X. MATERIAL RELATED PARTY TRANSACTIONS

(I) Related party transactions in relation to the ordinary operations

1. *Events disclosed in the temporary announcements and with no progress or change in subsequent implementation*

Applicable Not applicable

2. *Events disclosed in the temporary announcements but with progress or change in subsequent implementation*

Applicable Not applicable

3. *Events not disclosed in the temporary announcements*

Applicable Not applicable

(II) Related party transactions arising from acquisition of assets or acquisition and disposal of equity interests

1. *Events disclosed in the temporary announcements and with no progress or change in subsequent implementation*

Applicable Not applicable

2. *Events disclosed in the temporary announcements but with progress or change in subsequent implementation*

Applicable Not applicable

3. *Events not disclosed in the temporary announcements*

Applicable Not applicable

4. *Where an agreement on performance is involved, the performance achievements during the Reporting Period shall be disclosed*

Applicable Not applicable

SECTION VI SIGNIFICANT EVENTS

(III) Significant related party transactions on the joint external investment

1. *Events disclosed in the temporary announcements and with no progress or change in subsequent implementation*

Applicable Not applicable

2. *Events disclosed in the temporary announcements but with progress or change in subsequent implementation*

Applicable Not applicable

3. *Events not disclosed in the temporary announcements*

Applicable Not applicable

(IV) Claims and liabilities between related parties

1. *Events disclosed in the temporary announcements and with no progress or change in subsequent implementation*

Applicable Not applicable

2. *Events disclosed in the temporary announcements but with progress or change in subsequent implementation*

Applicable Not applicable

3. *Events not disclosed in the temporary announcements*

Applicable Not applicable

(V) Financial business between the Company and the related financial company or between the financial company controlled by the Company and the related parties

Applicable Not applicable

SECTION VI SIGNIFICANT EVENTS

1. Deposit business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Maximum daily limit of deposits	Interest rate range of deposit	Opening balance	Amount incurred during the period		Closing balance
					Total deposited amount during the period	Total withdrawal amount during the period	
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	6,000,000,000.00	0.35%-2.31%	-	237,556,930.60	89,336,992.05	148,219,938.55
Total	/	/	/	-	237,556,930.60	89,336,992.05	148,219,938.55

2. Loan business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Loan limit	Interest rate range of loan	Opening balance	Amount incurred during the period		Closing balance
					Total loan amount during the period	Total repayment amount during the period	
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	100,000,000.00	3.75%-4.75%	-	-	-	-
Total	/	/	/	-	-	-	-

3. Credit or other financial business

Applicable Not applicable

Unit: Yuan Currency: RMB

Related party	Related party relationship	Type of business	Total amount	Actual amount incurred
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司) and its subsidiaries	The controlling shareholder of the Company and its subsidiaries	Other financial services (including but not limited to the provision of advisory, agency, settlement, transfer, settlement and sale of foreign exchange, investment, letter of credit, online banking, entrusted loan, underwriting, etc.)	10,000,000.00	0.00

SECTION VI SIGNIFICANT EVENTS

4. Other explanation

Applicable Not applicable

(VI) Other material related party transactions

Applicable Not applicable

(VII) Others

Applicable Not applicable

XI. MAJOR CONTRACTS AND PERFORMANCE

(I) Trust, contracting and leasing matters

Applicable Not applicable

(II) Significant guarantees performed and not fully performed during the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

External guarantees provided by the Company (excluding guarantees provided for its subsidiaries)	
Total guarantee incurred during the Reporting Period (excluding those provided to subsidiaries)	–
Total balance of guarantee as at the end of the Reporting Period(A) (excluding those provided to subsidiaries)	–
Guarantees provided by the Company and its subsidiaries to its subsidiaries	
Total guarantee to its subsidiaries incurred during the Reporting Period	1,101,784,590.87
Total balance of guarantee to subsidiaries as at the end of the Reporting Period (B)	4,191,691,627.87
Aggregate guarantee of the Company (including those provided to subsidiaries)	
Aggregate guarantee (A+B)	4,191,691,627.87
Percentage of aggregate guarantee to net assets of the Company (%)	9.26
Representing:	
Amount of guarantee provided for shareholders, actual controller and related parties (C)	–
Amount of debts guarantee directly or indirectly provided to guaranteed parties with gearing ratio over 70% (D)	3,122,712,663.99
Excess amount of aggregate guarantee over 50% of net assets (E)	–
Aggregate amount of the above three categories (C+D+E)	3,122,712,663.99
Statement on the contingent joint and several liability in connection with unexpired guarantee	

SECTION VI SIGNIFICANT EVENTS

Statement on guarantee

Percentage of the total guarantee amount to net assets of the Company = guarantee amount/equity attributable to owners of the parent company. As at 30 June 2023, the balance of guarantee amounted to RMB4,192 million, accounting for 9.26% of the Company's net assets, of which, the balance of guarantees for wholly-owned subsidiaries was RMB4,192 million; the balance of guarantees for controlling subsidiaries was RMB0. The Company did not provide any guarantee for any of its controlling shareholders, actual controllers or related parties. As at the end of the current period, the balance of guarantee provided by the Company for its subsidiaries with an asset-liability ratio of more than 70% amounted to RMB3,123 million.

(III) Other material contracts

Applicable Not Applicable

XII. EXPLANATION ON PROCESS IN USE OF PROCEEDS

✓ Applicable Not applicable

(I) Overall use of proceeds

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Source of proceeds	Date of receiving proceeds	Total proceeds	Net proceeds after deduction of issuance expenses	Total promised investment amounts out of proceeds	Total promised investment amounts out of proceeds after adjustments (1)	Accumulated investment proceeds as of the end of the Reporting Period (2)	Process of accumulated investment as of the end of the Reporting Period (%)(3)=(2)/(1)	Investment amount for the year (4)	Proportion of the investment amount for the year (%) (5)=(4)/(1)
IPO of shares	16 July 2019	10,530,000,000	10,354,342,373.23	10,354,342,373.23	10,354,342,373.23	5,108,619,222.32	49.34	18,763,800	0.18

SECTION VI SIGNIFICANT EVENTS

(II) Details of the investment project

Applicable Not applicable

Unit: Yuan Currency: RMB

Project name	Nature of project	Whether the change is involved	Source of proceeds	Date of receiving proceeds	Whether over-raised proceeds are used	Total promised investment amounts out of project proceeds	Total investment amounts out of proceeds after adjustments (1)	Accumulated investment amount out of proceeds as of the end of the Reporting Period (2)	Process of accumulated investment as of the end of the Reporting Period (%) available status (3)=(2)/(1)	Date on which the project reached expected	Whether process of investment is in line with plan	Specific reason for process of investment not achieved as planned	Efficiency achieved or not during the Reporting Period	Whether feasibility of project changes significantly, if yes, please specify	Amount of balance and reason
Advanced and intelligent technology research and development projects	R&D	Not applicable	IPO of shares	16 July 2019	No	4,600,000,000.00	-	2,036,229,817.12	44.27	2023	Yes	-	Yes	-	-
<p>Completed the pilot application of regional coordinative-transportation service system in Chongqing; commenced the operation of ground equipment of ETCS train control system based on baseline 3 in Beograd-Stara Pazova section of Hungary-Serbia Railway; commenced the application of the railway comprehensive dispatching information system in Baoshan line and Shenshuo line of Shenhua Railway; completed the pilot application of the complete set of moving blocking system based on BeiDou Navigation Satellite System (BDS) in Jingbian-Shenmu Railway and the application in the entire line is under way; completed the on-site test of the integrated train control interlocking equipment and commenced its operation in Heilan-Ruoqi Railway; commenced the operation of the CBTC system based on full electronic interlock system in the extension project of Changchun Subway Line 3 and Changsha Subway Line 6; commenced the operation of intelligent light rail transit control system in Feiguang Maglev; commenced the operation of the Train Autonomous Circumambulate System (TACS) of urban rail trains in Shenzhen Metro Line 20, and static commissioning in Shanghai Metro Line 3/4; applied the intelligent passenger traffic analysis system in Feiguang Maglev and Taizhou Commuter Rail S1 Line in the field; carried out the field test of the bow-vacuum pipeline ultra-high-speed maglev operation control system in the ultra-high-speed maglev test line in Yanggao, Datong, Shanxi; arranged the test</p>															

SECTION VI SIGNIFICANT EVENTS

Project name	Nature of project	Whether the change is involved	Source of proceeds	Date of receiving proceeds	Whether over-raised proceeds are used	Total promised investment amounts out of project proceeds	Total investment amounts out of proceeds after adjustments (1)	Accumulated investment amount out of proceeds as of the end of the Reporting Period (2)	Process of accumulated investment which reached expected available status or not (3)=(2)/(1)	Whether process of investment is in line with plan process	Specific reason for investment not achieved as planned	Efficiency achieved or not during the Reporting Period	Efficiency or R&D results achieved of this project	Whether feasibility of project changes significantly, if yes, please specify reason
Advanced and intelligent manufacturing base project	Production and construction	Not applicable	IPO of shares	16 July 2019	No	2,500,000,000.00	-	18,450,000	0.74	No	The implementation conditions of the advanced and intelligent manufacturing base project have changed, and the implementation progress was delayed. At present, the subsidiary responsible for the implementation of the project has submitted the feasibility study report, on which the Company is studying.	Not applicable	-	-
													of the high-density automatic operation control system for heavy-haul freight train in Shenhua Railway; arranged the application of large station CTC3.0 system based on the integration of train shunting operations in Jirain Railway Bureau and Taiyuan Railway Bureau; completed the field pilot test of 400MHz digital train dispatching system for railway special communication; carried out the on-road trial of locomotive on-board relays; carried out the on-road trial and promotion and application of the outdoor monitoring system (split) for ZPW-2000 range rail circuit; the intelligent diagnosis system on turnout switch; the rail breakage monitoring system of turnouts; ZD6 dust-proof sealed electric switch machine; GW-SH external locking device and other products, etc.	

SECTION VI SIGNIFICANT EVENTS

Project name	Nature of project	Whether the change is involved	Source of proceeds	Date of receiving proceeds	Whether over-raised proceeds are used	Total investment amounts out of proceeds after adjustments (1)	Total investment amount out of proceeds as of the end of the Reporting Period (2)	Process of accumulated investment as of the end of the Reporting Period (3)=(2)/(1)	Date on which the project reached expected available status or not	Whether investment process is in line with plan	Specific reason for investment not achieved as planned	Efficiency achieved or not during the Reporting Period	Whether feasibility of project changes significantly, if yes, please specify
Information construction project	Operation and management	Not applicable	IPO of shares	16 July 2019	No	300,000,000.00	57,805,377.00	19.27	2022	No	The information construction project was not progressed as expected due to the external environment, but the implementation conditions and feasibility of the project has not changed significantly, and the Company will actively advance its implementation.	Not applicable	-
Supplement liquidity project	Replenishment of working capital and loan repayment	Not applicable	IPO of shares	16 July 2019	No	2,954,342,373.23	2,995,934,028.20	100	Yes	Yes		Not applicable	-

Note 1: A total of RMB2,036.43 million was invested in advanced and intelligent technology research and development projects as at the end of the Reporting Period, of which RMB1,511.03 million was invested in research on advanced rail transit control systems and key technologies, and RMB140.27 million was invested in research on intelligent integrated operation and maintenance systems and technologies for rail transit, RMB289.40 million was invested in smart city and industry communication information system research, RMB11.17 million was invested in chip technology applicable to rail transit, and RMB84.56 million was invested in rail transit intelligent construction technology research.

Note 2: As of 30 June 2023, in the comparison table for the use of proceeds, the actual supplement working capital project investment amount was RMB2,995,930,000, including the total initial committed investment of RMB2,954,340,000 and current interest of RMB41,590,000 in the corresponding special bank account.

(III) Changes in investment during the Reporting Period

Applicable Not applicable

(IV) Other circumstances of use of proceeds during the Reporting Period

1. *Initial investment and replacement of projects with proceeds*

Applicable Not applicable

2. *Temporarily supplement working capital with idle proceeds*

Applicable Not applicable

3. *Cash management against idle proceeds to invest in relevant products*

Applicable Not applicable

At the 8th meeting of the fourth session of the Board of Directors, the 4th meeting of the fourth session of the supervisory committee held on 8 August 2022, the Resolution on Utilizing Unused Raised Funds for Cash Management (《關於使用暫時閑置募集資金進行現金管理的議案》) was considered and approved by the Company, approving the Company's utilization of unused proceeds of no more than RMB2.7 billion (inclusive) for cash management, provided that the progress on investment plans which use the proceeds, the Company's production and operation and the security of the proceeds would not be affected, and for purchasing investment products with high security, good liquidity and guaranteed principal (including but not limited to structured deposits, time deposits and large deposit certificate) for a term of not exceeding 12 months.

As of 30 June 2023, CRSC's cash management of proceeds is detailed in the table below.

SECTION VI SIGNIFICANT EVENTS

Unit: 0'000 Yuan Currency: RMB

No.	Trustee	Product type	Approved investment amount	Actual investment amount	Term	Balance as of 30 June 2023	Interest as of 30 June 2023	Remarks
1	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Structured deposit	245,000	245,000	September 2019 – December 2019	-	2,331	Redeemed
2	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	245,000	245,000	December 2019 – August 2020	-	6,901	Redeemed
3	China Merchants Bank Co., Ltd. Beijing Branch	Large deposit certificate	25,000	25,000	August 2019 – August 2020	-	950	Redeemed
4	China Merchants Bank Co., Ltd. Beijing Branch	Large deposit certificate	25,000	25,000	September 2020 – September 2022	-	1,891	Redeemed
5	China Merchants Bank Co., Ltd. Beijing Branch	Seven-day notice deposit	25,000	25,000	September 2022 – redemption on demand	25,000	-	Redeemed upon expiry
6	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	170,000	170,000	September 2020 – December 2022	-	14,733	Redeemed
7	China Everbright Bank Company Limited Qinghuayuan Sub-branch	Large deposit certificate	75,000	75,000	September 2020 – December 2022	-	6,500	Redeemed
8	China Everbright Bank Company Limited Beijing Chaonei Sub-branch	Large deposit certificate	195,000	195,000	December 2022 – redemption on demand	195,000	-	Redeemed upon expiry
9	China Everbright Bank Company Limited Beijing Chaonei Sub-branch	Large deposit certificate	50,000	50,000	December 2022 – redemption on demand	50,000	-	Redeemed upon expiry
Total	/	/	/	/	/	270,000	33,306	/

4. *Permanently supplement liquidity or repay bank loans with over-raised proceeds*

Applicable Not applicable

5. *Others*

Applicable Not applicable

XIII. EXPLANATION ON OTHER SIGNIFICANT EVENTS

Applicable Not applicable

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

I. MOVEMENTS IN SHARE CAPITAL

(I) Table of changes in shares

1. Table of changes in shares

There was no change in the total number of ordinary shares and equity structure of the Company during the Reporting Period.

2. Explanation on changes in shares

Applicable Not applicable

3. Impact of changes in shares on financial indicators such as earnings per share, net asset per share from the Reporting Period to the disclosure date of the Interim Report (if any)

Applicable Not applicable

4. Other discloseable contents that the Company deemed necessary or were required by securities regulatory authorities

Applicable Not applicable

On 15 July 2022, CRSC Group, the controlling shareholder of the Company, has made undertakings to extend the lock-up period of domestic shares (6,604,426,424 shares) held by CRSC upon its initial public offering by 6 months to 21 January 2023. During the extended lock-up period, CRSC Group shall not transfer or entrust others to manage the CRSC's A shares held by it, nor shall CRSC repurchase such shares. CRSC Group has strictly complied with the above undertakings during the lock-up period and there is no non-fulfilment of the relevant undertakings affecting the listing and circulation of the restricted shares, and such shares have been listed and circulated from 30 January 2023.

SECTION VII

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(II) Changes in shares subject to trading moratorium

Applicable Not applicable

Unit: Share

Name of Shareholders	Number of shares subject to trading moratorium at the beginning of the period	Number of shares released from trading moratorium for the period	Number of new shares subject to trading moratorium for the period	Number of shares subject to trading moratorium at the end of the period	Reason for the trading moratorium	Date of release from trading moratorium
China Railway Signal and Communication (Group) Corporation Limited	6,604,426,424	0	0	6,604,426,424	Subject to trading moratorium under the initial public offering and voluntary commitment to extend the lock-up period for restricted shares	30 January 2023
Total	6,604,426,424	0	0	6,604,426,424	/	/

II. PARTICULARS OF SHAREHOLDERS

(I) Total number of shareholders:

Total number of ordinary shareholders as at the end of the Reporting Period (account)	74,713
Total number of shareholders of preference shares with restored voting rights as at the end of the Reporting Period (account)	—
Total number of shareholders holding shares with special voting rights as at the end of the Reporting Period (account)	—

Note: As of the end of the Reporting Period, the Company had 74,713 A share shareholders and 220 H share registered shareholders.

Number of depositary receipt holders

Applicable Not applicable

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(II) Particulars of shareholdings of the top ten Shareholders and the top ten Shareholders not subject to trading moratorium as at the end of the Reporting Period

Particulars of shareholdings of the top ten Shareholders through ordinary securities accounts and client credit trading guarantee securities accounts of securities companies

✓ Applicable □ Not applicable

Unit: Share

Name of shareholder (full name)	Particulars of shareholdings of the top ten Shareholders			Number of shares held subject to trading moratorium	Number of restricted shares including lending shares for securities financing	Shares pledged, marked or frozen	Status of shares	Number of shares	Nature of shareholder
	Change of shareholding during the Reporting Period	Number of shares held as at the end of the period	Percentage (%)						
China Railway Signal and Communication (Group) Corporation Limited ^{Note 1}	-	6,604,426,424	62.37	-	-	No	-	-	State-owned corporation
HKSCC NOMINEES LIMITED ^{Note 2}	29,000	1,967,743,950	18.58	-	-	Unknown	-	-	Overseas corporation
HONG KONG SECURITIES CLEARING COMPANY LIMITED	136,391,028	246,434,243	2.33	-	-	Unknown	-	-	Overseas corporation
China Merchants Bank Co., Ltd.-ChinaAMC SSE STAR 50 Exchange Traded Fund	29,414,310	175,560,815	1.66	-	-	Unknown	-	-	Other State-owned corporation
China National Machinery Industry Corporation Industrial and Commercial Bank of China Limited – E Fund SSE STAR 50 Exchange Traded Fund	-	63,507,192	0.60	-	-	Unknown	-	-	Other State-owned corporation
China Railway Investment Group Co., Ltd. CETC Fund Management Co., Ltd.- Zhongdian Electronic Information Industry Investment Fund (Tianjin) Partnership (Limited Partnership)	-	34,188,000	0.32	-	-	Unknown	-	-	Other State-owned corporation
Hunan Rail Transit Holding Group Co., Ltd. Agricultural Bank of China Limited – ICBC Credit Suisse SSE STAR 50 Exchange Traded Fund	-	23,677,500	0.22	-	-	Unknown	-	-	Other State-owned corporation
	234,232	16,008,406	0.15	-	-	Unknown	-	-	Other

SECTION VII

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

Particulars of shareholdings of the top ten Shareholders not subject to trading moratorium

Name of Shareholder	Number of circulating shares held not subject to trading moratorium	Type	Type and number of shares	Number
China Railway Signal and Communication (Group) Corporation Limited	6,604,426,424	RMB ordinary shares		6,604,426,424
HKSCC NOMINEES LIMITED	1,967,743,950	Overseas listed foreign shares		1,967,743,950
HONG KONG SECURITIES CLEARING COMPANY LIMITED	246,434,243	RMB ordinary shares		246,434,243
China Merchants Bank Co., Ltd -ChinaAMC SSE STAR 50 Exchange Traded Fund	175,560,815	RMB ordinary shares		175,560,815
China National Machinery Industry Corporation Industrial and Commercial Bank of China Limited-E Fund SSE STAR 50 Exchange Traded Fund	63,507,192	RMB ordinary shares		63,507,192
China Railway Investment Group Co., Ltd.	58,626,679	RMB ordinary shares		58,626,679
CETC Fund Management Co., Ltd.- Zhongdian Electronic Information Industry Investment Fund (Tianjin) Partnership (Limited Partnership)	34,188,000	RMB ordinary shares		34,188,000
Hunan Rail Transit Holding Group Co., Ltd.	23,677,500	RMB ordinary shares		23,677,500
Agricultural Bank of China Limited – ICBC Credit Suisse SSE STAR 50 Exchange Traded Fund	16,008,406	RMB ordinary shares		16,008,406
Explanation on the special account for repurchase of the top ten shareholders	–			
Explanation on the above shareholders who entrusted, be entrusted with or waived voting rights	–			
Explanation on the related party relationship or acting-in-concert arrangement among the above shareholders			China Railway Signal and Communication (Group) Corporation Limited, the largest shareholder, does not have any related party relationship with the other shareholders nor is it a person acting in concert with them. The Company is not aware whether the other shareholders have related party relationship or acting-in-concert arrangement.	
Explanation on the shareholders of preference shares with restored voting right and their shareholdings			Not applicable	

Note 1: As of 30 June 2023, apart from 6,604,426,424 A shares, China Railway Signal and Communication (Group) Corporation Limited also holds 34,302,000 H shares of the Company.

Note 2: H shares held by HKSCC NOMINEES LIMITED are held on behalf of various clients.

Note 3: Apart from information set out in note 1 and note 2, shares held by shareholders in the table above are all A shares of the Company.

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

The shareholdings of the top ten Shareholders subject to trading moratorium and conditions of such trading moratorium

Applicable Not applicable

Explanation: On 15 April 2019, CRSC Group, the controlling shareholder of the Company, has made undertakings in respect of lock-up of shares of CRSC held by it, that within 36 months from the date when the CRSC's A shares upon initial public offering are listed on the Shanghai Stock Exchange, the CRSC's A shares held by CRSC Group shall not be transferred or entrusted to others to manage the CRSC's domestic shares directly or indirectly held by it prior to the issuance, nor shall CRSC repurchase such shares. During the Reporting Period, CRSC Group, the controlling shareholder of the Company, has made undertakings to extend the lock-up period of domestic shares (6,604,426,424 shares) held by it upon its initial public offering by 6 months to 21 January 2023. The above shares became tradable on 30 January 2023.

Particulars of the top ten domestic depository receipts holders of the Company as at the end of the Reporting Period

Applicable Not applicable

Number of holdings of the top ten holders of depository receipts subject to trading moratorium and conditions of such trading moratorium

Applicable Not applicable

(III) Particulars of top ten shareholders with voting rights as at the end of the Reporting Period

Applicable Not applicable

(IV) Top ten shareholders from strategic investors or general legal persons participating in the placing of the new shares/depository receipts

Applicable Not applicable

SECTION VII

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

(V) Interests and short positions of substantial shareholders in shares and underlying shares of the Company

As at 30 June 2023, so far as is known to the Directors, the following persons (other than the directors, the supervisors or chief executives of the Company) had interests or short positions in the shares or underlying shares of the Company which would be required to be disclosed to the Company under the provisions of Divisions 2 and 3 of Part XV of the Securities and Futures Ordinance (the "SFO") and which were entered in the register required to be kept by the Company pursuant to section 336 of the SFO:

Name of Shareholder	Class of shares	Capacity	Number of shares held	Approximate percentage of shares in the relevant class of shares of the Company	Approximate percentage of shares in the total issued shares of the Company
China Railway Signal and Communication (Group) Corporation Limited	A shares	Beneficial owner	6,604,426,424 (Long position)	76.61%	62.37%
Shanghai Zhenhua Heavy Industries Co., Ltd. ⁽¹⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
Shanghai Zhenhua Port Machinery (Hong Kong) Company Limited ⁽¹⁾	H shares	Beneficial owner	123,063,000 (Long position)	6.25%	1.16%
China Railway Group Investment (Hong Kong) Limited ⁽²⁾	H shares	Beneficial owner	123,063,000 (Long position)	6.25%	1.16%
China Railway Engineering Corporation ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
China Railway Group Limited ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
China Railway International Group Co., Limited ⁽²⁾	H shares	Interests in a controlled corporation	123,063,000 (Long position)	6.25%	1.16%
Shanghai Ningquan Asset Management Co., Ltd. (上海寧泉資產管理有限公司)	H shares	Investment manager	223,875,000 (Long position)	11.37%	2.11%

Notes:

As at 30 June 2023, the number of issued shares of the Company was 10,589,819,000 shares, of which 1,968,801,000 shares were H shares and 8,621,018,000 shares were A shares.

1. Shanghai Zhenhua Heavy Industries Co., Ltd. had interests in such shares through Shanghai Zhenhua Port Machinery (Hong Kong) Company Limited.
2. China Railway Engineering Corporation had interests in such shares through China Railway Group Limited, China Railway International Group Co., Limited and China Railway Group Investment (Hong Kong) Limited.

Save as disclosed above, as at 30 June 2023, the Directors were not aware of any persons (other than the directors, the supervisors or chief executives of the Company) who had interests and/or short positions in the shares or underlying shares of the Company which would be required to be disclosed to the Company under the provisions of Divisions 2 and 3 of Part XV of the SFO and which were entered in the register required to be kept by the Company pursuant to section 336 of the SFO.

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

III. DIRECTORS, SUPERVISORS, SENIOR MANAGEMENT AND CORE TECHNICIANS

(I) The changes in shareholding of current and resigned directors, supervisors, senior management and core technicians during the Reporting Period

Applicable Not applicable

Other explanations

Applicable Not applicable

During the Reporting Period, there was no change in the indirect shareholding of the Company's directors, supervisors, senior management and core technicians. As of 30 June 2023, the Company's senior management Zhang Zhihui, core technicians Fu Gang and others still indirectly hold the Company's shares by holding shares in the FengZhong Asset Management Plan, totaling 367,763 shares.

(II) The equity incentives granted to the directors, supervisors, senior management and core technicians during the Reporting Period

1. ***Stock option***

Applicable Not applicable

2. ***The first type of restricted stocks***

Applicable Not applicable

3. ***The second type of restricted stocks***

Applicable Not applicable

(III) **Other explanations**

Applicable Not applicable

SECTION VII

CHANGES IN SHARES AND PARTICULARS OF SHAREHOLDERS

IV. INTERESTS AND SHORT POSITIONS OF DIRECTORS, SUPERVISORS AND CHIEF EXECUTIVES OF THE COMPANY IN SHARES, UNDERLYING SHARES AND DEBENTURES OF THE COMPANY AND ITS ASSOCIATED CORPORATIONS

As at 30 June 2023, none of the directors, supervisors and chief executives of the Company had any interest and/or short position in the shares, underlying shares and debentures of the Company or its associated corporations (within the meaning of Part XV of the SFO) which will have to be notified to the Company and the Hong Kong Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests or short positions which he is taken or deemed to have under such provisions of the SFO) or which will be required, pursuant to Section 352 of the SFO, to be entered in the register referred to therein, or will be required, pursuant to the Model Code for Securities Transactions by Directors of Listed Issuers (the “Model Code”) set out in Appendix 10 to the Listing Rules of the Hong Kong Stock Exchange, to be notified to the Company and the Hong Kong Stock Exchange.

V. SECURITIES TRANSACTIONS CONDUCTED BY DIRECTORS AND SUPERVISORS

The Company has adopted a code of conduct no less exacting than the code of conduct as provided in the Model Code as the code of conduct for all the directors and supervisors trading securities of the Company (the “code of conduct”). All the directors and supervisors of the Company have confirmed that they have complied with the standards as stipulated by the code of conduct for the six months ended 30 June 2023.

VI. CHANGES IN THE CONTROLLING SHAREHOLDER OR ACTUAL CONTROLLER

Applicable Not applicable

VII. IMPLEMENTATION AND CHANGES OF ARRANGEMENTS RELATED TO DEPOSITARY RECEIPTS DURING THE REPORTING PERIOD

Applicable Not applicable

VIII. SHARES WITH SPECIAL VOTING RIGHTS

Applicable Not applicable

SECTION VIII PARTICULARS OF PREFERENCE SHARES

Applicable Not applicable

SECTION IX

PARTICULARS OF BONDS

ENTERPRISE BONDS, CORPORATE BONDS AND DEBT FINANCING INSTRUMENTS OF NON-FINANCIAL INSTITUTIONS

Applicable Not applicable

(I) Enterprise bonds

Applicable Not applicable

(II) Corporate bonds

Applicable Not applicable

SECTION IX PARTICULARS OF BONDS

(III) Debt financing instruments of non-financial enterprises in the interbank bond market

✓ Applicable Not applicable

1. Basic information on debt financing instruments of non-financial enterprises

Unit: Yuan Currency: RMB

Name of bond	Abbreviation	Code	Issue date	Value date	Maturity date	Balance of the bond	Interest rate (%)	Repayment of principal and interest	Trading place	Investor suitability arrangements (if any)	Trading mechanism	Whether there is a risk of termination of listing and trading
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	21 CRSC	102103265JB	15 December 2021	16 December 2021	3+N (3) years, standing perpetually before redemption by the issuer in accordance with the terms of issuance, and maturing upon redemption by the issuer in accordance with the terms of issuance.	2,800,000,000.00	3.32	Interest payment method: Simple interest for accrual of annual interest, and no compound interest will be accrued. If the Company does not exercise the option of deferred payment of interest, interest will be paid annually; if the Company exercises the option of deferred payment of interest, the current interest and all deferred interest and interest thereof will be deferred to the next interest payment date, and each deferred interest is interest bearing at the prevailing coupon rate during the deferral period. The last installment of interest shall be paid together with the principal. Repayment method: The principal and the last installment of interest are paid upon redemption by the issuer in accordance with the terms of issuance.	Interbank market	For qualified institutional investors in the national interbank bond market (other than purchasers prohibited by national laws or regulations), it shall be conducted in accordance with the relevant regulations promulgated by the National Interbank Funding Center.	Through the local currency trading system of the foreign exchange trading center in the interbank market, transactions are concluded one by one with the counterparties by way of price inquiry.	No

SECTION IX

PARTICULARS OF BONDS

Measures adopted by the Company for the risk of terminating the listing and trading of bonds

Applicable Not applicable

Overdue and outstanding bonds

Applicable Not applicable

Explanation on overdue debts

Applicable Not applicable

2. *Triggering and implementation of the issuer or investor option terms and the investor protection terms*

Applicable Not applicable

3. *Adjustment of credit rating results*

Applicable Not applicable

4. *Implementation and changes in guarantees, debt repayment plans and other repayment guarantees during the Reporting Period and their impact*

Applicable Not applicable

5. *Other explanations of debt financing instruments of non-financial enterprises*

Applicable Not applicable

SECTION IX PARTICULARS OF BONDS

(IV) Losses in the consolidated statements exceeding 10% of the net assets as at the end of the previous year during the Reporting Period

Applicable Not applicable

(V) Key accounting data and financial indicators

Applicable Not applicable

Unit: Yuan Currency: RMB

Major indicators	As at the end of the Reporting Period	As at the end of last year	Change as compared with the end of last year (%)	Reason for changes
Current ratio	1.40	1.42	-0.02	/
Quick ratio	0.73	0.75	-0.02	/
Gearing ratio (%)	59.99	59.52	0.47	/

Major indicators	For the Reporting Period (from January to June)	For the corresponding period of last year	Change as compared with the corresponding period of last year (%)	Reason for changes
Net profits after deducting non-recurring gains and losses	1,714,426,935.25	1,881,314,263.17	8.87	/
Debt-to-EBITDA ratio	0.04	0.05	-0.01	/
Interest coverage ratio	55.47	72.31	-16.84	/
Cash interest coverage ratio	-27.62	-19.65	-7.97	/
EBITDA interest coverage ratio	63.15	81.24	-18.09	/
Loan repayment ratio (%)	100.00	100.00	-	/
Interest repayment ratio (%)	100.00	100.00	-	/

CONVERTIBLE CORPORATE BONDS

Applicable Not applicable

CONSOLIDATED BALANCE SHEET

30 June 2023

I. AUDIT REPORT

Applicable Not applicable

II. FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEET

30 June 2023

Prepared by: China Railway Signal & Communication Corporation Limited

Unit: Yuan Currency: RMB

Item	Note VII	30 June 2023	31 December 2022
Current assets:			
Cash and bank balances	(I)	22,269,181,227.27	22,215,371,337.81
Balances with clearing companies		–	–
Placements with banks and other financial institutions		–	–
Held-for-trading financial assets	(II)	–	–
Derivative financial assets	(III)	–	–
Bills receivable	(IV)	1,329,633,555.39	1,714,371,393.60
Accounts receivable	(V)	23,566,499,888.48	22,672,081,197.55
Receivables for financing	(VI)	575,977,092.01	1,048,965,771.85
Prepayments	(VII)	1,406,360,828.74	1,135,530,595.29
Premiums receivable		–	–
Reinsurance accounts receivable		–	–
Deposits receivable from reinsurance treaty		–	–
Other receivables	(VIII)	1,556,879,815.70	1,579,389,304.96
Including: Interest receivable		–	3,628,769.52
Dividends receivable		22,500,000.00	6,075,000.00
Financial assets held under resale agreements		–	–
Inventories	(IX)	2,970,305,224.68	2,378,763,660.23
Contract assets	(X)	39,164,422,647.06	38,617,088,327.03
Assets held for sale	(XI)	–	–
Non-current assets due within one year	(XII)	85,064,869.75	104,252,537.37
Other current assets	(XIII)	984,612,606.76	954,216,216.16
Total current assets		93,908,937,755.84	92,420,030,341.85

CONSOLIDATED BALANCE SHEET

30 June 2023

Item	Note VII	30 June 2023	31 December 2022
Non-current assets:			
Loans and advances to customers		–	–
Debt investment	(XIV)	273,172,183.50	273,172,183.50
Other debt investments	(XV)	–	–
Long-term receivables	(XVI)	6,469,877,986.28	5,909,956,266.76
Long-term equity investments	(XVII)	1,453,178,229.35	1,505,010,167.68
Other equity instrument investments	(XVIII)	1,204,594,107.20	1,124,819,159.20
Other non-current financial assets	(XIX)	–	–
Investment properties	(XX)	344,550,866.95	360,225,551.83
Fixed assets	(XXI)	5,182,210,687.89	4,580,968,030.17
Construction in progress	(XXII)	233,418,297.46	891,536,403.93
Productive biological assets	(XXIII)	–	–
Oil and gas assets	(XXIV)	–	–
Right-of-use assets	(XXV)	156,148,777.57	173,961,270.40
Intangible assets	(XXVI)	2,486,654,520.87	2,563,747,410.22
Development expenditure	(XXVII)	227,290,296.73	188,000,541.82
Goodwill	(XXVIII)	305,324,128.58	305,324,128.58
Long-term prepaid expenses	(XXIX)	46,870,408.38	58,177,965.51
Deferred tax assets	(XXX)	495,152,267.51	474,086,180.50
Other non-current assets	(XXXI)	5,933,754,080.66	5,977,528,881.93
Total non-current assets		<u>24,812,196,838.93</u>	<u>24,386,514,142.03</u>
Total assets		<u>118,721,134,594.77</u>	<u>116,806,544,483.88</u>

CONSOLIDATED BALANCE SHEET

30 June 2023

Item	Note VII	30 June 2023	31 December 2022
Current liabilities:			
Short-term borrowings	(XXXII)	2,752,831,289.37	261,169,967.41
Borrowings from central bank		–	–
Placements from banks and other financial institutions		–	–
Financial liabilities held for trading	(XXXIII)	–	–
Derivative financial liabilities	(XXXIV)	–	–
Bills payable	(XXXV)	1,247,199,875.60	2,260,154,270.80
Accounts payable	(XXXVI)	49,348,789,223.60	49,888,119,903.73
Advance receipts	(XXXVII)	–	–
Contract liabilities	(XXXVIII)	7,618,093,557.39	7,704,721,222.25
Financial assets sold for repurchase		–	–
Customers deposits and deposits from banks and other financial institutions		148,219,938.55	–
Amount paid for agency securities trading		–	–
Amount paid for agency securities underwriting		–	–
Employee benefits payable	(XXXIX)	727,481,617.17	690,620,818.93
Tax payable	(XL)	689,982,894.44	899,902,868.80
Other payables	(XLI)	3,445,903,381.77	1,485,075,980.09
Including: Interest payable		–	–
Dividends payable		1,924,699,344.42	118,347,201.50
Fees and commissions payable		–	–
Reinsurance accounts payable		–	–
Liabilities held for sale	(XLII)	–	–
Non-current liabilities due within one year	(XLIII)	463,560,073.61	1,237,094,658.03
Other current liabilities	(XLIV)	743,688,617.95	815,521,607.44
Total current liabilities		67,185,750,469.45	65,242,381,297.48

CONSOLIDATED BALANCE SHEET

30 June 2023

Item	Note VII	30 June 2023	31 December 2022
Non-current liabilities:			
Insurance contract reserve		—	—
Long-term borrowings	(XLV)	3,066,373,923.16	3,290,786,172.77
Bonds payable	(XLVI)	—	—
Including: Preference shares		—	—
Perpetual bonds		—	—
Lease liabilities	(XLVII)	94,678,203.71	118,073,535.41
Long-term payables	(XLVIII)	78,764,383.16	58,629,829.67
Long-term employee benefits payable	(XLIX)	526,278,000.00	503,607,000.00
Estimated liabilities	(L)	26,360,322.31	28,711,970.11
Deferred income	(LI)	172,082,644.41	215,017,593.46
Deferred tax liabilities	(XXX)	73,772,976.47	71,602,084.41
Other non-current liabilities	(LII)	—	—
Total non-current liabilities		4,038,310,453.22	4,286,428,185.83
Total liabilities		71,224,060,922.67	69,528,809,483.31
Shareholders' equity:			
Share capital	(LIII)	10,589,819,000.00	10,589,819,000.00
Other equity instruments	(LIV)	2,796,935,660.38	2,796,935,660.38
Including: Preference shares		—	—
Perpetual bonds		2,796,935,660.38	2,796,935,660.38
Capital reserve	(LV)	15,963,602,179.09	15,964,068,097.89
Less: treasury stocks	(LVI)	—	—
Other comprehensive income	(LVII)	-212,281,481.34	-198,844,477.42
Special reserve	(LVIII)	274,459,969.59	343,494,199.17
Surplus reserve	(LIX)	2,042,973,083.07	2,042,968,810.17
General risk reserve		—	—
Retained earnings	(LX)	13,809,049,151.38	13,785,475,907.76
Total equity attributable to Shareholders of the parent company		45,264,557,562.17	45,323,917,197.95
Non-controlling interests		2,232,516,109.93	1,953,817,802.62
Total Shareholders' equity		47,497,073,672.10	47,277,735,000.57
Total liabilities and Shareholders' equity		118,721,134,594.77	116,806,544,483.88

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

PARENT COMPANY'S BALANCE SHEET

30 June 2023

Prepared by: China Railway Signal & Communication Corporation Limited

Unit: Yuan Currency: RMB

Item	Note XVII	30 June 2023	31 December 2022
Current assets:			
Cash and bank balances		12,432,986,516.87	14,716,787,400.28
Held-for-trading financial assets		—	—
Derivative financial assets		—	—
Bills receivable	(I)	76,880,695.36	79,973,817.53
Accounts receivable	(II)	1,568,253,279.52	1,788,106,057.35
Receivables for financing	(III)	14,100,000.00	54,684,084.19
Prepayments		219,948,300.89	300,822,929.37
Other receivables	(IV)	8,401,288,548.19	6,417,222,998.16
Including: Interest receivable		—	—
Dividends receivable		2,136,012,930.31	161,752,930.31
Inventories		12,412,970.95	7,879,326.58
Contract assets		1,688,585,001.16	1,826,390,756.07
Assets held for sale		—	—
Non-current assets due within one year		20,171,146.26	21,937,975.59
Other current assets		61,950,222.09	95,978,072.44
Total current assets		24,496,576,681.29	25,309,783,417.56
Non-current assets:			
Debt investment		273,172,183.50	273,172,183.50
Other debt investments		—	—
Long-term receivables		2,145,226,970.08	2,130,745,638.37
Long-term equity investments	(V)	19,265,091,488.94	19,245,173,565.00
Other equity instrument investments		476,408,221.20	476,408,221.20
Other non-current financial assets		—	—
Investment properties		1,403,521,662.43	1,422,508,459.84
Fixed assets		497,138,250.49	505,661,396.64
Construction in progress		9,199,876.28	9,199,876.28
Productive biological assets		—	—
Oil and gas assets		—	—
Right-of-use assets		1,351,646.49	928,460.62
Intangible assets		458,535,380.32	471,510,245.98
Development expenditure		—	—
Goodwill		—	—
Long-term prepaid expenses		—	—
Deferred tax assets		34,700,302.36	32,275,748.35
Other non-current assets		132,847,452.17	67,200,329.05
Total non-current assets		24,697,193,434.26	24,634,784,124.83
Total assets		49,193,770,115.55	49,944,567,542.39

PARENT COMPANY'S BALANCE SHEET

30 June 2023

Item	Note XVII	30 June 2023	31 December 2022
Current liabilities:			
Short-term borrowings		2,000,000,000.00	—
Financial liabilities held for trading		—	—
Derivative financial liabilities		—	—
Bills payable		39,912,589.69	68,734,295.36
Accounts payable		3,901,354,898.59	4,230,353,881.18
Advance receipts		—	—
Contract liabilities		1,041,114,359.05	1,231,698,118.45
Employee benefits payable		25,624,349.90	28,431,342.29
Tax payable		3,135,981.96	3,892,538.54
Other payables		7,889,054,773.89	9,671,141,276.39
Including: Interest payable		—	—
Dividends payable		1,800,269,230.00	—
Liabilities held for sale		—	—
Non-current liabilities due within one year		900,135.84	800,518,240.71
Other current liabilities		28,787,573.85	45,902,934.67
Total current liabilities		14,929,884,662.77	16,080,672,627.59
Non-current liabilities:			
Long-term borrowings		—	—
Bonds payable		—	—
Including: Preference shares		—	—
Perpetual bonds		—	—
Lease liabilities		39,982.96	144,616.42
Long-term payables		—	—
Long-term employee benefits payable		63,281,000.00	60,534,000.00
Provisions		686,646.49	686,646.49
Deferred income		3,869,841.68	3,869,841.68
Deferred tax liabilities		—	—
Other non-current liabilities		—	—
Total non-current liabilities		67,877,471.13	65,235,104.59
Total liabilities		14,997,762,133.90	16,145,907,732.18

PARENT COMPANY'S BALANCE SHEET

30 June 2023

Item	Note XVII	30 June 2023	31 December 2022
Shareholders' equity:			
Share capital		10,589,819,000.00	10,589,819,000.00
Other equity instruments		2,796,935,660.38	2,796,935,660.38
Including: Preference shares		—	—
Perpetual bonds		2,796,935,660.38	2,796,935,660.38
Capital reserve		16,356,470,432.63	16,356,470,432.63
Less: treasury stocks		—	—
Other comprehensive income		-47,001,820.94	-45,904,166.59
Special reserve		27,628,732.57	42,219,683.05
Surplus reserve		2,042,973,083.07	2,042,968,810.17
Retained earnings		2,429,182,893.94	2,016,150,390.57
Total Shareholders' equity		<u>34,196,007,981.65</u>	<u>33,798,659,810.21</u>
Total liabilities and Shareholders' equity		<u>49,193,770,115.55</u>	<u>49,944,567,542.39</u>

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to June 2023

Unit: Yuan Currency: RMB

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
I. Total revenue		16,666,226,171.84	18,383,362,437.75
Including: Revenue	(LXI)	16,633,010,199.97	18,383,362,437.75
Interest income		33,215,971.87	—
Premiums earned		—	—
Fees and commissions income		—	—
II. Total cost of sales		14,407,855,435.02	15,961,504,820.73
Including: Cost of sales	(LXI)	12,482,157,364.82	14,120,496,231.20
Interest expenses		144,556.36	—
Fees and commissions expense		5,580.09	—
Surrenders		—	—
Net payments for insurance claims		—	—
Net provisions for insurance contract reserve		—	—
Policy dividend expenses		—	—
Reinsurance costs		—	—
Taxes and surcharges	(LXII)	106,921,060.04	113,585,874.83
Selling and distribution expenses	(LXIII)	343,041,168.71	311,237,350.96
General and administrative expenses	(LXIV)	970,225,656.74	955,395,376.86
Research and development expenses	(LXV)	648,673,283.76	648,574,665.76
Finance costs	(LXVI)	-143,313,235.50	-187,784,678.88
Including: Interest expenses		45,916,542.28	37,441,870.02
Interest income		212,567,569.60	201,603,681.72
Add: Other income	(LXVII)	228,822,019.66	248,526,114.08
Investment income (with “-” for loss)	(LXVIII)	69,676,000.80	71,704,705.34
Including: Share of profits of associates and joint ventures		52,387,752.96	60,657,924.10
Derecognition of income from financial assets at amortized cost (with “-” for loss)		—	—
Foreign exchange gains (with “-” for loss)		—	—
Net gains from hedging exposure (with “-” for loss)	(LXIX)	—	—
Gains from changes in fair value (with “-” for loss)	(LXX)	—	—
Credit impairment losses (with “-” for loss)	(LXXI)	-74,028,474.70	-104,785,928.52
Assets impairment losses (with “-” for loss)	(LXXII)	-1,396,179.00	-4,581,610.97
Gains from disposal of assets (with “-” for loss)	(LXXIII)	230,700.77	26,780,716.67
III. Operating profit (with “-” for loss)		2,481,674,804.35	2,659,501,613.62
Add: Non-operating income	(LXXIV)	12,436,663.92	14,624,225.56
Less: Non-operating expenses	(LXXV)	2,333,748.89	4,266,310.73
IV. Total profits (with “-” for total losses)		2,491,777,719.38	2,669,859,528.45
Less: Income tax expenses	(LXXVI)	383,191,151.42	477,268,739.30

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to June 2023

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
V. Net profit (with "-" for net loss)		2,108,586,567.96	2,192,590,789.15
(I) Classified by continuity of operation			
1. Net profit from continuing operations (with "-" for net loss)		2,108,586,567.96	2,192,590,789.15
2. Net profit from discontinued operations (with "-" for net loss)		—	—
(II) Classified by the ownership			
1. Net profit attributable to the owners of the parent company (with "-" for net loss)		1,823,846,746.52	1,934,084,073.92
2. Net profit attributable to non-controlling interests (with "-" for net loss)		284,739,821.44	<u>258,506,715.23</u>
VI. Other comprehensive income, net of tax	(LXXVII)	-12,806,756.35	-20,476,300.31
(I) Other comprehensive income attributable to the owners of the parent company, net of tax		-13,437,003.92	-20,474,448.50
1. Other comprehensive income that may not be reclassified into profit or loss		-14,747,000.00	-8,000.00
(1) Changes of re-measurement of defined benefit plans		-14,747,000.00	-8,000.00
(2) Other comprehensive income that cannot be transferred to profit or loss under equity method		—	—
(3) Changes in fair value of other equity instrument investments		—	—
(4) Changes in fair value of the Company's own credit risk		—	—
2. Other comprehensive income that will be reclassified into profit or loss		1,309,996.08	-20,466,448.50
(1) Other comprehensive income that can be transferred to profit or loss under equity method		—	—
(2) Changes in fair value of other debt investments		—	—
(3) Amount of financial assets reclassified into other comprehensive income		—	—
(4) Credit impairment provisions for other debt investments		—	—
(5) Hedging reserve arising from cash flows		-100,698.92	-18,720,942.53
(6) Exchange differences on translation of foreign operations		1,230,313.75	540,911.58
(7) Others		180,381.25	-2,286,417.55
(II) Other comprehensive income attributable to non-controlling interests, net of tax		630,247.57	<u>-1,851.81</u>

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

January to June 2023

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
VII. Total comprehensive income		2,095,779,811.61	2,172,114,488.84
(I) Total comprehensive income attributable to Shareholders of the parent company		1,810,409,742.60	1,913,609,625.42
(II) Total comprehensive income attributable to non-controlling interests		285,370,069.01	258,504,863.42
VIII. Earnings per share:			
(I) Basic earnings per share (RMB/share)		0.17	0.18
(II) Diluted earnings per share (RMB/share)		0.17	0.18

For the business combination under common control occurred during the current period, net profit of the acquiree realised before business combination was RMB0. Net profit of the acquiree realised during the last period was RMB0.

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

PARENT COMPANY'S STATEMENT OF PROFIT OR LOSS

January to June 2023

Unit: Yuan Currency: RMB

Item	Note XVII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
I. Revenue	(VI)	1,600,123,408.03	1,680,869,631.90
Less: Cost of sale	(VI)	1,437,719,758.37	1,425,132,556.29
Taxes and surcharges		21,119,315.24	20,294,013.70
Selling and distribution expenses		1,068,671.82	336,327.13
General and administrative expenses		92,635,272.02	105,512,855.00
Research and development expenses		34,868,392.47	64,461,456.16
Finance costs		-100,167,076.79	-179,100,824.88
Including: Interest expenses		69,941,444.47	29,794,079.48
Interest income		158,870,931.17	156,464,567.36
Add: Other income		2,339,573.92	1,585,023.88
Investment income (with "-" for loss)	(VII)	2,134,334,520.57	1,884,282,047.65
Including: Share of profits of associates and joint ventures		16,644,317.00	34,079,576.40
Derecognition of income from financial assets at amortized cost (with "-" for loss)		-	-
Net gains from hedging exposure (with "-" for loss)		-	-
Gains from changes in fair value (with "-" for loss)		-	-
Credit impairment losses (with "-" for loss)		-10,022,993.70	-23,640,198.23
Assets impairment losses (with "-" for loss)		263,089.49	62,539.34
Gains from disposal of assets (with "-" for loss)		-42,826.84	-14,625.00
II. Operating profit (with "-" for loss)		2,239,750,438.34	2,106,508,036.14
Add: Non-operating income		111,353.98	3,085,779.51
Less: Non-operating expenses		451,933.11	170.72
III. Total profits (with "-" for total losses)		2,239,409,859.21	2,109,593,644.93
Less: Income tax expenses		26,103,852.94	74,842,625.12
IV. Net profit (with "-" for net loss)		2,213,306,006.27	2,034,751,019.81
(I) Net profit from continuing operations (with "-" for net loss)		2,213,306,006.27	2,034,751,019.81
(II) Net profit from discontinued operations (with "-" for net loss)		-	-

PARENT COMPANY'S STATEMENT OF PROFIT OR LOSS

January to June 2023

Item	Note XVII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
V. Other comprehensive income, net of tax		-1,097,654.35	-120,654.68
(I) Other comprehensive income that may not be reclassified into profit or loss		-1,799,000.00	—
1. Changes of re-measurement of defined benefit plans		-1,799,000.00	—
2. Other comprehensive income that cannot be transferred to profit or loss under equity method		—	—
3. Changes in fair value of other equity instrument investments		—	—
4. Changes in fair value of the Company's own credit risk		—	—
(II) Other comprehensive income that will be reclassified into profit or loss		701,345.65	-120,654.68
1. Other comprehensive income that can be transferred to profit or loss under equity method		—	—
2. Changes in fair value of other debt investments		—	—
3. Amount of financial assets reclassified to other comprehensive income		—	—
4. Provision for credit impairment of other debt investments		—	—
5. Hedging reserve arising from cash flows		—	—
6. Exchange differences on translation of foreign operations		701,345.65	70,605.20
7. Others		—	-191,259.88
VI. Total comprehensive income		<u>2,212,208,351.92</u>	<u>2,034,630,365.13</u>
VII. Earnings per share:			
(I) Basic earnings per share (RMB/share)		—	—
(II) Diluted earnings per share (RMB/share)		—	—

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF CASH FLOWS

January to June 2023

Unit: Yuan Currency: RMB

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
I. Cash flows generated from operating activities:			
Cash received from the sale of goods or rendering of services		15,184,704,029.39	15,627,951,228.03
Net increase in customer deposits received and interbank deposits		148,219,938.55	—
Net increase in borrowings from central bank		—	—
Net increase in placements from other financial institutions		—	—
Cash received from original insurance contract premium		—	—
Net cash received from reinsurance business		—	—
Net increase in savings and investment funds		—	—
Interests, service charges and commission received		20,487,421.92	—
Net increase in placements from banks and other financial institutions		—	—
Net increase in returned business capital		—	—
Net cash received from accounts payables to brokerage clients		—	—
Refunds of tax		198,168,943.06	373,539,771.46
Cash received relating to other operating activities	(LXXVIII)	821,779,136.90	362,681,604.66
Subtotal of cash inflows from operating activities		16,373,359,469.82	16,364,172,604.15
Cash paid for goods and services		12,255,889,895.18	13,085,932,251.31
Net increase in loans and advances to customers		—	—
Net increase in deposits with the central bank and interbank funds		110,827,306.02	—
Cash paid for original insurance contract compensation		—	—
Net increase in placements with banks and other financial institutions		—	—
Interests, service charges and commission paid		5,580.09	—
Cash paid for bonus of guarantee slip		—	—
Cash paid to and on behalf of employees		2,367,846,867.03	2,306,171,589.75
Cash paid for all taxes		1,047,851,476.54	1,481,873,526.23
Cash paid relating to other operating activities	(LXXVIII)	1,462,040,973.44	581,368,002.80
Subtotal of cash outflows from operating activities		17,244,462,098.30	17,455,345,370.09
Net cash flows generated from operating activities		-871,102,628.48	-1,091,172,765.94

CONSOLIDATED STATEMENT OF CASH FLOWS

January to June 2023

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
II. Cash flows generated from investing activities:			
Cash received from disposal of investments		76,500,000.00	–
Cash received from return on investment		39,722,592.57	19,025,000.00
Net cash received from disposal of fixed assets, intangible assets and other long-term assets		387,470.75	37,014,249.73
Net cash from disposal of subsidiaries and other operating units		–	–
Decrease in unsecured/pledged and unrestricted time deposits with maturity over three months		–	–
Cash received relating to other investing activities	(LXXVIII)	5,028,765.68	90,513,359.04
Subtotal of cash inflows from investing activities		121,638,829.00	146,552,608.77
Cash paid for acquisition of fixed assets, intangible assets and other long-term assets		183,124,782.36	137,651,793.23
Cash paid for investments		84,024,948.00	1,967,800,000.00
Net increase in pledged loan		–	–
Net cash paid on acquisition of subsidiaries and other operating units		–	–
Increase in unsecured/pledged and unrestricted time deposits with maturity over three months		1,355,513,694.44	809,775,921.67
Cash paid relating to other investing activities	(LXXVIII)	500,786.63	6,604,890.00
Subtotal of cash outflows from investing activities		1,623,164,211.43	2,921,832,604.90
Net cash flows generated from investing activities		-1,501,525,382.43	-2,775,279,996.13
III. Cash flows generated from financing activities:			
Cash received as capital contributions		–	10,245,000.00
Including: Cash received by subsidiaries from minority shareholders' investment		–	10,245,000.00
Cash received from borrowings		2,286,760,787.45	615,897,675.88
Cash received relating to other financing activities	(LXXVIII)	–	182,977,579.62
Subtotal of cash inflows from financing activities		2,286,760,787.45	809,120,255.50
Cash paid on repayments of borrowings		1,174,752,513.73	91,459,230.99
Cash paid for distribution of dividends or profits and for interest expenses		99,432,201.69	29,947,851.04
Including: Dividend and profit of minority shareholder paid by subsidiaries		1,384,252.00	–
Cash paid relating to other financing activities	(LXXVIII)	39,556,414.81	33,555,088.59
Subtotal of cash outflows from financing activities		1,313,741,130.23	154,962,170.62

CONSOLIDATED STATEMENT OF CASH FLOWS

January to June 2023

Item	Note VII	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Net cash flows generated from financing activities		973,019,657.22	654,158,084.88
IV. Effect of fluctuations in exchange rate on cash and cash equivalents		11,360,680.48	56,916,391.58
V. Net increase in cash and cash equivalents	(LXXIX)	-1,388,247,673.21	-3,155,378,285.61
Add: Balance of cash and cash equivalents at the beginning of the period	(LXXIX)	17,241,658,431.27	17,595,724,106.74
VI. Balance of cash and cash equivalents at the end of the period	(LXXIX)	15,853,410,758.06	14,440,345,821.13

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

STATEMENT OF CASH FLOWS OF THE PARENT COMPANY

January to June 2023

Unit: Yuan Currency: RMB

Item	Note	For the six months ended 30 June 2023	For the six months ended 30 June 2022
I. Cash flows generated from operating activities:			
Cash received from the sale of goods or rendering of services		1,453,185,243.17	2,029,765,072.49
Refunds of tax		45,389,328.54	33,266,100.67
Cash received relating to other operating activities		273,234,041.87	165,523,904.65
Subtotal of cash inflows from operating activities		1,771,808,613.58	2,228,555,077.81
Cash paid for goods and services		1,568,453,015.08	1,597,585,645.16
Cash paid to and on behalf of employees		118,266,242.07	124,869,233.79
Cash paid for all taxes		73,385,443.28	72,176,866.52
Cash paid relating to other operating activities		235,439,398.29	2,071,946,824.43
Subtotal of cash outflows from operating activities		1,995,544,098.72	3,866,578,569.90
Net cash flows generated from operating activities		-223,735,485.14	-1,638,023,492.09
II. Cash flows generated from investing activities:			
Cash received from disposal of investments		76,500,000.00	—
Cash received from return on investment		124,293,385.17	253,029,857.38
Net cash received from disposal of fixed assets, intangible assets and other long-term assets		3,458.51	27,500.00
Net cash from disposal of subsidiaries and other operating units		—	—
Decrease in unsecured/pledged and unrestricted time deposits with maturity over three months		—	—
Cash paid relating to other investing activities		335,923,593.71	73,517,222.22
Subtotal of cash inflows from investing activities		536,720,437.39	326,574,579.60
Cash paid for acquisition of fixed assets, intangible assets and other long-term assets		21,870,511.00	221,948.70
Cash paid for investments		79,777,379.43	1,988,000,000.00
Increase in unsecured/pledged and unrestricted time deposits with maturity over three months		4,716,281.25	809,160,900.00
Net cash paid on acquisition of subsidiaries and other operating units		—	—
Cash paid relating to other investing activities		3,653,243,505.37	—
Subtotal of cash outflows from investing activities		3,759,607,677.05	2,797,382,848.70
Net cash flows generated from investing activities		-3,222,887,239.66	-2,470,808,269.10

STATEMENT OF CASH FLOWS OF THE PARENT COMPANY

January to June 2023

Item	Note	For the six months ended 30 June 2023	For the six months ended 30 June 2022
III. Cash flows generated from financing activities:			
Cash received as capital contributions		—	—
Cash received from borrowings		2,000,000,000.00	—
Cash received relating to other financing activities		—	—
Subtotal of cash inflows from financing activities		2,000,000,000.00	—
Cash paid on repayments of borrowings		800,000,000.00	—
Cash paid for distribution of dividends or profits and for interest expenses		16,511,666.67	29,794,079.48
Cash paid relating to other financing activities		521,007.14	—
Subtotal of cash outflows from financing activities		817,032,673.81	29,794,079.48
Net cash flows generated from financing activities		1,182,967,326.19	-29,794,079.48
IV. Effect of fluctuations in exchange rate on cash and cash equivalents			
		6,828,292.75	51,966,555.60
V. Net increase in cash and cash equivalents			
Add: Balance of cash and cash equivalents at the beginning of the period		11,442,781,825.07	12,984,265,297.85
VI. Balance of cash and cash equivalents at the end of the period			
		9,185,954,719.21	8,897,606,012.78

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

CONSOLIDATED STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

January to June 2023

Unit: Yuan Currency: RMB

Item	Equity attributable to owners of the parent Company											Total owners equity	
	Paid-in capital (or share capital)	Preference shares	Other equity instruments	Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve	Undistributed profits	Others	Subtotal		Minority shareholder interests
I. Closing balance of last year	10,889,819,000.00	-	2,796,935,660.38	-	-198,844,477.42	343,494,199.17	2,042,968,810.17	-	13,765,475,907.76	-	45,323,917,197.95	1,953,817,802.62	47,277,735,000.57
Plus: Changes in accounting policies	-	-	-	-	-	-	-	-	-	-	-	-	-
Correction of errors in prior period	-	-	-	-	-	-	-	-	-	-	-	-	-
Business combination under common control	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-
II. Opening balance of the year	10,889,819,000.00	-	2,796,935,660.38	-	-198,844,477.42	343,494,199.17	2,042,968,810.17	-	13,765,475,907.76	-	45,323,917,197.95	1,953,817,802.62	47,277,735,000.57
III. Increase/(decrease) during the period (with "+" for increase)	-	-	-	-	-13,427,003.92	-69,034,229.58	4,272.90	-	23,573,243.62	-	-59,539,635.78	276,698,307.31	219,338,671.53
(I) Total comprehensive income	-	-	-	-	-13,427,003.92	-	-	-	1,823,846,746.52	-	1,810,409,742.60	285,370,669.01	2,095,779,811.61
(II) Capital contributions and withdrawals by shareholders	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Common shares contributed by shareholders	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Capital contributed by holders of other equity instruments	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Share-based payment recorded in owners' equity	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(III) Profit distribution	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Appropriation of surplus reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Accrual of general risk reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Distribution to owners (or shareholders)	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(IV) Internal transfer of owners' equity	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Transfer of capital reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Transfer of surplus reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Reversal of loss by surplus reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Changes in defined benefit plan transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Other comprehensive income transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Others	-	-	-	-	-	-	-	-	-	-	-	-	-
(V) Special reserve	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Appropriated in current period	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Use in current period	-	-	-	-	-	-	-	-	-	-	-	-	-
(VI) Others	-	-	-	-	-	-	-	-	-	-	-	-	-
IV. Closing balance during the period	10,889,819,000.00	-	2,796,935,660.38	-	-212,261,481.34	274,459,969.59	2,047,241,083.07	-	13,999,049,151.38	-	45,264,357,562.17	2,232,516,108.93	47,497,073,671.10

CONSOLIDATED STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

January to June 2023

For the six months ended 30 June 2022
Equity attributable to owners of the parent Company

Item	Paid-in capital (or share capital)		Other equity instruments		Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	General risk reserve	Undistributed profits	Others	Subtotal	Minority shareholder interests	Total owners' equity
	Preference shares	Perpetual bonds	Others	Capital reserve										
I. Closing balance of last year	10,539,819,000.00	-	-	15,954,108,133.50	-	-183,635,652.88	267,860,349.13	1,811,324,684.45	-	12,309,220,588.86	-	43,554,652,753.64	1,816,723,167.82	45,371,375,921.46
Plus: Changes in accounting policies	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Correction of errors in prior period	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Business combination under common control	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II. Opening balance of the year	10,539,819,000.00	-	-	15,954,108,133.50	-	-183,635,652.88	267,860,349.13	1,811,324,684.45	-	12,309,220,588.86	-	43,554,652,753.64	1,816,723,167.82	45,371,375,921.46
III. Increase/(decrease) during the period (with "-" for decrease)	-	-	-	264,230.38	-	-20,474,448.50	60,101,609.51	-	-	133,814,449.32	-	173,706,295.31	161,070,405.82	334,776,701.13
(I) Total comprehensive income	-	-	-	-	-	-20,474,448.50	-	-	-	133,814,449.32	-	1,931,608,625.42	258,504,863.42	2,172,114,488.84
(II) Capital contributions and withdrawals	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Common shares contributed by shareholders	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Capital contributed by holders of other equity instruments	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Share-based payment recorded in owners' equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(III) Profit distribution	-	-	-	-	-	-	-	-	-	-1,800,269,230.00	-	-1,800,269,230.00	-108,274,409.83	-1,908,543,639.83
1. Appropriation of surplus reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Accrual of general risk reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Distribution to owners (or shareholders)	-	-	-	-	-	-	-	-	-	-1,800,269,230.00	-	-1,800,269,230.00	-108,274,409.83	-1,908,543,639.83
4. Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(IV) Internal transfer of owners' equity	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1. Transfer of capital reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Transfer of surplus reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Recover of loss by surplus reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Changes in defined benefit plan transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Other comprehensive income transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(V) Special reserve	-	-	-	-	-	-	60,101,609.51	-	-	-	-	60,101,609.51	594,952.23	60,696,561.74
1. Appropriated in current period	-	-	-	-	-	-	172,579,717.52	-	-	-	-	172,579,717.52	7,432,814.20	180,012,531.72
2. Used in current period	-	-	-	-	-	-	112,478,108.01	-	-	-	-	112,478,108.01	6,900,861.98	119,318,969.99
(VI) Others	-	-	-	264,230.38	-	-	-	-	-	-	-	264,230.38	-	264,230.38
IV. Closing balance during the period	10,539,819,000.00	-	-	15,954,372,423.88	-	-204,110,101.18	327,961,958.64	1,811,324,684.45	-	12,442,035,412.78	-	43,728,359,048.95	1,977,793,573.64	45,706,152,622.59

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

PARENT COMPANY'S STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

January to June 2023

Unit: Yuan Currency: RMB

Item	For the six months ended 30 June 2023										
	Paid-in capital (or share capital)	Preference shares	Perpetual bonds	Others	Capital reserve	Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	Undistributed profits	Total owners' equity
I. Closing balance of last year	10,589,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	-45,904,166.59	42,219,683.05	2,042,968,810.17	2,016,150,390.57	33,796,659,810.21
Plus: Changes in accounting policies	-	-	-	-	-	-	-	-	-	-	-
Correction of errors in prior period	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-
II. Opening balance of the year	10,589,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	-45,904,166.59	42,219,683.05	2,042,968,810.17	2,016,150,390.57	33,796,659,810.21
III. Increase/(decrease) during the period (with "±" for decrease)	-	-	-	-	-	-	-1,097,654.35	-14,590,950.48	4,272.90	413,032,503.37	397,348,171.44
(I) Total comprehensive income	-	-	-	-	-	-	-1,097,654.35	-	-	2,213,306,006.27	2,212,208,351.92
(II) Capital contributions and withdrawals by shareholders	-	-	-	-	-	-	-	-	-	-	-
1. Common shares contributed by shareholders	-	-	-	-	-	-	-	-	-	-	-
2. Capital contributed by holders of other equity instruments	-	-	-	-	-	-	-	-	-	-	-
3. Share-based payment recorded in owners' equity	-	-	-	-	-	-	-	-	-	-	-
4. Others	-	-	-	-	-	-	-	-	-	-	-
(III) Profit distribution	-	-	-	-	-	-	-	-	4,272.90	-1,800,273,502.90	-1,800,269,230.00
1. Appropriation of surplus reserve	-	-	-	-	-	-	-	-	4,272.90	-4,272.90	-
2. Distribution to owners (or shareholders)	-	-	-	-	-	-	-	-	-	-1,800,269,230.00	-1,800,269,230.00
3. Others	-	-	-	-	-	-	-	-	-	-	-
(IV) Internal transfer of owners' equity	-	-	-	-	-	-	-	-	-	-	-
1. Transfer of capital reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-
2. Transfer of surplus reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-
3. Recover of loss by surplus reserve	-	-	-	-	-	-	-	-	-	-	-
4. Changes in defined benefit plan transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-
5. Other comprehensive income transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-
6. Others	-	-	-	-	-	-	-	-	-	-	-
(V) Special reserve	-	-	-	-	-	-	-	-14,590,950.48	-	-	-14,590,950.48
1. Appropriated in current period	-	-	-	-	-	-	-	12,243,947.56	-	-	12,243,947.56
2. Use in current period	-	-	-	-	-	-	-	-26,834,898.04	-	-	-26,834,898.04
(VI) Others	-	-	-	-	-	-	-	-	-	-	-
IV. Closing balance during the period	10,589,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	-47,001,820.94	27,628,732.57	2,042,973,083.07	2,429,182,893.94	34,196,007,991.65

PARENT COMPANY'S STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

January to June 2023

For the six months ended 30 June 2022

Item	Other equity instruments				Capital reserve	Less: treasury stocks	Other comprehensive income	Special reserve	Surplus reserve	Undistributed profits	Total owners' equity
	Paid-in capital (or share capital)	Preference shares	Perpetual bonds	Others							
I. Closing balance of last year	10,569,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	48,002,800.35	18,097,469.74	1,811,324,694.45	1,824,562,579.05	33,349,227,055.90
Plus: Changes in accounting policies	-	-	-	-	-	-	-48,002,800.35	-	-	-	-
Correction of errors in prior period	-	-	-	-	-	-	-120,654.68	-	-	-	-
Others	-	-	-	-	-	-	-120,654.68	-	-	-	-
II. Opening balance of the year	10,569,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	48,002,800.35	18,097,469.74	1,811,324,694.45	1,824,562,579.05	33,349,227,055.90
III. Increase (decrease) during the period (with "+" for decrease)	-	-	-	-	-	-	-120,654.68	15,408,516.73	-	234,461,789.81	249,769,651.86
(I) Total comprehensive income	-	-	-	-	-	-	-120,654.68	-	-	2,094,751,019.81	2,034,630,365.13
(II) Capital contributions and withdrawals by shareholders	-	-	-	-	-	-	-	-	-	-	-
1. Common shares contributed by shareholders	-	-	-	-	-	-	-	-	-	-	-
2. Capital contributed by holders of other equity instruments	-	-	-	-	-	-	-	-	-	-	-
3. Share-based payment recorded in owners' equity	-	-	-	-	-	-	-	-	-	-	-
4. Others	-	-	-	-	-	-	-	-	-	-	-
(III) Profit distribution	-	-	-	-	-	-	-	-	-	-1,800,269,230.00	-1,800,269,230.00
1. Appropriation of surplus reserve	-	-	-	-	-	-	-	-	-	-	-
2. Distribution to owners (or shareholders)	-	-	-	-	-	-	-	-	-	-1,800,269,230.00	-1,800,269,230.00
3. Others	-	-	-	-	-	-	-	-	-	-	-
(IV) Internal transfer of owners' equity	-	-	-	-	-	-	-	-	-	-	-
1. Transfer of capital reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-
2. Transfer of surplus reserve into capital (or share capital)	-	-	-	-	-	-	-	-	-	-	-
3. Recover of loss by surplus reserve	-	-	-	-	-	-	-	-	-	-	-
4. Changes in defined benefit plan transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-
5. Other comprehensive income transferred to retained earnings	-	-	-	-	-	-	-	-	-	-	-
6. Others	-	-	-	-	-	-	-	-	-	-	-
(V) Special reserve	-	-	-	-	-	-	-	15,408,516.73	-	-	15,408,516.73
1. Appropriated in current period	-	-	-	-	-	-	-	29,209,028.36	-	-	29,209,028.36
2. Use in current period	-	-	-	-	-	-	-	-13,800,511.63	-	-	-13,800,511.63
(VI) Others	-	-	-	-	-	-	-	-	-	-	-
IV. Closing balance during the period	10,569,819,000.00	-	2,796,935,660.38	-	16,356,470,432.63	-	-48,123,455.03	33,506,006.47	1,811,324,694.45	2,059,064,368.86	33,598,996,707.76

Person-in-charge of the Company: ZHOU Zhiliang

Chief Financial Officer: LI Lianqing

Head of Accounting Department: ZHANG Shihu

III. CORPORATE INFORMATION

1. Company profile

Applicable Not applicable

China Railway Signal & Communication Corporation Limited (the “Company”) is a joint stock company limited liability company jointly sponsored on 29 December 2010 by China Railway Signal and Communication (Group) Corporation Limited (hereinafter referred to as the “CRSC Group”) as the promoter, in association with China National Machinery Industry Corporation, China Chengtong Holdings Group Ltd., China Reform Holdings Corporation Ltd., and CICC Jiacheng Investment Management Co., Ltd. (these four companies are collectively referred to as the “Other Promoters”) approved by the State-owned Assets Supervision and Administration Commission of the State Council (國務院國有資產監督管理委員會) (the “SASAC”) via Guo Zi Gai Ge [2010] No. 876 on 17 August 2010 in accordance with the relevant provisions of laws and administrative regulations of the PRC. The Company’s headquarters are at 20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing.

Upon approval of the China Securities Regulatory Commission’s Reply on Issuance of Overseas Listed Foreign Shares by China Railway Signal & Communication Corporation Limited (Zheng Jian Xu Ke [2015] No. 1630), the Company has issued 1,789,819,000 H Shares with a nominal value of RMB1 each at an issue price of HK\$6.30 per share that were listed on the Hong Kong Stock Exchange from July to September 2015. The total amount of funds raised before deducting the issuance expenses was approximately HK\$11,275,859,700 and such H Shares commenced for trading on the Main Board of the Hong Kong Stock Exchange in August and September 2015. The Company’s four state-owned shareholders, CRSC Group, China National Machinery Industry Corporation, China Chengtong Holdings Group Ltd. and China Reform Holdings Corporation Ltd., converted a total of 178,982,000 state-owned legal person shares to H Shares during August and September 2015, which were then transferred to the National Council for Social Security Fund of the People’s Republic of China.

According to the China Securities Regulatory Commission’s Approval for Consent to the Registration of China Railway Signal & Communication Corporation Limited’s Initial Public Offering (Zheng Jian Xu Ke [2019] No. 1135), as of 16 July 2019, the Company has issued 1,800,000,000 ordinary shares with a nominal value of RMB1 each at an issue price of RMB5.85 per share that were listed on the Sci-Tech Innovation Board of the Shanghai Stock Exchange. The total amount of funds raised before deduction of issuance expenses was RMB10,530,000,000.00 and such ordinary shares were commenced for trading on the Shanghai Stock Exchange’s Sci-Tech Innovation Board on 22 July 2019.

NOTES TO FINANCIAL STATEMENTS

30 June 2023
RMB

III. CORPORATE INFORMATION (Continued)

1. Company profile (Continued)

As of 30 June 2023, the Company has accumulatively issued a total issued share capital of 10,589,819,000 shares with the accumulated share capital amounting RMB10,589,819,000.

The Company and its subsidiaries (collectively referred to as the “Company”) are mainly engaged in the following businesses: design and integration of rail transportation control system which mainly include the provision of comprehensive planning for investigation, design and control systems for rail transportation control system; equipment manufacturing of rail transportation control system which mainly includes production and sales of signal systems, communication systems, infrastructure equipment, information systems and other products; and system implementation services for rail transportation control system which include provision of construction, installation, testing, operation and maintenance services for rail transportation control system; and provision of services relating to municipal engineering projects and other construction projects.

The parent company and the ultimate controlling party of the Company is CRSC Group based in the PRC.

The financial statements were approved by resolution by the Board of Directors of the Company on 24 August 2023.

III. CORPORATE INFORMATION (Continued)

2. Scope of consolidated financial statements

✓ Applicable □ Not applicable

As of 30 June 2023, the subsidiaries of the Company within the scope of consolidated financial statements are as follows:

No.	Level	Name of subsidiary	Abbreviation of subsidiary
1	2	CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	CRSCD
2	2	China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	CRSC International
3	2	CRSC Cables Company Ltd. (通號電纜集團有限公司)	CRSC Cables
4	2	CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	CRSC Huatai
5	2	CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	CRSC Tengda
6	2	CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	CRSC Beijing Tendering
7	2	CRSC (Xi' an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	CRSC Xi' an Industry Group
8	2	CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	CRSC Changsha Railway
9	2	CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司)	CRSC Electrification Bureau
10	2	Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	Zhengzhou Zhongyuan
11	2	CASCO Signal Ltd. (卡斯柯信號有限公司)	CRSC CASCO
12	2	CRSC International Holdings Company Limited (通號國際控股有限公司)	CRSC International Holdings
13	2	CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	CRSC Jiangsu Smart
14	2	CRSC Innovation Investment Co., Ltd. (通號創新投資集團有限公司)	Innovation Investment
15	2	CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	CRSCE
16	2	CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	CRSC Construction
17	2	CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	CRSCC
18	2	CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	Urban Rail Transit
19	2	China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	CRSCS
20	2	CRSC Group Finance Limited (通號集團財務有限公司)	CRSC Finance

For relevant details of subsidiaries of the Company, please refer to Note "IX. Interests in Other Entities."

For details of changes in the scope of consolidation during the Reporting Period, please refer to Note "VIII. Changes on Scope of Consolidation."

NOTES TO FINANCIAL STATEMENTS

30 June 2023
RMB

IV. BASIS OF PREPARATION OF FINANCIAL STATEMENTS

1. Basis of preparation

The Company prepares financial statements in accordance with the Accounting Standards for Business Enterprises – Basic Standards and all the specific accounting standards, Application Guidance to the Accounting Standards for Business Enterprises, the interpretation of the Accounting Standards for Business Enterprises and other relevant provisions (hereinafter referred to as the “Accounting Standards for Business Enterprises”), as well as the relevant provisions of the Rules for the Compilation and Submission of Information Disclosure by Companies Offering Securities to the Public No.15 – General Requirements for Financial Reports issued by the China Securities Regulatory Commission. Furthermore, the financial statements also comply with the applicable disclosure provisions of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited and the applicable disclosure requirements of the Hong Kong Companies Ordinance.

2. Going concern

Applicable Not applicable

The financial statements are prepared on a going concern basis.

It is evaluated that the Company has no significant event, which may raise any serious doubt about the going-concern ability, within 12 months from the end of the Reporting Period.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES

Tips for specific accounting policies and accounting estimates:

✓ Applicable Not applicable

The following disclosures have covered the specific accounting policies and estimates formulated by the Company according to its actual production and operation features.

(I) Statement on compliance with the Accounting Standards for Business Enterprises

The financial statements prepared by the Company meet the requirements of the Accounting Standards for Business Enterprises, and truly and completely reflect the financial position as at 30 June 2023 and operating results, changes in shareholders' equity, cash flows and other relevant information from January to June 2023 of the Company.

(II) Accounting period

The accounting year of the Company is from 1 January to 31 December in calendar year. The reporting period of the financial statements is from 1 January to 30 June 2023.

(III) Operating cycle

✓ Applicable Not applicable

The Company's operating cycle is 12 months.

NOTES TO FINANCIAL STATEMENTS

30 June 2023
RMB

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(IV) Functional currency

The functional currency of the Company is RMB.

(V) Accounting treatment methods for business combinations under and not under common control

Applicable Not applicable

Business combination under common control: Assets and liabilities acquired from business combination by the acquirer (including the goodwill formed by the ultimate controller's acquisition of the acquiree) are measured at the carrying amount of assets and liabilities of the acquiree in the financial statements of the ultimate controller on the combination date. Capital stock premium in the capital reserves should be adjusted according to the difference between the carrying amount of net asset acquired from the combination and that of consideration (total face value of the shares issued) paid for the combination. In case the capital stock premium is not enough, the retained earnings need to be adjusted.

For the business combination not under common control: The combination costs are the fair value, on the acquisition date, of any assets acquired, any liabilities incurred or assumed, and any equity securities issued by the acquirer, in exchanges for the right of control over the acquiree. The Company shall recognize the difference of the combination costs in excess of the fair value of the identifiable net assets acquired from the acquiree as goodwill. The Company shall recognize the difference of the combination costs in short of the fair value of the identifiable net assets acquired from the acquiree in the current profit or loss. The identifiable assets, liabilities and contingent liabilities of the acquiree that are obtained from combination and satisfying the recognition criteria shall be measured at their fair values.

Direct expenses arising from the business combination shall be included in current profit or loss on the occurrence date. Transaction expenses on equity or debt securities issued by the acquirer for the purpose of the combination consideration shall be included in the initially recognized amount of equity or debt securities.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(VI) Preparation method of consolidated financial statements**

✓ Applicable Not applicable

1. Scope of consolidation

The scope of consolidation for the consolidated financial statements of the Company is determined based on control, including the Company and all its subsidiaries. Control means the Company has the power over the investee and enjoys the variable return through participating in activities related to the investee, and has the ability to the Company's return by using the power over the investee.

2. Consolidation procedure

The Company deems the whole enterprise group as a single accounting entity and prepares consolidated financial statements in accordance with unified accounting policies to reflect the overall financial position, operating results and cash flows. The influence of internal transactions between the Company and its subsidiaries and between subsidiaries shall be offset. When internal trading indicates that related assets are impaired, they will be fully recognized. If the accounting policy and the accounting period adopted by a subsidiary are inconsistent with that of the Company, in preparing consolidated financial statements, necessary adjustments shall be made in accordance with the Company's accounting policy and accounting period.

The share of shareholders' equity, current net profit or loss, and current comprehensive income of subsidiaries attributable to non-controlling interests shall be respectively and separately listed in the shareholders' equity of the consolidated balance sheet, the net profit and the total comprehensive income item of the consolidated income statement. If the share of the current losses attributable to the non-controlling interests of a subsidiary exceeds the share of the shareholders' equity attributable to non-controlling interests of the subsidiary at the beginning of the period, the balance is allocated against the non-controlling interests.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements (Continued)

2. Consolidation procedure (Continued)

(1) Increase of subsidiaries or business

During the Reporting Period, if a subsidiary or business is included as a result of a business combination under the same control, the operating results and cash flows of the subsidiary or business combination from the beginning of the period to the end of the reporting year are included in the consolidated financial statements, while the beginning of the consolidated financial statements and the related items in the comparative statements are adjusted as if the consolidated reporting entity had existed since the point when the ultimate controller began to control it.

If the Company is able to exercise control over an investee under the same control due to additional investment, etc., equity investments held before the control over the acquiree is obtained, the related gains and losses, other comprehensive income as well as other changes in net assets recognized from the later of the date when the original equity is obtained or the date when the acquirer and the acquiree are under the same control, to the combination date will respectively write down the retained earnings or current profit or loss in the comparative statements.

During the Reporting Period, if the Company acquires subsidiaries or business from the business combination not under common control, such subsidiaries or business shall be included in consolidated financial statements from the acquisition date at the fair value of identifiable assets, liabilities and contingent liabilities determined on the acquisition date.

If there is control over the investee not under the common control due to additional investments or other reasons, for the equity of the acquiree held before the acquisition date, the Company will re-measure the equity on the acquisition date at its fair value and include the difference between the fair value and carrying amount in current investment income. Other comprehensive income and other changes in shareholders' equity under the equity method that are involved in the equity of the acquiree held prior to the acquisition date and can be reclassified into profit or loss later are transferred to investment income of the period to which the acquisition date belongs.

(2) Disposal of subsidiaries

① General method of disposal

For the remaining equity investments after the disposal, the Company will re-measure the same at the fair value on the date when it loses control over the investee due to disposal of partial equity investment or other reasons. The sum of the consideration of equity disposal and the fair value of the remaining equity, less the sum of the share of net assets of the subsidiary attributable to the Company calculated continuously since the acquisition date or the combination date according to the original shareholding ratio and the goodwill, shall be included in the investment income for this period when the control is lost. Other comprehensive income and other changes in shareholders' equity under the equity method that are related to the equity investment of original subsidiaries and can be reclassified into profit or loss later are transferred to investment income for this period upon the loss of control power.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(VI) Preparation method of consolidated financial statements** (Continued)**2. Consolidation procedure** (Continued)**(2) Disposal of subsidiaries** (Continued)**② Disposal of subsidiaries by stages**

Where the Company disposes the equity investments in subsidiary through multiple transactions and by stages until it loses the control, if the effect of the disposal on the terms and conditions of all transactions of equity investments in subsidiary and economic effect meet one or more of the following circumstance, it usually indicates that the multiple transactions should be accounted for as a package deal:

- i. The transactions are concluded at the same time or under the consideration of mutual effect;
- ii. The transactions as a whole can reach a complete business result;
- iii. The occurrence of a transaction depends on that of at least one other transactions;
- iv. A single transaction is uneconomical but it is economical when considered together with other transactions.

If the transactions for the disposal of equity investment in subsidiaries that leads to the loss of control are under a package of transactions, the Company treats all such transactions as one transaction through which the Company disposes of its equity in the subsidiary and loses its control over such subsidiary; the difference between the proceeds from each transaction before the Company loses its control over the subsidiary and the corresponding share in the net assets of the subsidiary of the disposed-of investment shall be recognized as other comprehensive income in the consolidated financial statements, and shall be included into the loss and profit in this period when the Company loses its control over the subsidiary.

If the transactions are not package transactions, before the control loses, related policies governing the partial disposal of equity investments in subsidiaries without losing control will apply; when the control loses, general accounting method for the disposal of subsidiaries will govern.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VI) Preparation method of consolidated financial statements (Continued)

2. Consolidation procedure (Continued)

(3) Purchase of non-controlling interests of subsidiary

The difference between long-term equity investments acquired by the Company through purchase of minority interest and the subsidiary's identifiable net assets attributable to the Company calculated continuously from the acquisition date (or the combination date) in accordance with the increased shareholding ratio shall be charged against stock premium within capital reserves in the consolidated balance sheet; when stock premium within capital reserves is insufficient to offset, the retained earnings shall be adjusted.

(4) Partial disposal of equity investments in subsidiaries without losing control

Share premium in the capital reserve under the consolidated balance sheet will be adjusted at the difference between the proceeds achieved from the partial disposal of equity investments in subsidiaries and the share of net assets of subsidiaries attributable to the Company corresponding to the disposal of long-term equity investments and calculated constantly from the acquisition date or combination date without losing the control rights. Where the share premium in capital reserve is insufficient to offset, retained earnings will be adjusted.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VII) Classification of joint venture arrangements and accounting treatment methods of joint operation

Applicable Not applicable

Joint venture arrangements are classified into joint operation and joint venture.

Joint operation refers to those joint venture arrangements under which the joint venture is entitled to relevant assets and be responsible for relevant liabilities.

The Company recognizes the following items relating to the interests share in joint operation:

- (1) Assets it solely holds and its share of jointly-held assets based on its percentage;
- (2) Liabilities it solely assumes and its share of jointly-assumed liabilities based on its percentage;
- (3) Incomes from sale of output enjoyed by it from the joint operation;
- (4) Income from selling the production of the joint operation recognized based on the shares held by the Company;
- (5) Separate costs and costs for the joint operation based on the shares held by the Company.

The Company's investments in its joint ventures are calculated under the equity method. For details, please refer to Note "V. (XXI) Long-term equity investments."

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(VIII) Recognition criteria of cash and cash equivalents

Cash refers to the Company's cash on hand and the unrestricted deposits. Cash equivalents refer to the short-term and highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value.

(IX) Foreign currency transactions and translation of foreign currency financial statements

Applicable Not applicable

1. Foreign currency transactions

Foreign currency transactions are converted into RMB for recording purpose at the spot exchange rate prevailing on the transaction date.

The balance of foreign currency monetary items as at the balance sheet date are translated at the spot exchange rate on the balance sheet date and the exchange differences arising therefrom shall be included in the current profit or loss, except those exchange differences arising from the special borrowings of foreign currency related to the acquired and constructed assets qualified for capitalization that will be capitalized at the borrowing expenses.

2. Conversion of foreign currency financial statements

The assets and liability items in the balance sheet shall be converted at the spot exchange rates on the balance sheet date. For shareholders' equity items, except for the item of "retained earnings," other items are translated at the spot exchange rates when the transactions occur. The income and expenses in the income statement are translated at the spot exchange rate prevailing on the date when transactions occur.

Where the Company disposes of an overseas business, it shall transfer the exchange difference relating to the overseas business to the current profit or loss.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(X) Financial instruments**

Applicable Not applicable

When the Company becomes a party to a financial instrument, it shall recognize a financial asset or financial liability or an equity instrument.

1. Classification

Based on the business model of managing financial assets and the contractual cash flow characteristics of financial assets, the Company classifies upon initial recognition financial assets into financial assets measured at amortized cost, financial assets measured at fair value through other comprehensive income, and financial assets measured at fair value through current profit or loss.

The Company classifies financial assets that are not designated as those measured at fair value through current profit or loss as financial assets measured at amortized cost if they both meet the following conditions:

- A business model is to collect contractual cash flows;
- The contractual terms are only payments of principal and interest based on the outstanding principal.

The Company classifies as financial assets at fair value through other comprehensive income financial assets (debt instruments) that are not designated those measured at fair value through current profit or loss if they meet the following criteria:

- The business model is both to collect the contractual cash flows and to sell the financial asset;
- The contractual terms are only payments of principal and interest based on the outstanding principal.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

1. *Classification* (Continued)

For investments in equity instrument not held for trading, the Company will upon initial recognition designate them as financial assets (equity instrument) measured at fair value through other comprehensive income. This designation is made on an individual investment basis and the related investment meets the definition of an equity instrument from the perspective of the issuer.

The Company classifies financial assets except financial assets measured at amortized cost and financial assets measured at fair value through other comprehensive income, as financial assets measured at fair value through current profit or loss. On initial recognition, if it can eliminate or significantly reduce accounting mismatch, the Company irrevocably designates some financial assets that should be measured at amortized cost or at fair value through other comprehensive income as financial assets at fair value through current profit or loss.

Financial liabilities at their initial recognition, are divided into the financial liabilities measured at fair value through current profit or loss and financial liabilities measured at amortized cost.

Financial liabilities meeting one of the following conditions can, at the time carrying out the initial recognition, be designated to the financial liabilities measured at fair value through the current profit or loss:

- 1) The designation eliminates or significantly reduces accounting mismatches.
- 2) Management and performance evaluation of the financial liability portfolio or portfolio of financial assets and financial liabilities on a fair value basis in accordance with the enterprise risk management or investment strategy as set out in a formal written document, and reporting to key officers on this basis within the Company.
- 3) The financial liability contains embedded derivative needed to be separated.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(X) Financial instruments (Continued)****2. Recognition basis and measurement method***(1) Financial assets measured at amortized cost*

Financial assets measured at amortized cost include notes receivable, accounts receivable, other receivables, long-term receivables, and debt investments, etc., which are initially measured at fair value, and related transaction expenses are included in the amount upon initial recognition; accounts receivable that do not contain a significant financing component and that the Company decides not to consider those with a financing component not exceeding one year are initially measured at the contract transaction price.

During the holding period, the interest calculated with the effective interest method shall be included in the current profit or loss.

Upon recovery or disposal, the difference between the purchase price obtained and the carrying amount of such financial asset is included in current profit or loss.

(2) Financial assets (debt instruments) measured at fair value through other comprehensive income

Financial assets (debt instruments) measured at fair value through other comprehensive income include financing of accounts receivable, other debt investments, etc., which are initially measured at fair value, and related transaction expenses are included in the initial recognition amount. The financial assets are subsequently measured at fair value. Changes in fair value, except for interest calculated with the effective interest method, impairment or gains and exchange gains and losses, shall be included in other comprehensive income.

At derecognition, the accumulated gains or losses previously included in other comprehensive income will be transferred from the other comprehensive income to current profit or loss.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

2. *Recognition basis and measurement method* (Continued)

(3) *Financial assets (equity instruments) measured at fair value through other comprehensive income*

Financial assets (equity instruments) measured at fair value through other comprehensive income, including investments in other equity instruments are initially measured at fair value, and related transaction expenses are included in the initial recognition amount. The financial assets are subsequently measured at fair value. Changes in fair value shall be included in other comprehensive income. The dividends obtained are included in the current profit or loss.

When a financial asset is derecognized, the accumulated gains or losses previously included in other comprehensive income shall be transferred from other comprehensive income and included in retained earnings.

(4) *Financial assets measured at fair values through current profit or loss*

Financial liabilities measured at fair value through current profit or loss include financial liabilities held for trading, derivative financial liabilities and other non-current financial assets, and are measured at fair value upon initial recognition, with the related transaction expenses being included into current profit or loss. The financial assets are subsequently measured at fair value. Changes in fair value shall be included in current profit or loss.

(5) *Financial liabilities measured at fair value through current profit or loss*

Financial liabilities measured at fair value through current profit or loss include financial liabilities held for trading, derivative financial liabilities etc., which are initially measured at fair value, and related transaction expenses are included in current profit or loss. The financial liabilities are subsequently measured at fair value. Changes in fair value shall be included in current profit or loss.

Difference between the fair value and the consideration paid is included in investment income upon derecognition.

(6) *Financial liabilities measured at amortized cost*

Financial assets measured at amortized cost include short-term borrowings, notes payable, accounts payable, other payables, long-term borrowings, bonds payable, long-term payables, etc., which are initially measured at fair value, and related transaction expenses are included in the amount upon initial recognition.

During the holding period, the interest calculated with the effective interest method shall be included in the current profit or loss.

Difference between the consideration paid and the fair value of such financial liabilities is included in current profit or loss upon derecognition.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

3. *Derecognition and transfer of financial assets*

The Company will terminate the recognition of the financial assets if:

- Where the contractual rights for collecting the cash flow of the said financial asset are terminated;
- The financial asset has been transferred, and nearly all the risks and rewards associated with ownership of the financial assets have been transferred to the transferee;
- The financial asset has been transferred and the Company has neither transferred nor retained nearly all the risks and rewards associated with the ownership of the financial asset but does not retain the control over the financial asset.

In the event of a transfer of financial asset, the Company shall not de-recognize the financial asset if nearly all the risks and rewards associated with the ownership of the financial assets are retained.

The principle of substance over form is adopted to determine whether a financial asset meets the above de-recognition conditions for the financial asset.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

3. *Derecognition and transfer of financial assets* (Continued)

The transfer of a financial asset of the Company is classified into the entire transfer and the partial transfer of financial asset. If the entire transfer of financial asset satisfies the criteria for derecognition, the difference between the amounts of the following two items shall be included in the current profit or loss:

- (1) The carrying amount of the financial asset transferred;
- (2) The sum of the consideration received from the transfer and the accumulated amount of the changes in fair value originally and directly included in shareholders' equity (where the financial asset transferred is a financial asset (debt instrument) measured at fair value through other comprehensive income is involved).

If the partial transfer of financial asset satisfies the criteria for derecognition, the entire carrying amount of the transferred financial asset shall be split into the derecognized and recognized parts according to their respective fair values and the difference between the amounts of the following two items shall be included in the current profit or loss:

- (1) The carrying amount of derecognized part;
- (2) The sum of the consideration received from the derecognition and the amount of the derecognized part in the accumulated amount of the changes in fair value originally and directly included in shareholders' equity (where the financial asset transferred is a financial asset (debt instrument) measured at fair value through other comprehensive income is involved).

Where the financial assets transfer does not meet the derecognition conditions, the financial asset will be recognized and the consideration received is recognized as a financial liability.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(X) Financial instruments (Continued)****4. Derecognition of financial liabilities**

A financial liability shall be wholly or partly derecognized if its present obligations are wholly or partly dissolved. Where the Company enters into an agreement with a creditor so as to substitute the existing financial liabilities with any new financial liability, and the new financial liability is substantially different from the contractual stipulations regarding the existing financial liability, it shall derecognize the existing financial liability, and recognize a new one at the same time.

Where substantive changes are made to the contractual terms of an existing financial liability in whole or in part, the existing financial liability or part thereof will be derecognized, and the financial liability the terms of which have been modified will be recognized as a new financial liability.

Where financial liabilities are de-recognized in whole or in part, the difference between the carrying amount of the financial liabilities derecognized and the consideration paid (including non-cash assets transferred out or new financial liabilities borne) shall be included in the current profit or loss.

Where the Company repurchases part of a financial liability, the entire carrying amount of the financial liability shall be split into the derecognized part and continuously-recognized part according to their respective relatively fair values on the repurchase date. The difference between the carrying amount of the derecognized part and the consideration paid (including non-cash assets surrendered or new financial liabilities assumed) shall be included in the current profit or loss.

5. Determination method for the fair value of financial assets and financial liabilities

Fair value of a financial instrument having an active market is determined on the basis of quoted prices in the active market. The fair value of a financial instrument, for which there is no active market, is determined by using valuation techniques. At the time of valuation, the Company adopts the valuation techniques that are applicable in the current situation and supported by enough available data and other information, selects the input values that are consistent with the features of assets or liabilities as considered by market participants in relevant asset or liability transactions, and gives priority to use relevant observable inputs. Unobservable input values are used only when relevant observable input values cannot be available or such values obtained are infeasible.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

6. *Testing method and accounting treatment of depreciation of financial assets*

The Company estimates the expected credit losses of financial assets measured at amortized cost, financial assets (debt instruments) measured at fair value through other comprehensive income and finance guarantee contract in a single or combined manner.

The Company recognizes expected credit losses by calculating the probability-weighted amount of the present value of the difference between the cash flows receivable under the contract and the cash flows expected to be received, taking into account reasonable and substantiated information about past events, current conditions and forecasts of future economic conditions, weighted by the risk of default.

If the credit risk of the financial instrument has increased significantly since the initial recognition, the Company measures its loss provision at the expected credit losses for the whole duration of the financial instrument; if the credit risk of the financial instrument has not significantly increased since the initial recognition, the Company measures its loss provision at the expected credit losses of the financial instrument within the next 12 months. The increase or reversal of the loss provision is included in the current profit or loss as an impairment loss or gain.

The Company assesses whether the credit risk of a financial instrument has increased significantly since initial recognition by comparing the risk of default of the financial instrument at the balance sheet date with the risk of default at the date of initial recognition to determine the relative change in the risk of default over the expected life of the financial instrument. Generally, once the overdue period is more than 30 days, the Company may consider that there is obvious increase in credit risk of such financial instrument, unless there is unambiguous evidence that there is no obvious increase in credit risk of such financial instrument following the initial recognition.

The Company considers that the credit risk of the financial instrument has not increased significantly since initial recognition if the credit risk of a financial instrument on the balance sheet date.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(X) Financial instruments (Continued)

6. *Testing method and accounting treatment of depreciation of financial assets* (Continued)

If there is objective evidence that there is credit loss for a financial asset, the Company shall make provision for impairment of the financial asset on a single basis.

For receivables and contract assets resulting from transactions governed by the Accounting Standards for Business Enterprises No. 14 – Revenue (2017), the Company consistently measures its allowance for losses at an amount equal to the expected credit loss over the entire life of the asset, whether or not it contains a significant financing component.

For lease receivables, the Company has chosen to always measure its loss allowance at an amount equal to the expected credit loss over the entire life of the receivables.

When the Company no longer reasonably expects the contractual cash flows of a financial asset to be recovered in whole or in part, it directly writes down the gross carrying amount of that financial asset.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XI) Bills receivable

Methods for determining and accounting of ECL of bills receivable

✓ Applicable Not applicable

Please refer to Note V. (X) 6.

(XII) Accounts receivable

Method for determining and accounting of expected credit loss of accounts receivable

✓ Applicable Not applicable

Please refer to Note V. (X) 6.

(XIII) Receivable for financing

✓ Applicable Not applicable

Please refer to Note V. (X) 6.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XIV) Other receivables

Methods for determining and accounting of ECL of other receivables

Applicable Not applicable

Please refer to Note V. (X) 6.

(XV) Inventories

Applicable Not applicable

1. Classification and cost of inventories

Inventories are classified into stock commodities, raw materials, semi-finished goods and work-in-progress, turnover materials, dispatched goods, etc.

Inventories are initially measured at cost, and the inventory cost includes the procurement cost, processing cost and other expenses arising from making the inventory at their present location and condition.

2. Measurement method of dispatched inventories

Upon dispatch, inventories are measured with the weighted average method.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XV) Inventories (Continued)

3. *Recognition basis of the net realizable value of different types of inventories*

On the balance sheet date, the inventories shall be valued at the lower of their costs or net realizable values. When the inventory costs are higher than the net realizable values, the provision for inventory depreciation reserves shall be made. The net realizable values of inventories refer to the amounts of the estimated selling prices of inventories minus the estimated costs to completion, estimated selling expenses and relevant taxes and surcharges.

In normal operation process, for merchandise inventories held directly for sale, including finished goods, stock commodities and held-for-sale materials, their net realizable values are determined at the estimated selling prices minus the estimated selling expenses and relevant taxes and surcharges; in normal production and operation process, for material inventories that need further processing, their net realizable values are determined at the estimated selling prices of finished goods minus estimated costs to completion, estimated selling expenses and relevant taxes and surcharges; for inventories held to execute sales contract or service contract, their net realizable values are calculated on the basis of contract price. If the quantities of inventories held by the Company are more than those specified in sales contracts, the net realizable value of the excess portion of inventories are calculated on the basis of general selling prices.

After the provisions for the inventory depreciation are made, the factors causing any write-down of inventory value have disappeared, leading to the net realizable values of inventories higher than its carrying amount, the amount of write-down shall be resumed and be reversed from the original provision for inventory devaluation with the reversal being included in current profit or loss.

4. *Inventory system*

Perpetual inventory system is adopted.

5. *Amortization methods for low-cost consumables and packaging materials*

- (1) Low-cost consumables: lump-sum amortization method;
- (2) Packaging materials are amortized at lump-sum method.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XVI) Contract assets****(1). Recognition method and standards for contractual assets**

Applicable Not applicable

The Company presents contractual assets or contractual liabilities in the balance sheet based on the relationship between its performance of fulfillment obligations and customer payments. If the Company has transferred the right to receive consideration for goods transferred or services provided to customers and the right depends on factors other than the passage of time, it is presented as a contract asset. Contractual assets and contractual liabilities under the same contract are presented by their net amounts. The Company's unconditional (only subject to the passage of time) rights to receive consideration from customers are individually presented as receivables.

(2). Determination method and accounting treatment of expected credit losses of contractual assets

Applicable Not applicable

The method of determining expected credit losses and accounting treatment for contract assets are detailed in Note "V. (X) 6. Testing method and accounting treatment of depreciation of financial assets."

(XVII) Asset held for sale

Applicable Not applicable

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XVIII) Debt investments

Methods for determining and accounting of ECL of debt investments

Applicable Not applicable

Please refer to Note V. (X) 6.

(XIX) Other debt investments

Methods for determining and accounting of ECL of other debt investments

Applicable Not applicable

(XX) Long-term receivables

Methods for determining and accounting of ECL of long-term receivables

Applicable Not applicable

Please refer to Note V. (X) 6.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XXI) Long-term equity investments**

✓ Applicable Not applicable

1. Judgment criteria for joint control and significant influence

Common control refers to the control shared over an arrangement in accordance with the relevant stipulations, and the decision-making of related activities of the arrangement should not be made before the party sharing the control right agrees the same. Where the Company and other investors exert common control over the investee and the Company is entitled to net assets of the investee, the investee is the joint venture of the Company.

Significant influence refers to the power to participate in making decisions on the financial and operating policies of the investee, but not the power to control, or jointly control, the formulation of such policies with other parties. Where the Company is able to have significant influences on an investee, the investee is its associate.

2. Determination of initial investment costs**(1) A long-term equity investment as a result of business combination**

For long-term equity investments acquired from business combinations under common control, the investment initial cost thereof shall be recognized at the share of carrying amount of the shareholders' equity of the acquiree in the consolidated financial statements of the ultimate controller on the acquisition date. The capital premium in the capital reserve is adjusted according to the difference between the initial investment cost of long-term equity investment and the carrying amount of consideration. If the capital premium in the capital reserves is insufficient to cover the difference, the retained earnings shall be adjusted. In case the Company can exercise control over the investee under common control for additional investment or other reasons, the share premium will be adjusted at the difference between the initial investment cost of long-term equity investments recognized in accordance with the above principles and the sum of the carrying amount of long-term equity investments before the combination plus the carrying amount of the new consideration paid for further acquisition of shares on the combination date. If the share premium is insufficient to offset, retained earnings will be offset.

For long-term equity investment as a result of business combination not under common control, the Company determines the combination cost determined on the purchase date as the initial cost of long-term equity investments. Where additional investment or other reasons make the control over the investee not under the same control possible, the initial investment cost will be the sum of the carrying amount of the equity investments previously held and the newly increased investment costs

(2) Long-term equity investments obtained by means other than business combination

For long-term equity investments acquired from cash payment, the initial investment cost is the actually paid purchasing cost.

For a long-term equity investment acquired from issuance of equity securities, its initial cost is the fair value of the issued equity securities.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXI) Long-term equity investments (Continued)

3. *Subsequent measurement and recognition of gains and losses*

(1) *Long-term equity investments calculated under cost method*

Long-term equity investments of the Company in its subsidiaries are accounted for at cost, unless the investments meet the conditions for holding for sale. Except for the actual price paid for acquisition of investment or the cash dividends or profits contained in the consideration which have been declared but not yet distributed, the Company recognizes the investment income in the current year at the cash dividends or profits declared by the investee.

(2) *Long-term equity investments calculated under equity method*

The Company's long-term equity investments in its associates and joint ventures are calculated under the equity method. If the cost of initial investment is in excess of the proportion of the fair value of the net identifiable assets in the investee when the investment is made, the difference will not be adjusted to the initial investment cost of long-term equity investment; if the cost of initial investment is in short of the proportion of the fair value of the net identifiable assets in the investee when the investment is made, the difference will be included in the current profit or loss, meanwhile the costs of long-term equity investments will be adjusted.

The Company shall recognize the investment income and other comprehensive income at the shares of net profit or loss and other comprehensive income realized by the investee which the Company shall enjoy or bear and adjust the carrying amount of long-term equity investments at the same time; the Company shall calculate the shares according to profits or cash dividends declared by the investee and correspondingly reduce the carrying amount of long-term equity investments; the carrying amount of long-term equity investments shall be adjusted according to the investee's other changes in shareholders' equity other than net profit or loss, other comprehensive income and Distribution of profits ("other changes in shareholders' equity"), which should be included in shareholders' equity.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXI) Long-term equity investments (Continued)

3. *Subsequent measurement and recognition of gains and losses* (Continued)

(2) *Long-term equity investments calculated under equity method* (Continued)

The share of the investee's net profit or loss, other comprehensive income and other changes in shareholders' equity should be recognized after adjustments are made to net profit and other comprehensive income of the investee based on the fair value of identifiable net assets of the investee upon acquisition of investments and according to accounting policies and accounting period of the Company.

The Company shall write off the part of incomes from internal unrealized transactions between the Company and associates and joint ventures which are attributable to the Company according to the corresponding ratio and recognize the profit or loss on investments on such basis except that the assets invested or sold constitute business. Where the losses from internal transactions between the Company and the investee fall into the scope of assets impairment loss, the full amount of such losses should be recognized.

For net loss incurred by joint ventures or associates, the Company shall, in addition to its obligation to bear additional losses, write down to zero the carrying amount of long-term equity investments and other long-term equity that essentially constitutes net investment in such joint ventures or associates. If a joint venture or an associate realizes net profits in the future, the Company shall resume recognizing its share of profits after the share of profits makes up for the share of unrecognized losses.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXI) Long-term equity investments (Continued)

3. *Subsequent measurement and recognition of gains and losses* (Continued)

(3) *Disposal of long-term equity investments*

For disposal of long-term equity investments, the difference between the carrying amount and the actual price shall be included in the current investment income.

For partial disposal of long-term equity investments accounted for under the equity method, if the remaining equity is still accounted for under the equity method, other comprehensive income originally accounted for and recognized under the equity method shall be carried forward in proportion on the basis same as that for the direct disposal of related assets or liabilities by the investee, and other changes in shareholders' equity shall be carried forward to current profit or loss in proportion.

In case the joint control or significant influence over the investee is lost for disposing of equity investments or other reasons, other comprehensive income recognized from original equity investments by using the equity method shall be subject to accounting treatment on the basis same as that for the direct disposal of related assets or liabilities by the investee when the equity method is terminated, and other changes in shareholders' equity shall be transferred to current profits or losses when the equity method is terminated.

Where the Company loses the control over the investee due to disposal of partial equity investments or other reasons, when it prepares individual financial statements, if the remaining equity can exercise joint control or significant influence on the investee, such investments should be changed to be accounted for under the equity method and the remaining equity should be deemed to have been accounted for by adopting the equity method on acquisition and adjusted; other comprehensive income recognized before the control of the investee is obtained will be carried forward on the basis same as that for the direct disposal of related assets or liabilities by the investee, and other changes in owner's equity accounted for and recognized under the equity method will be carried forward to current profits or losses in proportion; if the remaining equity cannot exercise joint control or significant influence on the investee, such equity will be recognized as financial assets, and the difference between fair value and carrying amount on the date of loss of the control should be included in current profits or losses; other comprehensive income and other changes in owner's equity recognized before the control of the investee is obtained will be carried forward.

Where the Company disposes of equity investments in subsidiaries through multiple transactions and by stages until loss of the control, if the above transactions belong to a package deal, accounting treatment shall be made on the transactions as a transaction to dispose equity investments of subsidiaries and lose the control. The difference between each disposal cost and the carrying amount of long-term equity investments corresponding to disposed equities before the loss of the control should be firstly recognized as other comprehensive income in individual financial statements and then transferred into the current profit or loss at the loss of the control. If the transactions are not under a package of transactions, each transaction shall be subject to accounting treatment separately.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXII) Investment properties

An investment property is a property held to earn rentals or for capital appreciation or for both purposes, which include a land use right that is leased out, a land use right held for transfer upon capital appreciation and a building that is leased out (including a building that used for rent after the completion of self-construction or development activities and a building under construction or development for future rental purpose).

Subsequent expenditures incurred for such investment properties are included in the cost of the investment properties when it is probable that economic benefits associated with an investment property will flow to the Company and the cost can be measured reliably. Otherwise, they are recognised in profit or loss for the period in which they are incurred.

The Company uses the cost model for measurement of investment properties. For the investment property measured under the cost model – the same depreciation policy as the Company's fixed assets is adopted for buildings for rent, and the same amortization policy as intangible assets is implemented for the land use right for rent.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIII) Fixed assets

1. Recognition criteria

Applicable Not applicable

Fixed assets refer to the tangible assets of the Company held for the purpose of production of goods, service supply, leasing or business management with useful lives exceeding one accounting year. Fixed assets are recognized when the following criteria are satisfied simultaneously:

- (1) It is probable that the economic benefits relating to the fixed assets will flow into the Company;
- (2) The costs of the fixed asset can be measured reliably.

A fixed asset shall be initially measured at its cost with the consideration of the expected discard expenses.

The subsequent expenditures relating to fixed assets shall be included in the costs of fixed assets when the relevant economic interests are much likely to flow in the Company and their costs may be measured reliably; as for the part replaced, the carrying amount shall be derecognized; all other subsequent expenditures shall be included in the current profit or loss when incurred.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIII) Fixed assets (Continued)

2. Depreciation method

Applicable Not applicable

Categories	Depreciation method	Useful life (year)	Residual value rate	Annual depreciation rate
Houses and buildings	Straight-line method	20-40	3%-10%	2.25-4.85
Machinery equipment	Straight-line method	5-10	3%-10%	9.00-19.40
Means of transportation vehicles	Straight-line method	5-8	3%-10%	11.25-19.40
Electronic equipment and others	Straight-line method	3-10	3%-10%	9.00-32.33

Fixed assets will be depreciated by using the straight line method by category and the depreciation rate shall be recognized according to the category, estimated useful lives and estimated net residual value rate of fixed assets. For the fixed assets with provision for impairment made, the amount of depreciation will be determined according to the carrying amount after deduction of the provision for impairment and the remaining useful life in the future. Where various components of fixed assets are different in useful lives or provide economic benefits for the enterprise in different ways, then different depreciation rates or methods are chosen to separately provide for depreciation.

The Company reviews the useful life, estimated net residual value of a fixed asset and the depreciation method applied at least once at each year-end, and make adjustments when necessary.

3. The basis, valuation and depreciation method for the fixed assets acquired under financing leases

Applicable Not applicable

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIV) Construction in progress

Applicable Not applicable

Construction in progress is recognised based on the actual construction expenditures incurred. It includes construction costs, installation costs, capitalised borrowing costs and expenditures necessary to be incurred before the construction in progress is ready for intended use, and other relevant expenditures. Construction in progress is transferred to fixed assets when the asset is ready for its intended use and provide for depreciation since next month.

(XXV) Borrowing costs

Applicable Not applicable

1. *Recognition criteria of capitalization of borrowing costs*

Borrowing costs of the Company that are directly attributable to the acquisition, construction or production of qualifying assets should be capitalized and included in the costs of related assets. Other borrowing costs are recognized as expenses at the amount on occurrence and are charged to the current profit or loss.

Assets meeting the capitalization requirements refers to fixed assets, investment properties and inventories, etc. that need to be purchased, constructed or produced for a long time to be available for intended use or sale.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXV) Borrowing costs (Continued)

2. Capitalization period for borrowing costs

Capitalization period refers to the period from commencement of capitalization of borrowing costs to its cessation. The period of capitalization suspension of borrowing costs is excluded.

Capitalization should commence when all the following three conditions are satisfied:

- (1) asset disbursements, which include those incurred by cash payment, the transfer of non-cash assets or the undertaking of interest-bearing debts for acquiring and constructing or producing assets eligible for capitalization, have already been incurred;
- (2) borrowing costs have occurred;
- (3) purchase, construction or manufacturing activities that are necessary to prepare the assets for their intended use are in progress.

Capitalization of borrowing costs should be ceased when the acquired and constructed or produced assets eligible for capitalization have reached their intended use or sale condition.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXV) Borrowing costs (Continued)

3. *Period of capitalization suspension*

If the acquisition and construction or production activities of assets eligible for capitalization are abnormally interrupted and such condition lasts for more than three months, the capitalization of borrowing costs should be suspended; if the interruption is necessary procedures for the acquired, constructed or produced assets eligible for capitalization to reach their intended use or sale status, the borrowing costs continue to be capitalized. Borrowing costs incurred during the interruption are recognized as the current profit or loss and continue to be capitalized until the acquisition, construction or production of the asset restarts.

4. *Calculation method of capitalization rate and capitalization amount of borrowing costs*

As for special borrowings borrowed for acquiring and constructing or producing assets eligible for capitalization, borrowing costs of special borrowing actually incurred in this period less the interest income of the borrowings unused and deposited in bank or return on temporary investment shall be recognized as the capitalization amount of borrowing costs.

As for general borrowings used for acquiring and constructing or producing assets eligible for capitalization, the interest of general borrowings to be capitalized should be calculated by multiplying the weighted average of asset disbursements of the part of accumulated asset disbursements exceeding special borrowings by the capitalization rate of used general borrowings. The capitalization rate is determined via the calculation at the weighted average actual interest rate of general borrowings.

During capitalization period, exchange differences of principal and interest on foreign currency special borrowings shall be capitalized and included in the cost of assets eligible for capitalization. Exchange differences arising from the principal and interest of foreign currency borrowings other than special foreign currency borrowings are included in current profits or losses.

(XXVI) Biological assets

Applicable Not applicable

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXVII) Oil and gas assets

Applicable Not applicable

(XXVIII) Right-of-use assets

Applicable Not applicable

The Company's right-of-use assets include houses and buildings, means of transportation vehicles.

On the commencement date of the lease term, the Company recognises its right to use the leased assets over the lease term as right-of-use assets, the amount of which includes: the amount of the initial measurement of the lease liability; any lease payments made at or before the commencement date of the lease term less any lease incentives already received; any initial direct costs incurred by the lessee; an estimate of costs to be incurred by the lessee in dismantling and removing the leased asset, restoring the site on which it is located or restoring the leased asset to the condition required by the terms and conditions of the lease. The Company depreciates the right-of-use assets by using the straight-line method. If it is reasonable to determine the ownership of the leased asset at the expiration of the lease term, the Company shall depreciate the leased assets over the remaining useful life. If it is not reasonable to determine that the ownership of the leased assets can be obtained at the expiry of the lease term, the Company shall depreciate the leased assets over the lease term or the remaining useful life of the leased assets, whichever is shorter.

The Company shall remeasure lease liabilities according to the present value of the changed lease payments and adjust the book value of the right-of-use assets accordingly. However, if the carrying amount of the right-of-use assets is reduced to zero, yet there is still a further reduction in the measurement of the lease liabilities, the Company recognises any remaining amount of the remeasurement in profit or loss for the period.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Intangible assets

1. Valuation methods, useful life and impairment test

✓ Applicable Not applicable

(1) Measurement method of intangible assets

✓ Applicable Not applicable

1) The Company initially measures intangible assets at cost upon acquisition

The costs of externally acquired intangible assets include their purchase prices, related taxes and surcharges and any other directly attributable expenditure incurred to prepare the asset for its intended use

2) Subsequent measurement

The useful lives of intangible assets are analyzed on acquisition.

As for intangible assets with limited useful life, they will be amortized during the period when the intangible assets generate economic benefit for enterprise; if the period when the intangible assets generate economic benefit for enterprise cannot be predicted, the intangible assets will be deemed as those with indefinite useful life and should not be amortized.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Intangible assets (Continued)

1. Valuation methods, useful life and impairment test (Continued)

(2) Estimate of the useful life of the intangible assets with definite useful lives

Item	Estimated useful life (year)	Amortization method	Residual value rate (%)	Basis
Land use right	50	Straight-line method	0.00	Legal useful life
Patent right	5-8	Straight-line method	0.00	Estimated actual useful life
Software	5	Straight-line method	0.00	Estimated actual useful life
Unfinished contracts	2-3	Straight-line method	0.00	Estimated actual useful life
Customer relationship	5-9	Straight-line method	0.00	Estimated actual useful life

Land use rights obtained by the Company are usually accounted for as intangible assets. The land use rights of the self-developed buildings including plants are measured as intangible assets and buildings are measured as fixed assets, respectively. With respect to the land use rights purchased together with buildings, the acquisition cost is allocated between the two parts proportionately, or otherwise, is wholly accounted for as fixed assets.

Intangible assets with the useful lives are amortised over their useful lives using the straight-line method. The Company reviews the useful lives and the amortisation method for intangible assets with the useful lives at least once at each year-end, and makes adjustments when necessary.

The Company had no intangible assets with indefinite useful lives.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Intangible assets (Continued)

2. *Accounting policies for internal research and development expenditure*

✓ Applicable Not applicable

Expenditure on an internal research and development project shall be classified into expenditure on the research phase and expenditure on development phase.

Research stage: it is the stage when creative and planned investigation and research activities are conducted to acquire and understand new scientific or technological knowledge. Development phase: development phase is the stage when the research achievements and other knowledge are applied to a plan or design, prior to the commercial production or use, so as to produce any new or substantially improved material, device or product.

Expenditure on an internal research and development project shall be classified into expenditure on the research phase and expenditure on development phase. The expenditures in research phase will be included in current profit or loss on occurrence. Expenditures in the development stage will be capitalised only when the following conditions are simultaneously satisfied: it is feasible technically to finish intangible assets for use or sale; it is intended to finish and use or sell the intangible assets; the usefulness of methods for intangible assets to generate economic benefits shall be proved, including being able to prove that there is a potential market for the products manufactured by applying the intangible assets or there is a potential market for the intangible assets themselves or the intangible assets will be used internally; it is able to finish the development of the intangible assets and able to use or sell the intangible assets, with the support of sufficient technologies, financial resources and other resources; and the expenditure attributable to the intangible asset during its development phase can be measured reliably. Expenditure in the development phase that does not meet the above criteria is recognised in profit or loss for the period in which it is incurred.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXIX) Intangible assets (Continued)

2. *Accounting policies for internal research and development expenditure* (Continued)

The expenditures in research phase will be included in current profit or loss on occurrence. Expenditures in the development stage will be recognized as intangible assets only when the following conditions are simultaneously satisfied, and included in current profit or loss if the following conditions are not satisfied:

- (1) It is feasible technically to finish intangible assets for use or sale;
- (2) It is intended to finish and use or sell the intangible assets;
- (3) The usefulness of methods for intangible assets to generate economic benefits shall be proved, including being able to prove that there is a potential market for the products manufactured by applying the intangible assets or there is a potential market for the intangible assets themselves or the intangible assets will be used internally;
- (4) It is able to finish the development of the intangible assets and able to use or sell the intangible assets, with the support of sufficient technologies, financial resources and other resources;
- (5) The expenditure attributable to the intangible asset during its development phase can be measured reliably.

Where the research expenditures and the development expenditures are indistinguishable, the research expenditures and development expenditures shall be included in current profit or loss.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXX) Long-term assets impairment

Applicable Not applicable

For long-term equity investments, investment properties measured at cost, fixed assets, construction in progress, use-of-right assets, intangible assets with definite service life, and other long-term assets, if there are signs of impairment, an impairment test will be conducted on the balance sheet date. If the result of the impairment test shows that the recoverable amount of the asset is lower than its carrying amount, the provision for impairment shall be made and included in impairment loss. The recoverable amounts of intangible assets are the higher of their fair values less costs to sell and the present values of the future cash flows expected to be derived from the assets. The asset impairment provision shall be calculated and recognized on the basis of single asset, if it is difficult to estimate the recoverable amount of the individual asset, the Company shall estimate the recoverable amount of the asset group that the individual asset belongs to. Asset group is the minimum combination of assets that can independently generate cash inflows. Goodwill arising in a business combination and intangible assets that have not been ready for intended use shall be tested for impairment at least at each year end, irrespective of whether there is any indication that the asset may be impaired.

The Company has conducted impairment test for goodwill. The carrying amount of goodwill acquired in a business combination is allocated from the acquisition date on a reasonable basis to each of the related asset groups; if it is difficult to allocate to the related asset groups, it is allocated to each of the related set of asset groups. Each of the related asset groups or set of asset groups is an asset group or set of asset groups that is able to benefit from the synergies of the business combination.

In testing an asset group or a set of asset groups including goodwill for impairment, if there is indication of impairment, the Company shall first test the asset group or the set of asset groups excluding goodwill for impairment, calculate the recoverable amount and compare it with the related carrying amount and recognise the corresponding impairment loss. After that, the Group shall test the asset group or set of asset groups including goodwill for impairment. The carrying amount of the related asset group or set of asset group is compared to its recoverable amount. If the recoverable amount of the asset group or set of asset groups is lower than its carrying amount, an impairment loss is first reduced by the carrying amount of the goodwill allocated to the asset group or set of asset groups and then, the carrying amount of other assets (excluding goodwill) within the asset group or set of asset groups pro rata based on the carrying amount of each asset. The above losses from assets impairment will not be reversed in subsequent accounting periods once recognized.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXI) Long-term deferred expenses

Applicable Not applicable

Long-term deferred expenses refer to the expenses which have been already incurred but will be borne in this period and in the future with an amortization period of over 1 year.

The amortisation period and amortisation method are as follows:

Item	Amortisation method	Amortisation period (years)
Costs of improvements to fixed assets under operating leases	Straight-line basis	2-5

(XXXII) Contract liabilities

Methods for determining contract liabilities

Applicable Not applicable

The Company presents contractual assets or contractual liabilities in the balance sheet based on the relationship between its performance of fulfillment obligations and customer payments. The Company's obligation to transfer goods or provide services to customers for consideration receivable for goods received is presented as contract liabilities. Contractual assets and contractual liabilities under the same contract are presented by their net amounts.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXIII) Employee compensation

1. Accounting treatment of short-term compensation

Applicable Not applicable

During the accounting period in which employees provide service to the Company, the short-term compensation actually incurred is recognized as liabilities and charged to the current profit or loss or the relevant assets cost.

The social insurance premiums and housing fund paid for employees by the Company, as well as the labor union expense and employee education expense accrued according to the provisions, shall be calculated according to the stipulated contribution base and proportion to determine the amount of corresponding employee compensation during the accounting period of employees providing services to the Company.

Employee benefits incurred by the Company are charged to current income or loss or the cost of related assets based on the actual amount incurred, of which non-monetary benefits are measured at fair value.

2. Accounting treatment of post-employment benefits

Applicable Not applicable

(1) Defined contribution plan

The Company pays the basic endowment insurance premiums and unemployment insurance for employees according to the relevant provisions of the local governments. During the accounting period when employees serve the Company, the paid amount which is calculated based on the payment base and proportion as stipulated in the provisions of the local place is recognized as liabilities and included in the current profit or loss or costs associated with assets. In addition, the Company also participates in the Enterprise Annuity Plan of China Railway Signal & Communication Corporation Limited as approved by the relevant national authorities. The Company makes payments to the local social insurance institutions in a certain proportion to the total employee wage, with corresponding expense included in the current profit or loss or related asset cost. The Company may not utilize any forfeited contributions to reduce the current contributions.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XXXIII) Employee compensation** (Continued)**2. Accounting treatment of post-employment benefits** (Continued)*(2) Defined benefit scheme*

The Company shall attribute the welfare obligations under the defined benefit scheme in accordance with the estimated accrued benefit method to the service period of relevant employee, and record the obligation in current profit or loss or costs of relevant assets.

The deficit or surplus generated from the present value of obligations of the defined benefit scheme minus the fair value of the assets of defined benefit scheme is recognized as net liabilities or net assets. When the defined benefit scheme has surplus, the Company will measure the net assets of the defined benefit scheme at the lower of the surplus of defined benefit scheme and the upper limit of the assets.

All defined benefit plans obligations, including the expected duty of payment within 12 months after the end of annual Reporting Period during which the staff provided service, were discounted based on the bond market yield of sovereign bond matching the term of defined benefit plans obligations and currency or corporate bonds of high quality in the active market on the balance sheet date.

The service cost incurred by defined benefit scheme and the net interest of the net liabilities and net assets of the defined benefit scheme would be charged into the current profits and loss or relevant costs of assets. The changes generated from the re-measurement of the net liabilities or net assets of the defined benefit scheme would be included in the other comprehensive income and are not reversed to profit or loss in a subsequent accounting period. The portion originally included in other comprehensive income is carried forward to unallocated profit to the extent of equity upon termination of the original defined benefit schemes.

When the defined benefit scheme is settled, the gain or loss is recognized based on the difference between the present value of obligations and the settlement price of the defined benefit scheme as at the balance sheet date.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXIII) Employee compensation (Continued)

3. *Accounting treatment of dismissal benefits*

Applicable Not applicable

As to providing employees dismissal benefits, employee compensation incurred from dismissal benefits should be recognized as liabilities and included in the current profit or loss at the date when the Company is unable to unilaterally withdraw the dismissal benefits provided in the plan on the cancellation of labor relationship or the layoff proposal or when the Company recognizes the cost related to restructuring concerning payment of dismissal benefits (whichever is earlier).

4. *Accounting methods for other long-term employee benefits*

Applicable Not applicable

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XXXIV) Lease liabilities**

Applicable Not applicable

On the commencement date of the lease term, the Company recognises the present value of the lease payments that have not been paid as lease liabilities, except for short-term leases and low-value asset leases. In calculating the present value of the lease payments, the Company uses the leased interest rate as the discount rate; if the interest rate of the lease cannot be determined, the lessee's incremental borrowing rate is used as the discount rate. The Company calculates interest expenses of lease liabilities in each period of the lease term based on the constant periodic interest rate and recognises the interest expenses in profit or loss for the current period, except for those that are stipulated to be recognised in related asset costs. The variable lease payments that are not included in the measurement of the lease liabilities are recognised in profit or loss when incurred, except for those that are stipulated to be recognised in related asset costs.

After the commencement date of the lease term, in the event of change in the actual fixed payment amount, change in the amount expected to be payable under a residual value guaranteed, change in the index or ratio used to determine the lease payment, or change in the assessment results or actual exercise rights of the call option, renewal option or termination option, the Company re-measures the lease liability based on the present value of the changed lease payments.

(XXXV) Provisions

Applicable Not applicable

Where the obligation related to contingency meets all the following conditions simultaneously, it may be recognized as provisions by the Company:

- (1) This obligation is a present obligation of the Company;
- (2) The performance of such obligation is likely to result in outflow of economic benefits from the Company;
- (3) The amount of the obligation can be measured reliably.

Provisions of the Company are initially measured as the best estimate of expenses required for the performance of relevant present obligations.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXV) Provisions (Continued)

When determining the best estimates, the Company comprehensively considers the risks, uncertainties, time value of money, and other factors relating to the contingencies. If the time value of money is significant, the best estimate shall be determined after discounting the relevant future out-ow of cash.

If there is continuous range for the necessary expenses, and probabilities of occurrence of all the outcomes within this range are equal, the best estimate shall be determined at the median range within the range; in other cases, the best estimate shall be accounted for as follows in different circumstances:

- If contingencies involve a single item, the best estimate shall be determined at the amount most likely incurred.
- If contingencies involve multiple items, the best estimate shall be calculated and determined at possible outcomes and related probabilities.

When all or part of the expenses necessary for the settlement of an estimated liability of the Company is expected to be compensated by a third party, the compensation should be separately recognized as an asset only when it is virtually certain that the compensation will be received. The amount recognized for the compensation should not exceed the carrying amount of the estimated liability.

On the balance sheet date, the carrying amount of provisions shall be reviewed. If there is conclusive evidence that the best estimate cannot be reflected, the carrying amount shall be adjusted based on the current best estimate.

(XXXVI) Share-based payment

Applicable Not applicable

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVII) Preference shares, perpetual bonds and other financial instruments

Applicable Not applicable

The perpetual bonds issued by the Company have no maturity date. After the maturity date, the Company has the right to make unlimited renewals. For coupon interest of perpetual bonds, the Company has the right to make deferred payment. Those that the Company has no contractual obligation to pay cash or other financial assets shall be classified as equity instruments.

(XXXVIII) Revenue

1. *Accounting policies adopted for income recognition and measurement*

Applicable Not applicable

The Company recognizes the income when its performance obligations as stipulated in the contract are fulfilled, that is, when the customer obtained control of the related goods or services. The acquisition of control over the related goods or services is defined as the ability to dominate the use of the goods or services and derive substantially all of the economic benefits therefrom.

Where the contract contains two or more performance obligations, the Company will, on the contract start date, allocate the transaction price to each individual performance obligation in the proportion of the individual selling price of the goods or services for which each individual performance obligation is committed. The Company measures revenue based on the transaction price apportioned to each individual performance obligation.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVIII) Revenue (Continued)

1. *Accounting policies adopted for income recognition and measurement* (Continued)

The transaction price is the amount of consideration to which the Company expects to be entitled as a result of the transfer of goods or provision of services to the customer, excluding amounts collected on behalf of third parties and amounts that the Company expects to refund to the customer. The Company determines the transaction price based on the terms of the contract, taking into account its past customary practice, and considers the impact of variable consideration, the existence of significant financing components in the contract, non-cash consideration, and consideration payable to the customer in determining the transaction price. The Company determines the transaction price that includes variable consideration by an amount not exceeding the amount for which it is highly probable that there will be no material reversal of the cumulative recognized revenue at the time the relevant uncertainty is removed. For contracts with a significant financing component, the Company determines the transaction price based on the amount payable in cash assuming that the customer will pay for the goods or services as soon as control is obtained, and amortizes the difference between this transaction price and the contract consideration over the term of the contract using the effective interest rate method. If the Company meets one of the following conditions, it is deemed to fulfill the performance obligations within a certain period of time; otherwise, it is deemed to so at a certain point of time:

- The customer obtains and consumes the economic benefits brought by the Company's performance while the Company is performing the contract.
- The customer can control the commodities under construction during the Company's performance.
- The commodities produced by the Company during the performance of the contract have irreplaceable uses, and the Company has the right to receive payment for the accumulated performance of the contract so far throughout the contract period.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XXXVIII) Revenue (Continued)****1. Accounting policies adopted for income recognition and measurement (Continued)**

For performance obligations to be performed within a certain period of time, the Company recognizes revenue in accordance with the progress of performance over that period, except when the progress of performance cannot be reasonably determined. The Company determines the progress of performance using the output method or the input method, taking into account the nature of the goods or services. When there is no reasonable certainty of the progress of performance, revenue is recognized at the costs incurred when the costs incurred are expected to be reimbursed until the progress of performance can be reasonably determined.

The Company recognizes the income from the performance obligations to be performed at certain time, that is, when the customer obtained control of the related goods or services. In determining whether a customer has acquired control of goods or services, the Company considers the following indications:

- The Company has a present right to receive payment in respect of the commodity or services, i.e. the customer has a present payment obligation in respect of the commodity or services.
- The Company has transferred the legal title to the commodity to the customer, i.e. the customer has the legal title to the commodity.
- The Company has transferred the physical commodity to the customer, i.e. the customer has taken physical possession of the commodity.
- The Company has transferred to the customer the principal risks and rewards of ownership of the commodity, i.e. the customer has acquired principal risks and rewards with respect to the title to the commodity.
- The customer has accepted the goods or services, etc.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVIII) Revenue (Continued)

2. *Differences between the accounting policies for revenue recognition due to different business models adopted by similar business*

Applicable Not applicable

(1) *Sale of goods agreement*

The sale of goods agreements entered into between the Company and its customers usually only include the performance obligations to transfer goods. The Company usually recognises revenue at a point in time when control of goods is transferred, after taking into account the following factors: obtaining a present right to payment for the goods, the transfer of the significant risks and rewards of ownership of the goods, the transfer of the legal title of the goods, the transfer of the physical possession of the goods, and the acceptance of the goods by the customer.

(2) *Service contract*

The service agreements entered into between the Company and its customers usually include performance obligations such as system integration. As the services provided by the Company during the performance of the agreement have no alternative use, and the Company has an enforceable right to payment for performance completed to date throughout the duration of the contract, the Company treats them as performance obligations satisfied over time, and recognises revenue by measuring the progress towards complete satisfaction of the performance obligations, unless the progress cannot be reasonably determined. The Company determines the progress of providing services using the input method. When the progress cannot be reasonably determined, if the costs incurred by the Company are expected to be recovered, the Company recognizes revenue to the extent of the costs incurred until the progress can be reasonably determined.

(3) *Construction contract*

The construction contracts between the Company and its customers usually include performance obligations such as provision of construction services. As the customers can control the assets under construction during the performance of the Company, the Company treats them as performance obligations satisfied over time, and recognises revenue by measuring the progress towards complete satisfaction of the performance obligations, unless the progress cannot be reasonably determined.. The Company determines the progress of providing services based on costs incurred using the input method. When the progress cannot be reasonably determined, if the costs incurred by the Company are expected to be recovered, the Company recognizes revenue to the extent of the costs incurred until the progress can be reasonably determined.

(4) *Variable consideration*

Some of the contracts between the Company and its customers contain arrangements such as contract modification, claim and incentive, resulting in variable consideration. The Company determines the best estimate of the variable consideration according to the expected value or the most likely amount only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVIII) Revenue (Continued)

2. Differences between the accounting policies for revenue recognition due to different business models adopted by similar business (Continued)*(5) Sale with return clause*

In connection with sale with return clause, when a customer obtains control of relevant goods, the Company recognises revenue in the amount of consideration to which the Company expects to be entitled for transferring the goods to the customer, and recognizes amounts expected to be refunded for the return as estimated liabilities. At the same time, the balance of the carrying value of the goods expected to be returned upon transfer less expected costs for the return of such goods (including impairment loss of the returned goods) shall be recognised as an asset (i.e. return costs receivable), and the net amount of the carrying value of the transferred goods upon the transfer less the aforesaid asset costs shall be transferred to cost. At each balance sheet date, the Company reassesses the future return of goods and re-measures the above assets and liabilities.

(6) Significant financing component

For contracts with a significant financing component, the Company determines the transaction price based on the amount payable that is assumed to be paid in cash when the customer obtains control of the goods. By using the discount rate that discounts the nominal amount of the contract consideration to the current selling price of the goods, the difference between the determined transaction price and the promised contract consideration shall be amortised over the contract period using the effective interest method. If the Company expects that the period between when the Company transfers a promised good to a customer and when the customer pays for that good will be one year or less, the Company need not to consider the existence of a significant financing component.

(7) Warranty obligation

According to the contractual clauses, legal provisions, etc., the Company provides warranties for the goods sold or assets constructed. For assurance-type warranties which provide customers with assurance that the goods sold comply with agreed-upon specifications, the Company performs accounting treatment in accordance with Note "V. (XXXV) Provisions." For service-type warranties, which provide a distinct service in addition to the assurance to customers that the goods sold comply with agreed-upon specifications, the Company considers it as a single performance obligation, and on the basis of the relative stand-alone selling price of the goods sold and service-type warranties provided, allocates part of the transaction price to the service-type warranties and recognizes revenue when the customers obtains control of the services. In assessing whether a warranty provides a customer with a distinct service in addition to the assurance that the goods sold comply with agreed-upon specifications, the Company considers factors including whether the warranty is required by law, the length of the warranty coverage period and the nature of the tasks that the Company promises to perform.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXVIII) Revenue (Continued)

2. *Differences between the accounting policies for revenue recognition due to different business models adopted by similar business* (Continued)

(8) *Principal/agent*

For the Company to obtain control of the goods or other assets from a third party and then transfer it to the customer, the Company has the right to determine the price of the goods traded at its own discretion, that is, the Company is a principal if it controls the specified good before that good is transferred to a customer, and the revenue shall be recognised based on the total consideration received or receivable; otherwise, the Company is an agent, and the revenue shall be recognised based on the amount of commission or handling fee that is expected to be charged, and such amount shall be determined based on the net amount of the total consideration received or receivable after deducting the prices payable to other related parties or according to the established commission amount or proportion.

(9) *Contract modification*

When the construction contracts entered into between the Company and its customers are modified:

- 1) If the contract modification adds construction services and contract prices that are distinct, and the additional contract prices reflect the stand-alone selling prices of the additional construction services, the Company will account for the contract modification as a separate contract;
- 2) If the contract modification does not fall within the circumstances stated in item 1) above, and as at the date of the contract modification, the construction services transferred are distinct from the construction services not transferred, the Company will consider the contract modification as a termination of the existing contract, and account for the unperformed part of the existing contract and the contract modification together a new contract;
- 3) If the contract modification does not fall within the circumstances stated in item 1) above, and as at the date of the contract modification, the construction services transferred are not distinct from the construction services not transferred, the Company will account for the contract modification as if it were a part of the existing contract, and the effect of contract modification on the revenue recognized will be recognised as an adjustment to the revenue of the period at the date of the contract modification.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XXXVIII) Revenue (Continued)****2. Differences between the accounting policies for revenue recognition due to different business models adopted by similar business (Continued)****(10) Franchise contract (“BOT Contract”)**

The franchise activities under a BOT Contract usually include building, operation and transfer.

During the construction phase, the Company recognizes the contractual income for construction services in accordance with the accounting policy of the construction contract above and determines whether the Company is a principal or an agent in accordance with the accounting policy of the principal/agent above, and if the Company is the principal, the revenue of the construction service is recognized for performance progress. The Company recognises contract assets while recognising the revenue to the extent that it has an unconditional contractual right to receive a definite amount of cash or another financial asset from the grantor within a certain period after the completion of the infrastructure prescribed in the contract; if the Company is an agent, the construction service revenue is not recognised, and contract assets shall be recognised after considering the provisions in the contract with reference to the project consideration payable in the course of construction.

During the operation phase, the contract assets and the revenue are both recognised when services are provided and a receivable is recognised to the extent that the Company has the right to receive the consideration (such right is conditional only on the passage of time); the daily maintenance or repair costs incurred are recognised as current expenses.

(11) Build-transfer contract (“BT Contract”)

The activities under the BT Contract usually include building and transfer. For the construction services provided by the Company, during the construction phase, the relevant construction service contract revenue is recognised in accordance with the accounting policies of the construction contract mentioned above. The construction contract revenue is measured at the fair value of the consideration receivable and the “long-term receivable” is recognised by using the effective interest rate and measured at amortised cost, and is eliminated upon the receipt of payment from the owner.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXIX) Contract costs

Applicable Not applicable

Contract costs include contract performance costs and contract acquisition costs.

Costs incurred by the Company to perform a contract that are not regulated by the relevant standards, such as inventories, fixed assets or intangible assets, are recognised as a contract performance cost as an asset when the following conditions are met:

- Where such cost is directly related to a current or expected contract.
- Where such cost increases the resources of the Company for fulfilling its performance obligations in the future.
- Where such cost is expected to be recovered.

If the incremental cost of the Company is expected to be recovered, the contract acquisition cost shall be recognised as an asset.

Assets related to the contract costs are amortized on the same basis as the recognition of the revenue of the goods or services related to the asset; however, if the amortization period of the contract acquisition costs is less than one year, the Company will include such costs in the current profit or loss when incurred.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XXXIX) Contract costs (Continued)

For the assets related to contract costs whose carrying amount is higher than the difference between the following two items, the Company will make provision for impairment for the excess and recognize it as asset impairment loss:

1. Where the remaining consideration is expected to be obtained by the transfer of goods or services related to the asset;
2. Where the costs are estimated to occur for the transfer of the relevant goods or services.

If the said difference is higher than the carrying amount of the asset due to changes in the impairment factors in the previous period, the originally accrued impairment reserve shall be reversed and included in the current profit or loss, but the reversed asset carrying amount shall not exceed the carrying amount of the asset on the date of reversal assuming that the impairment reserve is not accrued.

(XL) Government subsidies

Applicable Not applicable

1. Type

Government subsidies are monetary assets or non-monetary assets obtained by the Company from the government for free, which are classified into government subsidies related to assets and government subsidies related to income.

Asset-related government subsidies refer to government subsidies obtained by the Company for forming long-term assets by acquisition, construction or other manners. Government subsidies related to income refer to government subsidies other than those related to assets.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XL) Government subsidies (Continued)

2. *Timing of recognition*

Government subsidies shall be recognized only if the Company is able to comply with the conditions for the government subsidies, and is likely to receive the government subsidies.

3. *Accounting treatment*

Government subsidies related to assets shall be used to offset the carrying amount of relevant assets or recognized as deferred income. Where such subsidies are recognized as the deferred income, they will be included in current profit or loss in accordance with the reasonable and systematic methods within useful lives of related assets (where such subsidies are related to the daily activities of the Company, they will be included in other income; where such subsidies are not related to the daily activities of the Company, they will be included in non-operating income);

Government subsidies relating to income used to compensate for relevant costs or losses which will occur in the following period in the Company shall be recognized as deferred income, and, during the period when relevant costs or losses are recognized, be included in current profit or loss (where government subsidies relating to income are relevant to routine activities of the Company, such subsidies shall be included in other income; where government subsidies relating to income are irrelevant to routine activities of the Company, such subsidies shall be included in non-operating income) or used to offset relevant costs or losses; government subsidies relating to income used to compensate for relevant costs or losses incurred in the Company shall be included in current profit or loss (where such subsidies are related to daily activities of the Company, they will be included in other income; where such subsidies are unrelated to the daily activities of the Company, they will be included in non-operating income) or used to offset relevant costs or losses.

The Company receives the interest grants with policy reference and treats in different ways in accordance with the following situations:

- (1) If the financial authorities allocate the interest subsidies to the lending bank, and the lending bank provides the loan to the Company at the preferential interest rate according to relevant policies, the Company takes the actually received loan amount as the recorded value of the loan, and calculates the relevant borrowing costs based on the loan principal and the preferential interest rate.
- (2) If the financial authorities directly allocate the interest subsidies to the Company, the Company will offset the corresponding interest subsidies against the relevant borrowing costs.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLI) Deferred tax assets and deferred tax liabilities

Applicable Not applicable

Income tax includes the current income tax and deferred income tax. Except for the income tax arising from business mergers and such transactions or items as are directly included in shareholders' equity (including other comprehensive income), the Company shall include the current income tax and the deferred income tax in the current profit or loss.

Deferred tax assets and deferred tax liabilities are calculated and recognized based on differences (temporary differences) between tax base and carrying amount of the assets and liabilities.

Deferred tax assets are recognized at deductible temporary differences to the extent that it shall not exceed the taxable income probably obtained in future periods to be against the deductible temporary difference. For deductible losses and tax credits that can be carried forward to subsequent periods, the Company recognized deferred tax assets to the extent that it is probable that taxable profit will be available against which the deductible losses and tax credits can be utilized.

Taxable temporary differences are recognized as deferred tax liabilities except in special circumstances.

Such special circumstances for not recognition of deferred tax assets and deferred tax liabilities include:

- Initial recognition of goodwill;
- A transaction or event that is neither a business combination nor, when incurred, affects accounting profit and taxable income (or deductible loss).

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLI) Deferred tax assets and deferred tax liabilities (Continued)

For the taxable temporary differences related to the investments in subsidiaries, associates and joint ventures, the deferred tax liabilities should be recognized, unless that the timing of the reversal of the temporary differences is able to be controlled by the Company and the temporary differences will be probable not to be reversed in the foreseeable future. For deductible temporary differences arising from investments in subsidiaries, associates and joint ventures, when the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the deductible temporary differences can be used, the deferred tax asset will be recognized.

On the balance sheet date, deferred tax assets and deferred tax liabilities should be measured at the applicable tax rate during the period of expected recovery of the relevant assets or liquidation of the relevant assets according to the provisions of tax laws.

On the balance sheet date, the Company reviews the carrying amount of deferred tax assets. If it is unlikely to obtain sufficient taxable income taxes to offset the benefit of the deferred tax assets, the carrying amount of the deferred tax assets shall be written down. When it is likely to earn sufficient taxable income, the write-down amount should be reversed.

If the Company has the legal right of netting and intends to settle in net amount or to obtain assets and discharge liabilities simultaneously, the current tax assets and current tax liabilities of the Company shall be presented based on the net amount after offset.

On the balance sheet date, deferred tax assets and deferred tax liabilities shall be listed by the net amount after offset if:

- The taxpayer has the statutory right to settle the current tax assets and current tax liabilities with net amount;
- Deferred tax assets and deferred tax liabilities are related to the income tax which are imposed on the same taxpayer by the same tax collection authority or on different taxpayers, but, in each important future period in connection with the reverse of deferred tax assets and liabilities, the involved taxpayer intends to balance tax assets and liabilities for this period with net settlement at the time of obtaining assets and discharging liabilities, deferred tax assets and deferred tax liabilities shall be presented based on the net amount after offset.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases

Lease refers to a contract in which the lessor transfers the right to use the assets to the lessee within a certain period to obtain consideration. On the contract commencement date, the Company evaluates whether the contract is or includes a lease. If a party to the contract transfers the right to control the use of one or more identified assets for a certain period of time in exchange for consideration, the contract is or includes a lease.

If the contract contains multiple separate leases at the same time, the Company may split the contract, and account for each lease separately. If the contract includes both lease and non-lease parts, the lessee and the lessor shall split them.

For rent concessions such as rent concessions and deferred payments entered into in connection with existing leases that are directly triggered by the COVID-19 outbreak and that also meet the following conditions, the Company applies the simplified method to all lease options and does not assess whether a lease change has occurred or reassess the lease classification:

- The lease consideration after the reduction decreases or remains substantially unchanged from that before the concession, where the lease consideration is either undiscounted or discounted at the pre-concession discount rate;
- Other terms and conditions of the leases are determined to have not changed significantly after considering qualitative and quantitative factors together.

The above simplified method was no longer applicable as of 30 June 2022.

1. *The Company as the lessee*

(1) *Right-of-use assets*

At the commencement of the lease term, the Company recognizes the right-of-use assets for leases other than short-term and low-value asset leases. Right-of-use assets are initially measured at cost, which includes:

- The initial measurement amount of the lease liability;
- The lease payment made on or before the commencement of the lease term, or the relevant amount after deducting the lease incentive already enjoyed if any;
- Initial direct costs incurred by the Company;
- The Company expects to incur costs for dismantling and removing leased assets, restoring the site of the leased assets to its original condition, or restoring leased assets to their original condition, excluding costs incurred for the production of inventories.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases (Continued)

1. *The Company as the lessee* (Continued)

(1) *Right-of-use assets* (Continued)

The Company subsequently adopts the straight-line method to accrue depreciation for the right-to-use assets. If ownership of the leased assets can be obtained with reasonable certainty at the end of the lease term, the Company depreciates the leased assets over their remaining useful lives; otherwise, the leased assets are depreciated over the shorter of the lease term and the remaining useful life of the leased assets.

The Company determines whether a right-of-use asset is impaired and accounts for the identified impairment loss in accordance with the principles described in Note “V. (XXX) Long-term assets impairment”.

(2) *Lease Liabilities*

At the commencement of the lease term, the Company recognizes lease liabilities for leases other than short-term and low-value asset leases. The lease liabilities are initially measured at the present value of the unpaid lease payments. Lease payments include:

- Fixed payment (including substantial fixed payment), and the relevant amount after deducting the lease incentive if any;
- Variable lease payments depending on index or ratio;
- Estimated payments due according to the guaranteed residual value provided by the Company;
- Exercise price of the purchase option, provided that the Company reasonably determines that the option will be exercised;
- The amount to be paid for the exercise of the lease termination options, provided that the lease term reflects that the Company will exercise the options to terminate the lease.

The Company uses the interest rate implicit in lease as the discount rate, but if the interest rate implicit in the lease cannot be reasonably determined, the Company uses the incremental borrowing rate as the discount rate.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XLII) Leases** (Continued)**1. The Company as the lessee** (Continued)**(2) Lease Liabilities** (Continued)

The Company calculates the interest expense of the lease liabilities in each the lease term at a fixed periodic interest rate, and includes it in the current profit or loss or related asset costs.

Variable lease payments that are not included in the lease liabilities are included in current profit or loss or related asset costs when incurred.

The Company remeasures the lease liability and adjusts the corresponding right-of-use asset if, after the lease commencement date, the following circumstances occur. If the carrying amount of the right-of-use asset is reduced to zero, but the lease liability is still subject to further reduction, the difference is recognized in profit or loss:

- When the appraisal results of the purchase option, lease renewal option or termination option change, or when the actual exercise of the aforementioned options is inconsistent with the original appraisal results, the Company re-measures the lease liability at the present value calculated by the changed lease payments and the revised discount rate;
- When there is a change in the substantive fixed payment amount, a change in the amount expected to be payable for the guaranteed residual value or a change in the index or rate used to determine the lease payment amount, the Company re-measures the lease liability at the present value calculated from the changed lease payment amount and the original discount rate. However, if the change in the lease payment amount results from a change in the floating interest rate, the present value is calculated using the revised discount rate.

(3) Short-term and low-value asset leases

The Company chooses not to recognize the right-of-use assets and lease liabilities for short-term and low-value asset leases, and includes the related lease payments in the current profit or loss or related asset costs with the straight-line method in each lease term. Short-term lease refers to a lease that lasts for no more than 12 months and includes no purchase options at the commencement of the lease term. Low-value asset lease refers to a lease with lower value when the individual leased assets are brand new assets. If the Company sublets or anticipates subletting the leased assets, the original lease is not a low-value asset lease.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases (Continued)

1. *The Company as the lessee* (Continued)

(4) *Lease change*

If a lease changes and meets all the following conditions, the Company will account for the lease change as a separate lease:

- The lease change expands the scope of the lease by adding one or more rights to use the leased assets;
- The increased consideration is equivalent to the individual price of the expanded part adjusted according to the contract.

If the lease change is not accounted for as a separate lease, the Company shall, on the effective date of the lease change, re-allocate the consideration of the changed contract, re-determine the lease term, and remeasure the lease liabilities at the present value calculated based on the changed lease payment and the revised discount rate.

If a lease change results in a reduction in the scope of the lease or a shortening of the lease term, the Company reduces the carrying amount of the right-of-use asset accordingly and recognizes the gain or loss related to the partial or complete termination of the lease in current profit or loss. If other lease changes result in a remeasurement of the lease liability, the Company adjusts the carrying amount of the right-of-use asset accordingly.

(5) *Rent concessions related to the COVID-19 epidemic*

For the adoption of the simplified method of rent concessions related to the COVID-19 epidemic, the Company does not assess whether a lease change has occurred, continues to calculate interest expense on lease liabilities at the same discount rate as before the concessions and record it in current profit or loss, and continues to depreciate right-of-use assets in the same manner as before the concessions. When a rent reduction or exemption occurs, the Company treats the reduced or exempted rent as variable lease payments and reduces the related asset cost or expense by the amount discounted at the undiscounted or pre-reduction discount rate when the original rent payment obligation is discharged, such as when a reduction agreement is reached, and adjusts the lease liability accordingly; if the rent payment is deferred, the Company reduces the lease liability recognized in prior periods when the actual payment is made. The above simplified method was no longer applicable as of 30 June 2022.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases (Continued)

1. *The Company as the lessee* (Continued)

(5) *Rent concessions related to the COVID-19 epidemic* (Continued)

For short-term leases and leases of low-value assets, the Company continues to charge the original contractual rents to the cost or expense of the related assets in a manner consistent with that before the impairment. When a rent concession occurs, the Company recognizes the reduced rent as variable lease payment and reduces the cost or expense of the related assets in the period of the reduction; when a rent payment is deferred, the Company recognizes the rent payable as a payable in the original payment period and reduces the payable recognized in prior periods when the actual payment is made.

2. *The Company as lessor*

On the lease commencement date, the Company divides the lease into financial lease and operating lease. Financial leasing refers to the leasing that transfers almost all the risks and returns related to the ownership of the leased asset, regardless of whether the ownership is ultimately transferred or not. The term “operating lease” refers to a lease other than a financial lease. When the Company is the sub-lessee, the sublease is classified based on the right-to-use assets generated from the original lease contract.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases (Continued)

(1) Accounting method for operating leases

Applicable Not applicable

The lease amount received under operating leases are recognized as rental income according to the straight-line method in each period of the lease term. The Company capitalizes the initial direct expenses related to operating lease and amortizes them into the current profit and loss according to the same basis as the recognition of rental income during the lease term. The variable lease payments excluded from the lease receipts shall be included in the current profits and losses when they are actually incurred. In case of any change in the operating lease, the Company will make the accounting treatment for it as a new lease from the effective date of the change, and the amount received in advance or lease receivables before the change will be regarded as the receivables from the new lease.

(2) Accounting method for financing leases

Applicable Not applicable

On the lease commencement date, the Company recognizes the financial lease receivable and derecognizes the financial lease assets. The net investment in the lease is taken as the entry value of the financial lease receivable as the Company initially measures the financial lease receivable. The net investment in a lease is the sum of the present value of the unguaranteed residual value and future lease payments at the beginning of the lease term, discounted at the interest rate implicit in lease.

The Company calculates and recognizes the interest income of each period in the lease term according to the fixed periodic interest rate. The derecognition and impairment of financial lease receivables shall be accounted for in accordance with the requirements set out in Note “V. (X) Financial Instruments.”

The variable lease payments excluded from the measurement of net investment in lease shall be included in the current profit and loss when they are actually incurred.

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)**(XII) Leases** (Continued)**(2) Accounting method for financing leases** (Continued)

If the financial lease changes and meets the following conditions at the same time, the Company will treat the change as a separate lease for accounting treatment:

- The change expands the lease scope by increasing the right-to-use of one or more leased assets;
- The increased consideration is equivalent to the individual price of the expanded part of the lease scope adjusted according to the contract conditions.

If the change of financial lease is not accounted for as a separate lease, the Company will deal with the changed lease under the following circumstances:

- If the change takes effect on the lease commencement date, the lease will be classified as an operating lease, and the Company will treat it as a new lease from the effective date of the lease change, and take the net lease investment before the effective date of the lease change as the carrying amount of the leased assets;
- If the change takes effect on the commencement date of the lease, the lease will be classified as a financial lease, and the Company will carry out accounting treatment according to the policy on modifying or renegotiating a contract set out in “Note V. (X) Financial Instruments.

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V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLII) Leases (Continued)

(3) *Methods for determining and accounting of lease under new lease standards*

Applicable Not applicable

(XLIII) Other significant accounting policies and estimates

Applicable Not applicable

V. SIGNIFICANT ACCOUNTING POLICIES AND ACCOUNTING ESTIMATES (Continued)

(XLIV) Changes in significant accounting policies and estimates

(1). Changes in significant accounting policies

Applicable Not applicable

(2). Changes in significant accounting estimates

Applicable Not applicable

(3). Adjustments to financial statements as at the beginning of the year upon initial adoption of new accounting standards or interpretation of standards since 2023

Applicable Not applicable

(XLV) Others

Applicable Not applicable

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VI. TAXATION

(I) Main taxes and tax rates

Main taxes and tax rates

Applicable Not applicable

Category	Tax determination basis	Tax rate
Value-added tax	The VAT payable is the difference between output tax (calculated based on sales of goods and taxable service income under the tax laws) and the deductible input tax for the current period	6%, 9%, 13%
Consumption tax	Levied on the basis of VAT and consumption tax actually paid	5%, 7%
Corporate income tax	Levied on the basis of taxable profits	15%, 16.5%, 20%, 25%

Disclosure statement of taxable entities subject to different enterprise income tax rates

Applicable Not applicable

VI. TAXATION (Continued)

(I) Main taxes and tax rates (Continued)

Disclosure statement of taxable entities subject to different enterprise income tax rates (Continued)

Name of taxable entity	Income tax rate (%)
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	16.5
Beijing Xiandai Signal & Communication Engineering Consultant Ltd. (北京現代通號工程諮詢有限公司)	15
Shenyang Railway Signal Co., Ltd. (瀋陽鐵路信號有限責任公司)	15
Tianjin Railway Signal Co., Ltd. (天津鐵路信號有限責任公司)	15
Xi'an Railway Signal Co., Ltd. (西安鐵路信號有限責任公司)	15
Beijing Railway Signal Co., Ltd. (北京鐵路信號有限公司)	15
Shanghai Railway Communication Co., Ltd. (上海鐵路通信有限公司)	15
Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. (上海德意達電子電器設備有限公司)	15
Tianshui Railway Cable Co., Ltd. (天水鐵路電纜有限責任公司)	15
Jiaozuo Railway Cable Co., Ltd. (焦作鐵路電纜有限責任公司)	15
CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	15
Beijing Nera Stentofon Communication Equipment Co., Ltd. (北京挪拉斯坦特芬通信設備有限公司)	15
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	15
Shanghai China Railway Communication & Signal Testing Co., Ltd. (上海中鐵通信信號測試有限公司)	15
CRSC Wanquan Signal Equipment Co., LTD. (通號萬全信號設備有限公司)	15

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VI. TAXATION (Continued)

(I) Main taxes and tax rates (Continued)

Disclosure statement of taxable entities subject to different enterprise income tax rates (Continued)

Name of taxable entity	Income tax rate (%)
CASCO Signal Ltd. (卡斯柯信號有限公司)	15
CRSC Communication & Information Group Shanghai Company Ltd. (通號通信信息集團上海有限公司)	15
CRSC Information Industry Co., Ltd. (通號信息產業有限公司)	15
Shanghai Xinhai Information Transportation Information Technology Co., Ltd. (上海新海信通信息技術有限公司)	15
Chengdu Railway Communication Equipment Co., Ltd. (成都鐵路通信設備有限責任公司)	15
CRSCE Beijing Research & Design Experiment Center Ltd. (通號工程局集團北京研究設計實驗中心有限公司)	15
CRSC Engineering Bureau Group Construction Engineering Co., Ltd. (通號工程局集團建設工程有限公司)	15
CRSC Engineering Bureau Group Tianjin Equipment Engineering Ltd. (通號工程局集團天津裝備技術有限公司)	15
CRSC Institute of Smart City Research & Design Co., Ltd. (通號智慧城市研究設計院有限公司)	15
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	15
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	15
CRSC Railway Vehicles Co., Ltd. (通號軌道車輛有限公司)	15
Beijing Guo Tie Hua Chen Communication Technology Co., Ltd. (北京國鐵華晨通信科技有限公司)	15
Changsha Architectural Design Institute Co., Ltd. (長沙市建築設計院有限責任公司)	15
CRSC Guangdong-Hong Kong-Macao (Guangzhou) Transportation Technology Co., Ltd. (通號粵港澳(廣州)交通科技有限公司)	15
CASCO Signal (Chengdu) Co., Ltd. (卡斯柯信號(成都)有限公司)	15
CASCO Signal (Zhengzhou) Co., Ltd. (卡斯柯信號(鄭州)有限公司)	15
CRSC (Jiangsu) Smart City Industry Research Institute Co., Ltd. (通號(江蘇)智慧城市產業研究院有限公司)	20
Xi'an Tonghao Railway Signal Product Inspection Station Co., Ltd. (西安通號鐵路信號產品檢驗站有限公司)	20
Kunming Zhongtie Innovation Construction Project Management Ltd. (昆明中鐵創新建設項目管理有限公司)	20
CASCO (Xi'an) Co., Ltd. (卡斯柯(西安)有限公司)	20
CASCO (Wuhan) Co., Ltd. (卡斯柯(武漢)有限公司)	20

VI. TAXATION (Continued)

(II) Tax preference

Applicable Not applicable

1. *Refund-upon-collection policy for VAT for software enterprises*

According to the Notice of the State Council on Issuing Several Policies on Further Encouraging the Development of the Software and Integrated Circuit Industries (Guo Fa [2011] No. 4) issued by the State Council, CRSC Research & Design Institute Group Co., Ltd., CASCO Signal Ltd., CRSC Communication & Information Group Company Ltd., and CRSC Wanquan Signal Equipment Co., LTD. enjoy the refund-upon-collection policy for the portion of VAT exceeding 3% for software enterprises.

2. *Tax preferential policy for high-new technology enterprises*

Beijing Xiandai Signal & Communication Engineering Consultant Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 21 October 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

Shenyang Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in July 2021, and obtained the updated high-new technology enterprise certificate on 14 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Tianjin Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 9 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

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VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

Xi'an Railway Signal Co., Ltd. applied in 2015 and was finally recognised as a high-new technology enterprise. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 17 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Beijing Railway Signal Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

Shanghai Railway Communication Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 12 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 13 September 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

Tianshui Railway Cable Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 16 September 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Jiaozuo Railway Cable Co., Ltd. was finally recognised as a high-new technology enterprise in 2013. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 23 December 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

CRSC Research & Design Institute Group Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

Beijing Nera Stentofon Communication Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

CRSC Communication & Information Group Company Ltd. applied and was finally recognised as a high-new technology enterprise in 2011. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 2 December 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

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VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

Shanghai China Railway Communication & Signal Testing Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 18 November 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Wanquan Signal Equipment Co., LTD. applied and was finally recognised as a high-new technology enterprise in 2012. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 16 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CASCO Signal Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 12 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

CRSC Communication & Information Group Shanghai Company Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 18 November 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

CRSC Information Industry Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 25 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

Shanghai Xinhai Information Transportation Information Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 14 December 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

Chengdu Railway Communication Equipment Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2014. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020, and obtained the updated high-new technology enterprise certificate on 11 September 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

CRSCE Beijing Research & Design Experiment Center Ltd. applied and was finally recognised as a high-new technology enterprise in 2015. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 21 December 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Engineering Bureau Group Construction Engineering Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 18 October 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

NOTES TO FINANCIAL STATEMENTS

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VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

CRSC (Changsha) Rail Transit Control Technology Company Limited applied and was finally recognised as a high-new technology enterprise in 2017. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2020 and obtained the updated high-new technology enterprise certificate on 11 September 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

CRSC Engineering Bureau Group Tianjin Equipment Engineering Ltd. applied and was finally recognised as a high-new technology enterprise in 2016. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 15 November 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

CRSC Institute of Smart City Research & Design Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2018. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2021, and obtained the updated high-new technology enterprise certificate on 25 October 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CRSC Railway Vehicles Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2019. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 12 December 2022. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

Beijing Guo Tie Hua Chen Communication Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

VI. TAXATION (Continued)

(II) Tax preference (Continued)

2. *Tax preferential policy for high-new technology enterprises* (Continued)

CRSC Urban Rail Transit Technology Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

Changsha Architectural Design Institute Co., Ltd. applied and was finally recognised as a high-new technology enterprise in 2020. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2020 to 2022. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2023 and paid enterprise income tax at the preferential tax rate of 15% as of 30 June 2023.

CRSC Guangdong-Hong Kong-Macao (Guangzhou) Transportation Technology Co., Ltd. applied in 2020 and was finally recognised as a high-new technology enterprise in 2021. The certificate is valid for three years. The company shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

CASCO Signal (Chengdu) Co., Ltd. applied in 2019 and was finally recognised as a high-new technology enterprise on 28 November 2019. The company submitted the high-tech enterprise qualification review materials to the competent authorities in 2022, and obtained the updated high-new technology enterprise certificate on 2 November 2022. The certificate is valid for three years. CASCO Signal (Chengdu) Co., Ltd. shall pay enterprise income tax at the preferential tax rate of 15% from 2022 to 2024.

CASCO Signal (Zhengzhou) Co., Ltd. applied in 2021 and was finally recognised as a high-new technology enterprise and obtained the high-new technology enterprise certificate on 28 October 2021. The certificate is valid for three years. CASCO Signal (Zhengzhou) Co., Ltd. shall pay enterprise income tax at the preferential tax rate of 15% from 2021 to 2023.

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VI. TAXATION (Continued)

(II) Tax preference (Continued)

3. *Preferential taxation policies for the western development strategy*

According to the Announcement of the Ministry of Finance, the State Taxation Administration and the National Development and Reform Commission on Continuation of the Enterprise Income Tax Policies of Western Development (MOF Announcement [2020] No.23), from 1 January 2021 to 31 December 2030, an enterprise in western area engaged in industries encouraged is subject to the enterprise income tax rate of 15%. Xi'an Railway Signal Co., Ltd. and Xi'an Quanlutonghao Equipment Research Co., Ltd. are eligible for the preferential tax policies related to the western development strategy.

4. *Preferential taxation policies for small low-profit enterprises*

According to the Announcement of the State Administration of Taxation on Issues Concerning the Implementation of Preferential Income Tax Policies to Support the Development of Small Low-Profit Enterprises and Individual Business (SAT Announcement [2021] No. 8) and Announcement of the Ministry of Finance and the State Administration of Taxation on Further Implementing the Preferential Income Tax Policies for Small and Micro Enterprises (Announcement No. 13 [2022] of the MOF and the SAT), from 1 January 2022 to 31 December 2024, the portion of annual taxable income of a small low-profit enterprise which does not exceed RMB1 million shall be calculated at a reduced rate of 12.5% as taxable income amount and shall be subject to EIT at 20% tax rate. The portion of annual taxable income of a small low-profit enterprise which exceeds RMB1 million but does not exceed RMB3 million shall be calculated at a reduced rate of 25% as taxable income amount and shall be subject to EIT at 20% tax rate. Xi'an Tonghao Railway Signal Product Inspection Station Co., Ltd., Kunming Zhongtie Innovation Construction Project Management Ltd., CASCO (Xi'an) Co., Ltd., CASCO (Wuhan) Co., Ltd. and CRSC (Jiangsu) Smart City Industry Research Institute Co., Ltd. were eligible for the preferential tax policies for small low-profit enterprises.

(III) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

30 June 2023

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS

(I) Cash and bank balances

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Cash on hand	373,590.00	567,662.59
Bank deposits	21,836,147,952.17	21,816,914,263.80
Other monetary funds	432,659,685.10	397,889,411.42
Total	<u>22,269,181,227.27</u>	<u>22,215,371,337.81</u>
Including: Total amount deposited abroad	253,631,841.27	222,080,697.67
Deposits with a finance company	—	—

The relationship between the Company's monetary funds and cash and cash equivalents is as follows:

Item	Closing balance	Opening balance
Closing balance of monetary funds for the period/year	22,269,181,227.27	22,215,371,337.81
Less: Non-pledged/secured and unrestricted time deposits with maturity of three months or above	5,982,903,881.01	4,516,562,880.55
Less: Restricted monetary funds	<u>432,866,588.20</u>	<u>457,150,025.99</u>
Closing balance of cash and cash equivalents for the period/year	<u>15,853,410,758.06</u>	<u>17,241,658,431.27</u>

NOTES TO FINANCIAL STATEMENTS

30 June 2023
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(I) Cash and bank balances (Continued)

Other explanations:

As at 30 June 2023, the Company's cash and bank balances deposited abroad were RMB253,631,841.27 (31 December 2022: RMB222,080,697.67).

As at 30 June 2023, the Company's restricted cash and bank balances were RMB432,866,588.20 (31 December 2022: RMB457,150,025.99), please see Note "VII. (LXXXI)".

Interest income from demand deposits is earned at the bank's interest rate on the demand deposits. The Company determines the period of maturity of short-term time deposit on the basis of its needs for cash and earns the interest income at the bank's corresponding interest rate on the time deposits.

(II) Held-for-trading financial assets

Applicable Not applicable

(III) Derivative financial assets

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable

(1). *Classified presentation of notes receivable*

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Bank acceptance bills	236,316,470.43	—
Commercial acceptance notes	1,096,593,325.94	1,719,529,983.55
Less: Provision for bad debt	3,276,240.98	5,158,589.95
Total	<u>1,329,633,555.39</u>	<u>1,714,371,393.60</u>

(2). *Notes receivable pledged by the Company at the end of the period*

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount pledged at the end of the period
Bank acceptance bills	25,836,395.84
Commercial acceptance notes	281,225,548.50
Total	<u>307,061,944.34</u>

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable (Continued)

(3). Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount derecognized at the end of the period	Amount not derecognized at the end of the period
Bank acceptance bills	–	137,765,233.17
Commercial acceptance notes	–	382,422,776.85
Total	–	520,188,010.03

(4). Notes transferred to accounts receivable by the Company due to the drawer's failure to perform the contract at the end of the period

Applicable Not applicable

(5). Disclosure by the method of provision for bad debts

Applicable Not applicable

(6). Provision for bad debt

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IV) Notes receivable (Continued)

(7). Write-off of notes receivable for the period

Applicable Not applicable

Other explanation:

Applicable Not applicable

(V) Accounts receivable

(1). Disclosure by ageing on recording dates

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging

Within 1 year

1 to 2 years

2 to 3 years

Over 3 years

Subtotal

Less: Provision for bad debt

Total

Closing gross carrying amount

17,115,899,159.60

4,103,543,153.84

2,028,340,386.65

1,611,134,218.35

24,858,916,918.44

1,292,417,029.96

23,566,499,888.48

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

(2). Disclosure by the method of provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Closing balance					Opening balance				
	Gross carrying amount		Provision for bad debt			Gross carrying amount		Provision for bad debt		
	Amount	Proportion (%)	Amount	Percentage of provision (%)	Book value	Amount	Proportion (%)	Amount	Percentage of provision (%)	Book value
Single provision for bad debt	943,397,335.87	3.79	80,653,192.56	8.55	862,744,143.31	676,351,805.51	2.83	62,885,832.31	9.30	613,465,973.20
Provision withdrawn for bad debt on a combination basis	23,915,519,582.57	96.21	1,211,763,837.40	5.07	22,703,755,745.17	23,210,367,087.78	97.17	1,151,751,863.43	4.96	22,058,615,224.35
Total	<u>24,858,916,918.44</u>	<u>100.00</u>	<u>1,292,417,029.96</u>	<u>/</u>	<u>23,566,499,888.48</u>	<u>23,886,718,893.29</u>	<u>100.00</u>	<u>1,214,637,695.74</u>	<u>/</u>	<u>22,672,081,197.55</u>

Single provision for bad debt:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name	Closing balance			
	Gross carrying amount	Provision for bad debt	Percentage of provision (%)	Reasons for provision
Single provision for bad debt	<u>943,397,335.87</u>	<u>80,653,192.56</u>	<u>8.55</u>	<u>-</u>
Total	<u>943,397,335.87</u>	<u>80,653,192.56</u>	<u>8.55</u>	<u>/</u>

Descriptions of single provision for bad debt:

Applicable Not applicable

The Company shall make provision for bad debts in whole or in part based on its aging and business conditions with other companies.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

(2). Disclosure by the method of provision for bad debts (Continued)

Provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

Items of provision on group basis: accounts receivable for which provision for bad debt is made based on a combination basis by credit risk characteristics

Unit: Yuan Currency: RMB

Name	Closing balance		
	Accounts receivable	Provision for bad debt	Percentage of provision (%)
Within 1 year	16,285,303,495.04	81,414,159.34	0.50
1 to 2 years	4,220,088,738.41	211,004,437.02	5.00
2 to 3 years	1,963,027,837.71	196,300,700.41	10.00
Over 3 years	1,447,099,511.41	723,044,540.63	49.97
Total	<u>23,915,519,582.57</u>	<u>1,211,763,837.40</u>	

Recognition standards and descriptions of provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

(3). Provision for bad debt

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Single provision for bad debt	62,885,832.31	17,767,360.25	-	-	80,653,192.56
Provision withdrawn for bad debt on a combination basis by credit risk characteristics	1,151,751,863.43	60,010,563.67	-	1,410.30	1,211,763,837.40
Total	<u>1,214,637,695.74</u>	<u>77,777,923.92</u>	<u>-</u>	<u>1,410.30</u>	<u>1,292,417,029.96</u>

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

(4). Write-off of accounts receivable for the period

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(V) Accounts receivable (Continued)

(5). *Top five accounts receivable by closing balance of debtors*

Applicable Not applicable

30 June 2023

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB1,774,224,834.42 in total, accounting for 7.14% of the total closing balance of accounts receivable. The closing balance of the corresponding provision for bad debt amounted to RMB30,881,218.60 in total.

31 December 2022

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB1,768,639,080.02 in total, accounting for 7.40% of the total closing balance of accounts receivable. The closing balance of the corresponding provision for bad debt amounted to RMB212,138,690.14 in total.

(6). *Accounts receivable derecognized due to the transfer of financial assets*

Applicable Not applicable

(7). *Amount of assets and liabilities resulting from transfer of accounts receivable and its continuing involvement*

Applicable Not applicable

Other explanation:

Applicable Not applicable

As at 30 June 2023, the Company's gross book value of accounts receivable of RMB508,756,709.88 and gross carrying amount of other non-current assets of RMB4,873,429,954.32 (31 December 2022: other non-current assets of RMB4,728,042,641.60, accounts receivable of RMB465,060,456.80), which were formed by the earning rights of the franchise pledged and all proceeds thereunder, were used to obtain long-term loans of RMB3,310,293,015.96 (31 December 2022: RMB3,464,075,719.17), please refer to Note "VII. (LXXXI)" for details.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VI) Receivable for financing

Applicable Not applicable

1. Receivable for financing

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Bank acceptance bills	284,514,974.91	652,778,029.27
Commercial acceptance bills	—	—
Other credit instruments measured at fair value through other comprehensive income	291,462,117.10	396,187,742.58
Total	575,977,092.01	1,048,965,771.85

2. Notes receivable pledged by the Company at the end of the period

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Bank acceptance bills	—	34,059,394.86
Commercial acceptance bills	—	—
Total	—	34,059,394.86

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VI) Receivable for financing (Continued)

3. Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Unit: Yuan Currency: RMB

Item	At the end of period		At the beginning of period	
	Derecognized	Not derecognized	Derecognized	Not derecognized
Bank acceptance bills	295,205,450.98	–	517,617,447.59	123,779,958.94
Other credit instruments measured at fair value through other comprehensive income	124,967,210.53	–	–	–
Total	<u>420,172,661.51</u>	<u>–</u>	<u>517,617,447.59</u>	<u>123,779,958.94</u>

The increase/decrease and fair value change of receivables for financing in the period:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

30 June 2023
RMB

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VII) Prepayments

(1). Prepayments set out by aging

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging	Closing balance		Opening balance	
	Amount	Proportion (%)	Amount	Proportion (%)
Within 1 year	1,104,037,114.01	78.51	922,232,174.09	81.22
1 to 2 years	109,039,884.14	7.75	80,771,114.32	7.11
2 to 3 years	112,278,280.78	7.98	74,723,420.69	6.58
Over 3 years	81,005,549.81	5.76	57,803,886.19	5.09
Total	<u>1,406,360,828.74</u>	<u>100.00</u>	<u>1,135,530,595.29</u>	<u>100.00</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VII) Prepayments (Continued)

(2). Top five prepayments by closing balance of prepaid parties

Applicable Not applicable

30 June 2023

The total amount of top five prepayments by closing balance of prepaid parties amounted to RMB193,459,346.29, accounting for 13.76% of the closing balance of the total prepayments.

31 December 2022

The total amount of top five prepayments by closing balance of prepaid parties amounted to RMB235,149,747.35, accounting for 20.71% of the closing balance of the total prepayments.

Other explanation

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interests receivable	–	3,628,769.52
Dividends receivable	22,500,000.00	6,075,000.00
Other receivables	1,534,379,815.70	1,569,685,535.44
Total	<u>1,556,879,815.70</u>	<u>1,579,389,304.96</u>

Other explanation:

Applicable Not applicable

Interest receivable

(1). Classification of interest receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Time deposits	–	3,184,111.13
Entrusted loans	–	–
Bond investment	–	–
Others	–	444,658.39
Less: Provision for bad debt	–	–
Total	<u>–</u>	<u>3,628,769.52</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(2). Significant overdue interest

Applicable Not applicable

(3). Provision for bad debt

Applicable Not applicable

Other explanation:

Applicable Not applicable

Dividends receivable

(1). Dividends receivable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item (or investee)	Closing balance	Opening balance
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	22,500,000.00	—
Siemens Signalling Company Ltd. (西門子信號有限公司)	—	6,075,000.00
Total	22,500,000.00	6,075,000.00

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(2). Significant dividends receivable aging over 1 year

Applicable Not applicable

(3). Provision for bad debt

Applicable Not applicable

Other explanation:

Applicable Not applicable

Other receivables

(4). Disclosure by ageing

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging	Closing book balance
Within 1 year	778,737,850.14
1 to 2 years	200,998,400.64
2 to 3 years	132,581,105.87
Over 3 years	594,828,568.27
Subtotal	1,707,145,924.92
Less: Provision for bad debt	172,766,109.22
Total	<u>1,534,379,815.70</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(5). Classified by nature

Applicable Not applicable

Unit: Yuan Currency: RMB

Nature of accounts	Closing book balance	Opening book balance
Performance and tender bonds	1,056,401,325.94	1,131,203,828.85
Advance payments	116,690,025.67	172,895,626.84
Various deposits	158,230,133.09	119,739,953.20
Others	375,824,440.22	311,994,763.39
Sub-total	1,707,145,924.92	1,735,834,172.28
Less: Provision for bad debt of other receivables	172,766,109.22	166,148,636.84
Total	<u>1,534,379,815.70</u>	<u>1,569,685,535.44</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(6). Provision for bad debt

✓ Applicable Not applicable

January to June 2023

Unit: Yuan Currency: RMB

Provision for bad debt	Stage 1	Stage 2	Stage 3	Total
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	
Amounts due as at 1 January 2023	13,397,307.04	14,991,612.87	137,759,716.93	166,148,636.84
Amounts due for the period as at 1 January 2023	426,185.08	–	-426,185.08	–
– Transferred to stage 2	–	–	–	–
– Transferred to stage 3	–	–	–	–
– Reversed to stage 2	–	–	–	–
– Reversed to stage 1	426,185.08	–	-426,185.08	–
Provision for the period	3,020,041.51	1,337,089.52	2,260,341.35	6,617,472.38
Reversal for the period	–	–	–	–
Write-off for the period	–	–	–	–
Cancellation for the period	–	–	–	–
Other changes	–	–	–	–
Amounts as at 30 June 2023	<u>16,843,533.63</u>	<u>16,328,702.39</u>	<u>139,593,873.20</u>	<u>172,766,109.22</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(6). Provision for bad debt (Continued)

2022

	Unit: Yuan Currency: RMB			
	Stage 1	Stage 2	Stage 3	
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	Total
Provision for bad debt				
Amounts as at				
1 January 2022	31,685,499.23	18,477,101.40	70,690,622.78	120,853,223.41
Amounts due for the period				
as at 1 January 2022	-7,622,448.03	-6,325,808.66	13,948,256.69	-
– Transferred to stage 2	-4,471,638.28	4,471,638.28	-	-
– Transferred to stage 3	-3,150,809.75	-10,797,446.94	13,948,256.69	-
– Reversed to stage 2	-	-	-	-
– Reversed to stage 1	-	-	-	-
Provision for the period	-10,665,744.16	2,840,320.13	53,196,285.34	45,370,861.31
Reversal for the period	-	-	-20,063.90	-20,063.90
Cancellation for the period	-	-	-55,383.98	-55,383.98
Other changes	-	-	-	-
Amounts as at				
31 December 2022	<u>13,397,307.04</u>	<u>14,991,612.87</u>	<u>137,759,716.93</u>	<u>166,148,636.84</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(6). *Provision for bad debt* (Continued)

Explanation about obvious changes in gross carrying amounts of other receivables for which loss provision has changed in the period:

Applicable Not applicable

January to June 2023

Unit: Yuan Currency: RMB

	Stage 1 12-month ECL	Stage 2 Lifetime ECL (non-credit impaired)	Stage 3 Lifetime ECL (credit-impaired)	Total
Amounts as at 1 January 2023	1,195,253,560.79	46,245,677.67	494,334,933.82	1,735,834,172.28
Amounts due for the period as at 1 January 2023	-62,438,237.15	1,054,025.37	61,384,211.78	-
- Transferred to stage 1	7,883,039.53	-	-7,883,039.53	-
- Transferred to stage 2	-70,321,276.68	70,321,276.68	-	-
- Transferred to stage 3	-	-69,267,251.31	69,267,251.31	-
Increase for the period	5,771,787,552.74	-	-	5,771,787,552.74
Derecognized	-5,763,465,208.96	-604,687.44	-36,405,903.70	-5,800,475,800.10
Cancellation for the period	-	-	-	-
Amounts as at 30 June 2023	<u>1,141,137,667.42</u>	<u>46,695,015.60</u>	<u>519,313,241.90</u>	<u>1,707,145,924.92</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(6). Provision for bad debt (Continued)

2022

	Unit: Yuan Currency: RMB			
	Stage 1	Stage 2	Stage 3	Total
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	
Amounts as at 1 January 2022	1,098,891,380.93	36,232,060.42	72,800,213.01	1,207,923,654.36
Amounts due for the period				
as at 1 January 2022	-57,575,105.12	10,013,617.25	47,561,487.87	-
- Transferred to stage 1	-	-	-	-
- Transferred to stage 2	-35,066,581.95	35,066,581.95	-	-
- Transferred to stage 3	-22,508,523.17	-25,052,964.70	47,561,487.87	-
Increase for the period	802,293,479.43	-	374,028,616.92	1,176,322,096.35
Derecognized	-648,356,194.45	-	-55,383.98	-648,411,578.43
Cancellation for the period	-	-	-	-
Amounts as at				
31 December 2022	<u>1,195,253,560.79</u>	<u>46,245,677.67</u>	<u>494,334,933.82</u>	<u>1,735,834,172.28</u>

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increase significantly:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(7). Provision for bad debt

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Changes in bad debts	166,148,636.84	6,617,472.38	-	-	172,766,109.22
Total	166,148,636.84	6,617,472.38	-	-	172,766,109.22

2022

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Changes in bad debts	120,853,223.41	45,370,861.31	20,063.90	55,383.98	166,148,636.84
Total	120,853,223.41	45,370,861.31	20,063.90	55,383.98	166,148,636.84

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(8). Write-off of other receivables for the period

Applicable Not applicable

(9). Top five debtors with the largest closing balance of other receivables

Applicable Not applicable

30 June 2023

The total amount of top five debtors with the largest closing balance of other receivables amounted to RMB577,356,471.94 in total, accounting for 33.82% of the total closing balance of other receivables. The closing balance of the corresponding provision for bad debt amounted to RMB77,273,063.70 in total.

31 December 2022

The total amount of top five debtors with the largest closing balance of other receivables amounted to RMB600,237,485.61 in total, accounting for 34.58% of the total closing balance of other receivables. The closing balance of the corresponding provision for bad debt amounted to RMB75,864,312.08 in total.

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(VIII) Other receivables (Continued)

(10). Receivables involving government subsidies

Applicable Not applicable

(11). Other receivables derecognized due to the transfer of financial assets

Applicable Not applicable

(12). Amount of assets and liabilities resulting from transfer of other receivables and its continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IX) Inventories

(1). Inventories classification

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for decline in value of inventories/ provision for impairment of contract performance cost	Carrying amount	Gross carrying amount	Provision for decline in value of inventories/ provision for impairment of contract performance cost	Carrying amount
Raw materials	1,399,700,924.40	5,316,687.27	1,394,384,237.13	1,022,956,286.06	5,316,687.27	1,017,639,598.79
Work-in-progress	652,653,292.26	224,023.41	652,429,268.85	689,701,874.24	224,483.41	689,477,390.83
Finished goods	917,071,793.80	847.85	917,070,945.95	665,793,212.24	847.85	665,792,364.39
Turnover materials	6,420,772.75	-	6,420,772.75	5,854,306.22	-	5,854,306.22
Total	<u>2,975,846,783.21</u>	<u>5,541,558.53</u>	<u>2,970,305,224.68</u>	<u>2,384,305,678.76</u>	<u>5,542,018.53</u>	<u>2,378,763,660.23</u>

(2). Provision for decline in value of inventories and provision for impairment of contract performance cost

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period		Decrease during the period		Closing balance
		Provision	Others	Reversal or write-off	Others	
Raw materials	5,316,687.27	-	-	-	-	5,316,687.27
Work-in-progress	224,483.41	-	-	460.00	-	224,023.41
Finished goods	847.85	-	-	-	-	847.85
Total	<u>5,542,018.53</u>	<u>-</u>	<u>-</u>	<u>460.00</u>	<u>-</u>	<u>5,541,558.53</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(IX) Inventories (Continued)

(3). Explanation about inclusion of capitalized amount of the borrowing cost in the closing balance of inventories

Applicable Not applicable

(4). Explanation about current amortization amount of contract performance cost

Applicable Not applicable

Other explanation:

Applicable Not applicable

(X) Contract assets

(1). Information of contract assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Completed but not yet settled	39,311,889,886.51	147,467,239.45	39,164,422,647.06	38,763,141,992.34	146,053,665.31	38,617,088,327.03
Total	<u>39,311,889,886.51</u>	<u>147,467,239.45</u>	<u>39,164,422,647.06</u>	<u>38,763,141,992.34</u>	<u>146,053,665.31</u>	<u>38,617,088,327.03</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(X) Contract assets (Continued)

(2). Amount of and reason for significant change in carrying amount within the Reporting Period

Applicable Not applicable

(3). Provision for impairment of contract assets in the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Provision for the period	Reversal for the period	Cancellation or write-off for the period	Others	Reason
Completed but not yet settled	1,396,639.00	–	–	16,935.14	
Total	<u>1,396,639.00</u>	<u>–</u>	<u>–</u>	<u>16,935.14</u>	<u>/</u>

Notes: (1) Contract assets of the Company are derived from provision of construction services to customers and recognition of revenue over a period of time. At time of settlement of project-related payments, any such contract asset turns into the unconditional right to collect payments and is transferred into the receivables.

(2) As at 30 June 2023, the expected credit loss rate of the contract assets was 0.38% (31 December 2022: 0.38%).

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(X) Contract assets (Continued)

(3). *Provision for impairment of contract assets in the period* (Continued)

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

Other explanation:

Applicable Not applicable

(XI) Assets held for sale

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XII) Non-current assets due within one year

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Project quality deposit due within one year	85,310,150.11	104,421,906.64
Less: Provision for bad debt	245,280.36	169,369.27
Total	<u>85,064,869.75</u>	<u>104,252,537.37</u>

Significant debt investments and other debt investments at the end of the period:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIII) Other current assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
VAT input to be deducted	952,424,612.01	903,887,537.87
Prepaid corporate income tax	29,556,246.52	42,026,337.76
Others	2,631,748.23	8,302,340.53
Total	984,612,606.76	954,216,216.16

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIV) Debt investment

(1). Information of debt investment

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Shandong Railway Development Fund Co., Ltd. (山東鐵路發展基金有限公司)	273,172,183.50		273,172,183.50	273,172,183.50		273,172,183.50
Total	273,172,183.50		273,172,183.50	273,172,183.50		273,172,183.50

Note: The Company completed its investment in Shandong Railway Development Fund Co., Ltd. on 28 January 2019, with the investment return to be paid by Shandong Development Fund as per 10% off the benchmark interest rate for more-than-5-year loans issued by PBOC (the prevailing interest rate $4.9\% \times 0.9 = 4.41\%$), and the interest was commenced on a phased basis from the date on which such investment capital was received, subject to adjustment according to interest rate of the central bank in the end period. At the end of the tenth anniversary of the date on which the project cooperation is commenced (i.e., 28 January 2029), Shandong Railway Development Fund Co., Ltd. will receive the equity equivalent to the Company's original capital contribution in lump sum. Therefore, the Company mainly holds the investment for the purpose of obtain contractual cash flows, and cash flows generated on specific dates are solely for the payment of the investment principal and interests incurred from the outstanding amount, and they fall into financial assets measured at amortized cost, therefore, the investment is stated as debt investment.

The Company has assessed that its credit risk has not significantly increased since the initial recognition on the balance sheet date, therefore the Company did not make provision for impairment according to the amount equivalent to the ECL for the next 12 months.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIV) Debt investment (Continued)

(2). Significant debt investments at the end of the period

Applicable Not Applicable

(3). Provision for impairment

Applicable Not Applicable

(XV) Other debt investment

(1). Information about other debt investments

Applicable Not applicable

(2). Other significant debt investments at the end of the period

Applicable Not Applicable

(3). Information about provision for impairment

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables

(1) Information about long-term receivables

Applicable Not Applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance			Band for discount rate
	Gross carrying amount	Provision for bad debt	Carrying amount	Gross carrying amount	Provision for bad debt	Carrying amount	
Receivables of "Build-Transfer" project (Note)	180,240,351.88	823,594.48	179,416,757.40	265,179,426.54	1,177,508.91	264,001,917.63	-
Project receivable	6,491,060,102.87	200,598,873.99	6,290,461,228.88	5,818,505,120.67	172,550,771.54	5,645,954,349.13	-
Total	<u>6,671,300,454.75</u>	<u>201,422,468.47</u>	<u>6,469,877,986.28</u>	<u>6,083,684,547.21</u>	<u>173,728,280.45</u>	<u>5,909,956,266.76</u>	/

Note: The Company signed repurchase agreements in relation to municipal engineering investment and construction with the relevant government bodies, under which those bodies authorize companies of the Company undertaking "build-transfer" projects to implement the investment and -financing functions on their behalf to develop municipal projects. Those companies shall, after the completion of the "build-transfer" projects, hand over the projects to such bodies, and then such bodies shall pay the repurchase price within the time limit specified in the repurchase agreement.

(2) Provision for bad debt

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables (Continued)

(2) Provision for bad debt (Continued)

January to June 2023

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Provision for bad debt	173,728,280.45	27,694,188.02	-	-	201,422,468.47
Total	173,728,280.45	27,694,188.02	-	-	201,422,468.47

2022

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Provision for bad debt	13,843,378.88	159,884,901.57	-	-	173,728,280.45
Total	13,843,378.88	159,884,901.57	-	-	173,728,280.45

Description about obvious changes in gross carrying amount of long-term receivables for which loss provision has changed in the period:

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVI) Long-term receivables (Continued)

(2) *Provision for bad debt* (Continued)

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increase significantly:

Applicable Not applicable

The Company evaluated whether or not the credit risk of the said long-term receivables has been significantly increased since the initial recognition on each balance sheet date. If such credit risk has not significantly increased since the initial recognition, the Company made provisions for loss at the amount equivalent to ECL for the next 12 months; and if the credit risk has significantly increased since the initial recognition but no credit impairment has occurred, the Company made provisions for loss at the amount equivalent to the lifetime ECL.

(3) *Long-term receivables derecognised due to the transfer of financial assets*

Applicable Not Applicable

(4) *Amount of assets or liabilities resulting from transfer of long-term receivables and its continuing involvement*

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

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30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Investee	Increase/decrease for the period							Closing balance of provision for impairment
	Opening balance	Increase in investment	Decrease in investment	Investment gains/losses recognized under equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits	
I. Joint ventures								
Wenzhou Hangwen High-Speed Railway Investment Partnership (LLP) (温州恒温高铁投资合伙企业(有限合伙))	76,503,772.49	-	76,503,772.49	-	-	-	-	-
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾堡電氣有限公司)	145,272,671.03	-	-	7,100,000.00	-	-	30,000,000.00	122,372,671.03
CRSC Smart Data Technology (Beijing) Co., Ltd. (睿晉數據科技(北京)有限公司)	13,254,671.05	-	-	1,975,239.56	-	-	-	15,230,110.61
Subtotal	235,031,314.57	-	76,503,772.49	9,075,239.56	-	-	30,000,000.00	137,602,781.64
II. Associates								
CSCEC Foshan Joint Investment Co., Ltd. (佛山中建交通聯合投資有限公司)	12,616,233.38	-	-	-	-	-	-	12,616,233.38
Sping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	224,763,946.36	-	-	-	-	-	-	224,763,946.36
Guangdong Ultrast Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	351,646,087.12	-	-	-	-	-	-	351,646,087.12
CRSC Transhui Tram Co., Ltd. (天水鐵道有軌電車有限公司)	229,523,985.84	-	-	16,644,317.00	-	-	-	246,168,302.84
Siemens Signalling Company Ltd. (西門子信號有限公司)	69,187,626.78	-	-	5,600,000.00	-	-	-	74,787,626.78

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30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVII) Long-term equity investments (Continued)

Investee	Opening balance	Increase/decrease for the period						Closing balance	Closing balance of provision for impairment
		Increase in investment	Decrease in investment	Investment gains/losses recognized under equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits		
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海華矽科技有限公司)	20,200,843.45	-	-	-	-	-	-	20,200,843.45	-
Henan Huazhou Railway Co., Ltd. (河南滑州鐵路有限公司)	149,457,187.20	-	-	-	-	-	-	149,457,187.20	-
Zhuhai Huatong Private Equity Fund Management Enterprise (Limited Partnership) (珠海華通私募基金管理企業(有限合夥))	9,387,875.44	-	-	-1,071,320.33	-	-	-	8,316,555.11	-
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	162,602,636.09	250,000.00	-	23,864,472.50	-	-	-	186,717,108.59	-
Zhejiang Jiactou Intelligent Transportation Technology Co., Ltd. (浙江交投智能交通科技有限公司)	4,847,111.89	-	-	-	-	-	-	4,847,111.89	-
CRSC (Beijing) Electronic Technology Co., Ltd. (德訊(北京)電子科技有限公司)	2,775,454.43	-	-	-396,146.21	-	-	-	2,379,308.22	-
China Tietong Railway Operation Co., Ltd. (中國聯通運營有限公司)	19,652,932.24	-	-	-83,836.13	-	-465,918.80	1,500,000.00	17,603,177.31	-
China Lianou (Shanghai) Data Intelligent Technology Co., Ltd. (中聯歐(上海)數據智能科技有限公司)	6,087,738.79	-	-	-885,692.43	-	-	-	5,202,046.36	-
Tianjin Jinqiu Huilai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	7,229,194.10	4,000,000.00	-	-359,281.00	-	-	-	10,869,913.10	-
Subtotal	1,269,978,853.11	4,250,000.00	-	43,312,513.40	-	-465,918.80	1,500,000.00	1,315,575,447.71	-
Total	1,505,010,167.68	4,250,000.00	76,503,772.49	52,387,752.96	-	-465,918.80	31,500,000.00	1,463,178,229.35	-

Other explanation

- As at 30 June 2023 and 31 December 2022, the ability of investees in which the Company hold long-term equity investments to transfer funds to the Company has not been restricted.
- For the information of joint ventures or associates for the period, please refer to Note "IX. (III)".

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XVIII) Other equity instrument investments

(1). Other equity instrument investments

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Beijing Yawan High Speed Railway Co., Ltd. (北京雅萬高速鐵路有限公司)	485,584,948.00	405,810,000.00
Ganzhou-Shenzhen Railway (Guangdong) Company Limited (贛深鐵路(廣東)有限公司)	100,000,000.00	100,000,000.00
Beijing Rail Transit Operation Control System National Engineering Research Center Co., Ltd. (北京軌道交通運行控制系統國家工程研究中心 有限公司)	2,141,159.20	2,141,159.20
Hunan Maglev Group Co., Ltd. (湖南磁浮集團股份 有限公司)	100,000,000.00	100,000,000.00
Lunan High Speed Railway Co., Ltd. (魯南高速鐵路 有限公司)	369,637,534.00	369,637,534.00
Taizhou-Hangshaotai High-Speed Railway Investment Management Partnership (LLP) (台州杭紹台高鐵投資管理合夥企業(有限合夥))	147,230,466.00	147,230,466.00
Total	<u>1,204,594,107.20</u>	<u>1,124,819,159.20</u>

(2). Information about non-trading equity instrument investments

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XIX) Other non-current financial assets

Applicable Not applicable

(XX) Investment properties

Measurement model for investment properties

(1). Investment properties measured under cost method

Unit: Yuan Currency: RMB

Item	Buildings	Land use rights	Construction in progress	Total
I. Original book value				
1. Opening balance	464,086,233.41	118,614,400.00	–	582,700,633.41
2. Increase during the current period	–	–	–	–
(1) Acquisition	–	–	–	–
(2) Transfer from inventories/ fixed assets/construction in progress	–	–	–	–
(3) Additions due to business combinations	–	–	–	–
3. Decrease during the current period	6,704,292.70	–	–	6,704,292.70
(1) Disposal	–	–	–	–
(2) Other transfer out	6,704,292.70	–	–	6,704,292.70
4. Closing balance	457,381,940.71	118,614,400.00	–	575,996,340.71

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XX) Investment properties (Continued)

(1). Investment properties measured under cost method (Continued)

Item	Buildings	Land use rights	Construction in progress	Total
II. Accumulated depreciation and accumulated amortization				
1. Opening balance	187,513,239.50	34,961,842.08	–	222,475,081.58
2. Increase during the current period	7,867,886.59	1,371,052.03	–	9,238,938.62
(1) Provision or amortization	7,867,886.59	1,371,052.03	–	9,238,938.62
3. Decrease during the current period	268,546.44	–	–	268,546.44
(1) Disposal	–	–	–	–
(2) Other transfer out	268,546.44	–	–	268,546.44
4. Closing balance	195,112,579.65	36,332,894.11	–	231,445,473.76
III. Provision for impairment				
1. Opening balance	–	–	–	–
2. Increase during the current period	–	–	–	–
(1) Provision	–	–	–	–
3. Decrease during the current period	–	–	–	–
(1) Disposal	–	–	–	–
(2) Other transfer out	–	–	–	–
4. Closing balance	–	–	–	–
IV. Carrying amount				
1. Closing carrying amount	262,269,361.06	82,281,505.89	–	344,550,866.95
2. Opening carrying amount	276,572,993.91	83,652,557.92	–	360,225,551.83

Note: Investment properties of the Company are the buildings in Mainland China, and these investment properties were leased to third parties under operating leases.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XX) Investment properties (Continued)

(2). Information about investment properties for which title certificates have not been obtained:

Applicable Not Applicable

Other explanations

Applicable Not Applicable

(XXI) Fixed assets

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Fixed assets	5,182,210,687.89	4,580,968,030.17
Disposal of fixed asset	-	-
Total	<u>5,182,210,687.89</u>	<u>4,580,968,030.17</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

Fixed assets

(1). Information about fixed assets

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Buildings	Machinery equipment	Means of transportation vehicle	Electronic equipment and others	Total
I. Original book value:					
1. Opening balance	4,715,819,652.71	1,356,193,198.39	422,662,236.94	1,555,273,864.65	8,049,948,952.69
2. Increase during the current period	680,966,865.11	42,361,225.90	802,407.90	81,937,465.83	806,067,964.74
(1) Acquisition	481,249.96	34,293,595.22	762,361.50	50,902,012.73	86,439,219.41
(2) Transferred from construction in progress	672,485,094.81	8,067,630.68	–	31,014,298.91	711,567,024.40
(3) Additions due to business combinations	–	–	–	–	–
(4) Others	8,000,520.34	–	40,046.40	21,154.19	8,061,720.93
3. Decrease during the current period	263,350.00	29,785,779.09	1,501,124.05	16,849,947.55	48,400,200.69
(1) Disposal or retirement	263,350.00	29,785,779.09	1,501,124.05	16,849,947.55	48,400,200.69
4. Closing balance	5,396,523,167.82	1,368,768,645.20	421,963,520.79	1,620,361,382.93	8,807,616,716.74
II. Accumulated depreciation					
1. Opening balance	1,175,470,712.82	877,030,270.08	410,238,469.41	1,006,209,352.15	3,468,948,804.46
2. Increase during the current period	64,524,360.51	55,017,787.05	12,563,471.06	57,196,791.75	189,302,410.37
(1) Provision	62,957,157.93	55,017,787.05	12,541,580.88	57,185,218.43	187,701,744.29
(2) Others	1,567,202.58	–	21,890.18	11,573.32	1,600,666.08
3. Decrease during the current period	255,449.50	15,422,297.92	1,250,743.61	15,948,813.01	32,877,304.04
(1) Disposal or retirement	255,449.50	15,422,297.92	1,250,743.61	15,948,813.01	32,877,304.04
4. Closing balance	1,239,739,623.83	916,625,759.21	421,551,196.86	1,047,457,330.89	3,625,373,910.79

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

(1). Information about fixed assets (Continued)

Item	Buildings	Machinery equipment	Means of transportation vehicle	Electronic equipment and others	Total
III. Provision for impairment					
1. Opening balance	-	32,118.06	-	-	32,118.06
2. Increase during the current period	-	-	-	-	-
(1) Provision	-	-	-	-	-
3. Decrease during the current period	-	-	-	-	-
(1) Disposal or retirement	-	-	-	-	-
4. Closing balance	-	32,118.06	-	-	32,118.06
IV. Carrying amount					
1. Closing carrying amount	<u>4,156,783,543.99</u>	<u>452,110,767.93</u>	<u>412,323.93</u>	<u>572,904,052.04</u>	<u>5,182,210,687.89</u>
2. Opening carrying amount	<u>3,540,348,939.89</u>	<u>479,130,810.25</u>	<u>12,423,767.53</u>	<u>549,064,512.50</u>	<u>4,580,968,030.17</u>

- Notes:
- As at 30 June 2023 and 31 December 2022, none of main fixed assets for production and operation of the Company became temporarily idle.
 - As at 30 June 2023 and 31 December 2022, the Company had no fixed assets with title restriction.
 - As of the approval date of this financial statement, the Company was applying for title certificate and handling registration or transfer procedures for houses and buildings with book values totaling RMB1,365,614,260.18 as of 30 June 2023. The management of the Company believed that the Company has the right to legally and effectively occupy and use the above-mentioned houses, and also believed that the above matters will not have any significant adverse impact on the overall financial position of the Company as at 30 June 2023.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXI) Fixed assets (Continued)

(2). Temporarily-idle fixed assets

Applicable Not Applicable

(3). Fixed assets leased under finance leases

Applicable Not Applicable

(4). Fixed assets leased out under operating leases

Applicable Not Applicable

(5). Fixed assets for which title certificates have not been obtained

Applicable Not Applicable

Unit: Yuan Currency: RMB

Item	Carrying amount	Reasons for not obtaining title certificates
Houses and buildings	1,365,614,260.18	In processing
Total	<u>1,365,614,260.18</u>	

Other explanations:

Applicable Not Applicable

Disposal of fixed assets

Applicable Not Applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Construction in progress	233,418,297.46	891,536,403.93
Construction materials	—	—
Total	<u>233,418,297.46</u>	<u>891,536,403.93</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

Construction in progress

(1). Construction in progress

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
CRSC Changsha Industrial Park Project One Center Tower II (壹中心 2 號樓)	28,064,785.88	-	28,064,785.88	26,753,204.70	-	26,753,204.70
Renovation Project	-	-	-	657,621,681.63	-	657,621,681.63
Industrial Project for Deeply Autonomous Train Control System of High-Speed Railway (高速鐵路深度自主化列控系統產業化項目)	25,618,690.00	-	25,618,690.00	24,672,735.10	-	24,672,735.10
The Research on Electromagnetic Environmental Effects of Rail Transportation and Construction of Test Platform	-	-	-	13,474,005.54	-	13,474,005.54
CRSC Electrochemical Science and Technology Mansion (通號電化科創大廈)	93,551,792.71	-	93,551,792.71	85,744,917.80	-	85,744,917.80
Others	86,183,028.87	-	86,183,028.87	83,269,859.16	-	83,269,859.16
Total	<u>233,418,297.46</u>	<u>-</u>	<u>233,418,297.46</u>	<u>891,536,403.93</u>	<u>-</u>	<u>891,536,403.93</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

(2). Changes in important projects under construction for the current period

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Project name	Budget amount	Opening balance	Increase during the period	Transferred into fixed assets during the period	Other decrease during the period	Closing balance	Proportion of project investment to budget (%)	Process of project	Accumulated amount of interest capitalization	Including: interest capitalization amount for the period	Interest capitalization ratio for the period (%)	Source of funds
One Center Tower II (壹中心2號樓) Renovation Project	720,000,000.00	657,621,681.63	24,589,703.52	682,211,385.15	-	-	-	-	-	-	-	Equity fund
CRSC Electrochemical Science and Technology Mansion	600,000,000.00	857,444,917.80	7,806,874.91	-	-	93,551,792.71	15.59	15.59	-	-	-	Equity fund
CRSC Changsha Industrial Park Project	900,000,000.00	267,532,204.70	1,311,581.18	-	-	28,064,785.88	3.12	3.12	-	-	-	Equity fund
Deeply Autonomous Train Control System of High-Speed Railway (高速鐵路深度自主化列控系統產業化項目)	35,230,000.00	24,672,735.10	945,954.90	-	-	25,618,690.00	72.72	72.72	-	-	-	Equity fund
The Research on Electromagnetic Environmental Effects of Rail Transportation and Construction of Test Platform	17,951,750.00	13,474,005.54	2,272,506.23	15,746,511.77	-	-	-	-	-	-	-	Equity fund
Others	-	83,269,859.16	17,363,537.63	13,609,127.48	841,240.44	86,183,028.87	-	-	-	-	-	Equity fund
Total	2,273,181,750.00	891,536,403.93	54,290,158.37	711,567,024.40	841,240.44	233,418,297.46	/	/	-	-	/	/

Notes: (1) As at 30 June 2023 and 31 December 2022, the Company had no construction in progress with title restriction.

(2) As at 30 June 2023 and 31 December 2022, the Company had no construction in progress required to make impairment provision.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXII) Construction in progress (Continued)

(3). Provision for impairment of construction in progress made during the period

Applicable Not Applicable

Other explanations

Applicable Not Applicable

Construction materials

Applicable Not Applicable

(XXIII) Productive biological assets

(1). Productive biological assets measured under cost method

Applicable Not Applicable

(2). Productive biological assets measured at fair value

Applicable Not Applicable

Other explanations

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXIV) Oil and gas assets

Applicable Not applicable

(XXV) Right-of-use assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Buildings	Machinery equipment	Means of transportation vehicles	Total
I. Original book value				
1. Opening balance	433,719,767.54	3,401,363.71	1,054,943.30	438,176,074.55
2. Increase during the current period	19,915,748.83	-	-	19,915,748.83
(1) New leases	19,868,582.42	-	-	19,868,582.42
(2) Revaluation adjustment	-33,487.18	-	-	-33,487.18
(3) Others	80,653.59	-	-	80,653.59
3. Decrease during the current period	3,230,490.37	-	-	3,230,490.37
(1) Disposal	3,230,490.37	-	-	3,230,490.37
(2) Others	-	-	-	-
4. Closing balance	450,405,026.00	3,401,363.71	1,054,943.30	454,861,333.01
II. Accumulated depreciation				
1. Opening balance	263,955,735.70	56,689.40	202,379.05	264,214,804.15
2. Increase during the current period	37,620,304.83	85,034.09	22,902.74	37,728,241.66
(1) Provision	37,579,978.04	85,034.09	22,902.74	37,687,914.87
(2) Others	40,326.79	-	-	40,326.79
3. Decrease during the current period	3,230,490.37	-	-	3,230,490.37
(1) Disposal	3,230,490.37	-	-	3,230,490.37
4. Closing balance	298,345,550.16	141,723.49	225,281.79	298,712,555.44

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXV) Right-of-use assets (Continued)

Item	Buildings	Machinery equipment	Means of transportation vehicles	Total
III. Provision for impairment				
1. Opening balance	-	-	-	-
2. Increase during the current period	-	-	-	-
3. Decrease during the current period	-	-	-	-
4. Closing balance	-	-	-	-
IV. Carrying amount				
1. Closing carrying amount	<u>152,059,475.84</u>	<u>3,259,640.22</u>	<u>829,661.51</u>	<u>156,148,777.57</u>
2. Opening carrying amount	<u>169,764,031.84</u>	<u>3,344,674.31</u>	<u>852,564.25</u>	<u>173,961,270.40</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVI) Intangible assets

(1). Information about intangible assets

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Land use rights	Patent	Software	Unfinished contract	Customer relationships	Total
I. Original book value						
1. Opening balance	2,448,480,404.53	1,038,000,450.03	416,596,349.37	169,921,119.24	244,325,834.78	4,317,324,157.95
2. Increase during the current period	-	27,732,343.80	7,901,206.72	-	-	35,633,550.52
(1) Acquisition	-	117,590.33	6,488,395.40	-	-	6,605,985.73
(2) Internal R&D	-	27,614,753.47	1,412,811.32	-	-	29,027,564.79
3. Decrease during the current period	-	-	-	-	-	-
(1) Disposal	-	-	-	-	-	-
4. Closing balance	2,448,480,404.53	1,065,732,793.83	424,497,556.09	169,921,119.24	244,325,834.78	4,352,957,708.47
II. Accumulated amortization						
1. Opening balance	494,583,481.24	493,684,778.54	378,075,615.59	169,921,119.24	217,311,753.12	1,753,576,747.73
2. Increase during the current period	25,464,779.37	55,634,782.77	18,119,836.91	-	13,507,040.82	112,726,439.87
(1) Provision	25,464,779.37	55,634,782.77	18,119,836.91	-	13,507,040.82	112,726,439.87
3. Decrease during the current period	-	-	-	-	-	-
(1) Disposal	-	-	-	-	-	-
4. Closing balance	520,048,260.61	549,319,561.31	396,195,452.50	169,921,119.24	230,818,793.94	1,866,303,187.60
III. Provision for impairment						
1. Opening balance	-	-	-	-	-	-
2. Increase during the current period	-	-	-	-	-	-
3. Decrease during the current period	-	-	-	-	-	-
4. Closing balance	-	-	-	-	-	-
IV. Carrying amount						
1. Closing carrying amount	<u>1,928,432,143.92</u>	<u>516,413,232.52</u>	<u>28,302,103.59</u>	<u>-</u>	<u>13,507,040.84</u>	<u>2,486,654,520.87</u>
2. Opening carrying amount	<u>1,953,896,923.29</u>	<u>544,315,671.49</u>	<u>38,520,733.78</u>	<u>-</u>	<u>27,014,081.66</u>	<u>2,563,747,410.22</u>

Notes: (1) As at 30 June 2023 and 31 December 2022, the Company had no intangible assets with title restriction.

(2) As at 30 June 2023, the intangible assets derived from internal research and development accounted for 1.17% of the balance of intangible assets (31 December 2022: 4.65%).

(3) As of the approval date of this financial statement, the Company has obtained the title certificates and completed the procedures for registration for the land use rights as at 30 June 2023.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVI) Intangible assets (Continued)

(2). Information about land use rights for which title certificates have not been obtained

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

(XXVII) Development expenditure

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period		Decrease during the period		Closing balance
		Internal development expenditure	Others	Recognised as intangible assets	Transferred to profit or loss for the period	
Development expenditure	188,000,541.82	156,412,866.38	–	29,027,564.79	88,095,546.68	227,290,296.73
Total	<u>188,000,541.82</u>	<u>156,412,866.38</u>	<u>–</u>	<u>29,027,564.79</u>	<u>88,095,546.68</u>	<u>227,290,296.73</u>

Other explanation:

The Company took the project defense as well as evaluation and review of expert team after the establishment of the development projects as the starting point for capitalization, and each R&D project was executed normally according to the progress of R&D milestones.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill

(1). Original carrying amount of goodwill

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of investee or matters resulting in goodwill	Opening balance	Increase during the period Arising from		Decrease during the period		Closing balance
		business combination	Others	Disposal	Others	
CRSC CASCO	201,027,354.70	-	-	-	-	201,027,354.70
Changsha Architectural Design Institute Co., Ltd (長沙市建築設計院有限責任公司) ("Changsha Design Institute")	37,429,932.37	-	-	-	-	37,429,932.37
Zhengzhou Zhongyuan	30,525,980.16	-	-	-	-	30,525,980.16
CRSC (Zhengzhou) Zhong'an Engineering Co., Ltd. (中國鐵路通信信號(鄭州)中安工程有限責任公司) ("Zhengzhou Zhong'an")	27,673,509.65	-	-	-	-	27,673,509.65
CRSC Wanquan Signal Equipment Co., LTD. (通號萬全信號設備有限責任公司) ("CRSC Wanquan")	3,865,524.80	-	-	-	-	3,865,524.80
CRSC First Construction Co., Ltd. (通號建設集團第一工程有限責任公司) ("First Construction")	3,802,223.24	-	-	-	-	3,802,223.24
Shanghai Deuta Electronic & Electrical Equipment Co., Ltd. (上海德意達電子電器設備有限責任公司) ("Shanghai Deuta")	669,345.89	-	-	-	-	669,345.89
Others	330,257.77	-	-	-	-	330,257.77
Total	305,324,128.58	-	-	-	-	305,324,128.58

(2). Provision for impairment of goodwill

Applicable Not Applicable

(3). Information about the asset group or combination of asset groups to which the goodwill belongs

Applicable Not Applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXVIII) Goodwill (Continued)

(4). *Explanation of the process of goodwill impairment test, key parameters (e.g. forecast period growth rate, stable period growth rate, profit rate, discount rate, forecast period, etc. used in estimating present value of future cash flow, if applicable) and the recognition method of goodwill impairment loss*

Applicable Not Applicable

(5). *Impact of goodwill impairment test*

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

(XXIX) Long-term prepaid expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase during the period	Amortization amount for the period	Other decrease	Closing balance
Costs of improvements to fixed assets under operating leases	<u>58,177,965.51</u>	<u>2,283,653.09</u>	<u>13,591,210.22</u>	–	<u>46,870,408.38</u>
Total	<u>58,177,965.51</u>	<u>2,283,653.09</u>	<u>13,591,210.22</u>	–	<u>46,870,408.38</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXX) Deferred tax assets/liabilities

(1). Deferred tax assets not offset

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance		Opening balance	
	Deductible temporary difference	Deferred income tax assets	Deductible temporary difference	Deferred income tax assets
Provision for impairment of assets	1,836,285,183.63	391,880,919.98	1,750,308,264.26	374,068,256.34
Recognition of lease liabilities	161,987,725.57	29,148,020.61	177,874,906.78	32,006,755.02
Unrealized profits in intra-group transactions	64,388,077.44	16,097,019.36	64,388,077.44	16,097,019.36
Deferred income	146,387,502.82	24,480,016.20	121,631,813.87	18,244,772.08
Estimated liabilities	43,374,813.65	6,646,362.44	52,385,422.33	8,014,636.27
Unpaid employee benefits payable	51,002,249.32	9,867,853.43	57,967,291.93	11,371,459.36
Others	68,409,300.52	17,032,075.49	57,598,727.25	14,283,282.07
Total	<u>2,371,834,852.95</u>	<u>495,152,267.51</u>	<u>2,282,154,503.86</u>	<u>474,086,180.50</u>

(2). Deferred tax liabilities not offset

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance		Opening balance	
	Taxable temporary difference	Deferred tax liabilities	Taxable temporary difference	Deferred tax liabilities
Asset valuation appreciation of business combination not under common control	67,278,658.75	14,514,376.60	82,267,000.19	16,946,328.45
Recognition of right-of-use assets	156,148,777.57	24,983,804.41	173,961,270.40	27,833,803.26
Depreciation of fixed assets	95,233,170.87	14,284,975.63	97,379,975.50	14,606,996.33
Floating profit and loss in portion of positions of copper futures	845,900.00	126,885.00	1,147,350.00	172,102.50
Others	80,132,401.34	19,862,934.83	48,046,379.80	12,042,853.87
Total	<u>399,638,908.53</u>	<u>73,772,976.47</u>	<u>402,801,975.89</u>	<u>71,602,084.41</u>

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXX) Deferred tax assets/liabilities (Continued)

(3). Deferred tax assets or liabilities stated on a net basis after offset

Applicable Not Applicable

(4). Breakdown of unrecognised deferred tax assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Deductible temporary difference	8,173,306.53	17,781,950.90
Deductible loss	423,836,657.00	388,763,146.27
Total	432,009,963.53	406,545,097.17

(5). Deductible loss for which no deferred tax assets are recognised will become due in the following years

Applicable Not applicable

Unit: Yuan Currency: RMB

Year	Closing amount	Opening amount	Remarks
2023	29,434,526.41	29,434,526.41	
2024	16,533,026.26	16,533,026.26	
2025	32,961,208.02	32,248,171.52	
2026	38,082,128.57	80,296,496.37	
2027	70,859,005.47	42,440,943.59	
2028	41,513,587.83	23,797,531.72	
2029	39,512,549.27	39,512,549.27	
2030	43,676,154.59	44,389,191.09	
2031	22,767,669.01	19,602,818.29	
2032	39,742,139.19	60,507,891.75	
2033	48,754,662.38	—	
Total	423,836,657.00	388,763,146.27	/

Other explanations:

Applicable Not Applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXI) Other non-current assets

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Gross carrying amount	Provision for impairment	Carrying amount	Gross carrying amount	Provision for impairment	Carrying amount
Project quality deposit	618,076,029.91	3,479,024.21	614,597,005.70	290,595,597.80	4,002,634.26	286,592,963.54
Prepayment for fixed assets	270,194.00	-	270,194.00	335,695.00	-	335,695.00
Construction period/PPP project payment without collection right	5,239,470,114.46	15,278,321.82	5,224,191,792.64	5,742,420,235.72	51,820,012.33	5,690,600,223.39
Others	94,695,088.32	-	94,695,088.32	-	-	-
Total	<u>5,952,511,426.69</u>	<u>18,757,346.03</u>	<u>5,933,754,080.66</u>	<u>6,033,351,528.52</u>	<u>55,822,646.59</u>	<u>5,977,528,881.93</u>

Other explanation:

As at 30 June 2023, the Company's book value of other non-current assets of RMB4,873,429,954.32 and book value of receivables of RMB508,756,709.88 (31 December 2022: other non-current assets of RMB4,728,042,641.60 and receivables of RMB465,060,456.80), which were formed by the earning rights of the franchise pledged and all proceeds thereunder were used to obtain long-term loans of RMB3,310,293,015.96 (31 December 2022: RMB3,464,075,719.17). See Note "VII. (LXXXI)" for details.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXII) Short-term borrowings

(1). Classification of short-term borrowings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Pledged borrowings	307,061,944.34	252,669,967.41
Secured borrowings	—	—
Guaranteed borrowings	—	—
Credit borrowings	2,445,769,345.03	8,500,000.00
Total	2,752,831,289.37	261,169,967.41

Explanation on classification of short-term borrowings:

Notes: 1. As at 30 June 2023, the book value of bank acceptance bills and commercial acceptance bills pledged by the Company were RMB25,836,395.84 and RMB281,225,548.50, respectively, which was used to obtain short-term loans of RMB307,061,944.34. As at 31 December 2022, the book value of bank acceptance bills and commercial acceptance bills pledged by the Company was RMB34,059,394.86 and RMB218,610,572.55, respectively, which was used to obtain short-term loans of RMB252,669,967.41. Please see note “VII. (LXXXI)”.

2. As at 30 June 2023 and 31 December 2022, the Company had no unpaid overdue short-term borrowing balance payable.

(2). Information about overdue but unpaid short-term borrowings

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIII) Financial liabilities held-for-trading

Applicable Not applicable

(XXXIV) Derivative financial liabilities

Applicable Not applicable

(XXXV) Bills payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Type	Closing balance	Opening balance
Commercial acceptance bills	619,757,083.72	1,477,540,520.22
Bank acceptance bills	627,442,791.88	782,613,750.58
Total	<u>1,247,199,875.60</u>	<u>2,260,154,270.80</u>

Total overdue but unpaid bills payable as at the end of the period amounted to RMB0.00.

(XXXVI) Accounts payable

(1). Accounts payable by aging on recording dates

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Within 1 year	30,213,339,463.53	32,360,518,932.24
1 to 2 years	10,785,951,695.59	9,728,128,194.22
2 to 3 years	4,350,180,432.54	4,125,561,674.48
Over 3 years	3,999,317,631.94	3,673,911,102.79
Total	<u>49,348,789,223.60</u>	<u>49,888,119,903.73</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXVI) Accounts payable (Continued)

(2). Major accounts payable aged over 1 year

Applicable Not applicable

As at 30 June 2023, the total of the top five accounts payable aged over one year amounted to RMB837,488,866.97.

As at 31 December 2022, the total of the top five accounts payable aged over one year amounted to RMB578,745,897.94.

Other explanation:

Applicable Not applicable

(XXXVII) Receipts in advance

(1). Breakdown of advance receipts

Applicable Not applicable

(2). Major advance receipts aged over one year

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXVIII) Contract liabilities

(1). Information about contract liabilities

Applicable Not Applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Advance receipts	2,842,147,557.97	2,607,444,876.57
Incomplete project, settled	4,775,945,999.42	5,097,276,345.68
Total	7,618,093,557.39	7,704,721,222.25

(2). Amount of and reason for significant change in carrying amount within the Reporting Period

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Change in amount	Reasons for change
Advance receipts	234,702,681.40	Differences between the progress of collection and the progress of revenue recognition
Incomplete project, settled	-321,330,346.26	Differences between the progress of collection and the progress of revenue recognition
Total	-86,627,664.86	/

Other explanation:

Applicable Not applicable

The contract liabilities of RMB2,897,538,116.73 included in the carrying amount as at 31 December 2022 have been transferred to revenue in 2023.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable

(1). Breakdown of employee benefits payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
I. Short-term benefits	613,320,665.31	1,924,242,436.17	1,860,644,092.72	676,919,008.76
II. Post-employment benefits (defined contribution plan)	37,455,153.62	329,267,574.37	338,345,119.58	28,377,608.41
III. Dismissal benefits	-	-	-	-
IV. Other benefits due within one year	39,845,000.00	-	17,660,000.00	22,185,000.00
Total	<u>690,620,818.93</u>	<u>2,253,510,010.54</u>	<u>2,216,649,212.30</u>	<u>727,481,617.17</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XXXIX) Employee benefits payable (Continued)

(2). Breakdown of short-term benefits

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
I. Wages, bonuses, allowances and subsidies	71,453,999.93	1,345,992,200.29	1,268,289,069.26	149,157,130.96
II. Employee welfare benefits	312,825,764.84	89,887,471.12	90,450,431.69	312,262,804.27
III. Social insurance premiums	62,460,111.64	159,819,117.36	176,760,234.01	45,518,994.99
Including: Medical insurance premiums	61,364,245.95	151,711,499.33	168,547,903.79	44,527,841.49
Industrial injury insurance premiums	679,876.76	8,107,618.03	8,212,330.22	575,164.57
Maternity insurance premiums	415,988.93	–	–	415,988.93
IV. Housing provident fund	2,800,628.76	180,508,508.47	181,110,666.51	2,198,470.72
V. Labor union funds and staff education funds	163,107,546.13	39,205,254.86	35,005,512.38	167,307,288.61
VI. Short-term paid absence	–	–	–	–
VII. Short-term profits share plan	–	–	–	–
VIII. Others	672,614.01	108,829,884.07	109,028,178.87	474,319.21
Total	613,320,665.31	1,924,242,436.17	1,860,644,092.72	676,919,008.76

(3). Breakdown of defined contribution plan

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
1. Basic pension insurance	23,904,261.66	249,895,532.08	256,642,990.59	17,156,803.15
2. Unemployment insurance	297,946.38	8,458,655.51	8,059,108.03	697,493.86
3. Enterprise annuity payment	13,252,945.58	70,913,386.78	73,643,020.96	10,523,311.40
Total	37,455,153.62	329,267,574.37	338,345,119.58	28,377,608.41

Other explanations:

Applicable Not Applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XL) Taxes payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Value-added tax	409,008,617.58	512,832,538.35
Enterprise income tax	252,354,370.12	247,583,704.01
Individual income tax	5,416,722.08	102,337,644.72
Urban maintenance and construction tax	10,447,935.69	16,826,734.30
Property tax	2,212,017.46	2,776,384.16
Educational surcharge	7,883,710.77	12,599,319.35
Land use tax	1,281,828.18	1,206,864.00
Others	1,377,692.56	3,739,679.91
Total	<u>689,982,894.44</u>	<u>899,902,868.80</u>

(XLI) Other payables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interest payable	—	—
Dividends payable	1,924,699,344.42	118,347,201.50
Other payables	1,521,204,037.35	1,366,728,778.59
Total	<u>3,445,903,381.77</u>	<u>1,485,075,980.09</u>

Interest payable

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLI) Other payables (Continued)

Dividends payable

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Dividends of ordinary shares	1,800,269,230.00	—
China Railway Zhengzhou Group Co., Ltd.	117,216,300.00	117,216,300.00
DEUTA GROUP GmbH	6,033,473.82	142,749.50
Guangzhou Development District Communication Investment Group Co., Ltd. (廣州開發區交通投資集團有限公司)	324,247.22	—
Dekun (Guangzhou) Rail Transit Research Institute Co., Ltd. (德坤(廣州)軌道交通研究院有限公司)	259,397.78	—
Comba Telecom Systems (Guangzhou) LTD. (京信通信系統(廣州)有限公司)	237,781.29	—
Beijing Zhongke Luda Engineering Technology Co., Ltd. (北京中科路達工程技術有限公司)	216,164.81	—
Hangzhou Tianyue Win-Win Corporate Management Partnership (Limited Partnership) (杭州天悅共贏企業管理合夥企業(有限合夥))	142,749.50	142,749.50
Eltek AS	—	529,872.00
Zenitel Norway AS	—	458,280.00
Total	1,924,699,344.42	118,347,201.50

Other payables

(1). Breakdown of other payables by nature

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Deposits and margins	602,345,394.22	746,181,270.86
Current payments	338,543,807.25	294,065,046.01
Acquisition of fixed assets	87,590,519.00	137,087,512.54
Public facility maintenance funds	15,720,019.12	18,663,526.25
Other	477,004,297.76	170,731,422.93
Total	1,521,204,037.35	1,366,728,778.59

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLI) Other payables (Continued)

Other payables (Continued)

(2). Major other payables aged over 1 year

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Reason for unsettlement or carrying forward
Aggregate top five other payables aged over one year	98,588,197.71	Current payments, unsettled
Total	98,588,197.71	/

(3). Breakdown by aging

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Within 1 year	1,155,830,667.30	848,872,303.09
1-2 years	122,259,866.11	344,376,071.63
2-3 years	95,172,317.22	78,139,763.23
Over 3 years	147,941,186.72	95,340,640.64
Total	1,521,204,037.35	1,366,728,778.59

Other explanation:

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLII) Liabilities held for sale

Applicable Not applicable

(XLIII) Non-current liabilities due within one year

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Long-term borrowings due within one year	370,919,092.80	1,145,289,546.40
Long-term payables due within one year	25,331,458.95	32,003,740.26
Lease liabilities due within one year	67,309,521.86	59,801,371.37
Total	463,560,073.61	1,237,094,658.03

(XLIV) Other current liabilities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Estimated liabilities	17,014,491.34	23,673,452.22
Output VAT to be transferred	726,674,126.61	791,848,155.22
Total	743,688,617.95	815,521,607.44

Increase or decrease in short-term bonds payable:

Applicable Not applicable

Other explanation:

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLV) Long-term borrowings

(1). Classification of long-term borrowings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Balance	3,437,293,015.96	4,436,075,719.17
Pledged borrowings	3,310,293,015.96	3,464,075,719.17
Secured borrowings	—	—
Guaranteed borrowings	—	—
Credit borrowings	127,000,000.00	972,000,000.00
Less: Long-term borrowings due within one year	-370,919,092.80	-1,145,289,546.40
Total	<u>3,066,373,923.16</u>	<u>3,290,786,172.77</u>

Description of long-term borrowing classification:

- (1) As at 30 June 2023, the Company's book value of other non-current assets of RMB4,873,429,954.32 and book value of accounts receivable of RMB508,756,709.88 (31 December 2022: other non-current assets of RMB4,728,042,641.60, and accounts receivable of RMB465,060,456.80) derived from the pledged income right in and to the franchise and all proceeds thereunder were used to obtain long term loans of RMB3,310,293,015.96 (31 December 2022: RMB3,464,075,719.17), including the amounts due within one year of RMB370,919,092.80.
- (2) As at 30 June 2023, the Company's credit borrowings amounted to RMB127,000,000.00 was the credit borrowings from the Bank of Chengdu were guaranteed by the Company's third-tier subsidiary First Construction for its subsidiary Yibin Tonghao Hongshun Project Management Co., Ltd.
- (3) For the details of long-term borrowings due within one year, please see Note "VII. (XLIII)".
- (4) As at 30 June 2023, the long-term borrowing balance due within one to two years was RMB0.00, the long-term borrowing balance due within two to five years was RMB193,000,000.00, and the long-term borrowing balance due over five years was RMB2,873,373,923.16. (As at 31 December 2022, the long-term borrowing balance due within one to two years was RMB24,000,000.00, the long-term borrowing balance due within two to five years was RMB442,947,076.77, and the long-term borrowing balance due over five years was RMB2,823,839,096.00).

Other explanation (including the range of interest rate):

Applicable Not applicable

The above borrowings are bank borrowings made with variable annual interest rates ranging from 4.14% to 5.39% (31 December 2022: 2.90% to 5.39%).

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVI) Bonds payable

(1). Bonds payable

Applicable Not Applicable

(2). Increase or decrease in bonds payable (excluding preferred shares, perpetual bonds and other financial instruments classified as financial liabilities)

Applicable Not Applicable

(3). Explanation about the conditions and timing of conversion of convertible corporate bonds

Applicable Not Applicable

(4). Explanation about other financial instruments classified as financial liabilities

Basic information on preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not Applicable

Statement on changes in preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not Applicable

Explanation about basis for classifying other financial instruments as financial liabilities

Applicable Not Applicable

Other explanations:

Applicable Not Applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVII) Lease liabilities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Lease liabilities	161,987,725.57	177,874,906.78
Less: Reclassified as non-current liabilities due within one year	67,309,521.86	59,801,371.37
Lease liabilities, net	<u>94,678,203.71</u>	<u>118,073,535.41</u>

The book value of lease liabilities and its changes for the year are as follows:

	Amount for the current period	Amount for the last period
Opening balance for the year	176,386,110.19	162,800,666.72
Increase for the period	19,291,967.28	10,561,287.66
Interest expense	3,842,276.04	7,494,018.98
Decrease for the period – modification of lease	119,320.76	-1,781,421.54
Decrease for the period – lease payments	-37,651,948.70	-33,555,088.59
Closing balance for the period	<u>161,987,725.57</u>	<u>145,519,463.23</u>

For the details of lease liabilities due within one year, please see Note “VII. (XLIII)”.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLVIII) Long-term payables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Long-term payables	78,764,383.16	58,629,829.67
Special payables	—	—
Total	<u>78,764,383.16</u>	<u>58,629,829.67</u>

Other explanation:

For the details of long-term payables due within one year, please see Note “VII. (XLIII)”.

Long-term payables

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Construction quality guarantee deposits	104,095,842.11	90,633,569.93
Less: Long-term payables due within one year	<u>25,331,458.95</u>	<u>32,003,740.26</u>
Total	<u>78,764,383.16</u>	<u>58,629,829.67</u>

Special payables

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable

Applicable Not applicable

(1) Statement on long-term employee remunerations payable

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
I. Post-employment benefits (net liabilities under defined benefit plans)	535,580,000.00	529,374,000.00
II. Dismissal benefits	12,883,000.00	14,078,000.00
III. Other long-term benefits	—	—
Less: Remunerations payable within one year	-22,185,000.00	-39,845,000.00
Total	<u>526,278,000.00</u>	<u>503,607,000.00</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

(2) Changes in defined benefit plans

Present value of obligations under defined benefit plans:

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
I. Opening balance	543,452,000.00	575,544,000.00
II. The defined benefit cost included in the current profit and loss	7,924,000.00	11,801,000.00
1. Current service costs	–	–
2. Past service costs	–	-1,854,000.00
3. Settlement gains (losses indicated by “-”)	97,000.00	-2,859,000.00
4. Net interests	7,827,000.00	16,514,000.00
III. The defined benefits cost included in other comprehensive income	14,747,000.00	-1,565,000.00
1. Actuarial gains (losses indicated by “-”)	14,747,000.00	-1,565,000.00
2. Others	–	–
IV. Other changes	-17,660,000.00	-42,328,000.00
1. Consideration paid at settlement	–	–
2. Benefits paid	-17,660,000.00	-42,328,000.00
3. Others	–	–
V. Closing balance	<u>548,463,000.00</u>	<u>543,452,000.00</u>

Plan assets:

Applicable Not applicable

Net liabilities (net assets) under defined benefit plans

Applicable Not applicable

Explanation about impacts of the details of the defined benefit plan and its associated risks on the Company's future cash flow, timing, and uncertainty:

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

(2) *Changes in defined benefit plans* (Continued)

The Company pays supplementary retirement benefits for its employees in Mainland China who retired on and before 31 December 2012 in addition to the contributions made to statutory insurance plans. Such supplementary retirement benefits are defined benefit plans. These plans include monthly pension benefits, medical reimbursement benefits, annual medical insurance premiums, and funeral benefits for employees who are retired. The Company's obligations in respect of supplementary retirement benefits are determined by estimating the amount of obligations that the Company is committed to paying to the employees after their retirement using actuarial techniques. The amount of the subsidy is determined based on the period during which the employee serves the Company and the relevant subsidy and welfare policy.

Some employees of the Company have gone through internal retirement. The internal retirement payables are accrued in the relevant legal entities within the Company during the period in which the Company has entered into relevant agreements/documents with relevant employees or informing individual employees of the specific internal retirement terms.

The specific terms of internal retirement vary depending on factors such as the position of the relevant employee, length of service and the region of service.

The plan is subject to interest rate risk, risk of changes in life expectancy of pension beneficiaries, and stock market risks.

Such supplementary retirement benefits are discounted with the discount rate which determined by referring to the yield rate of the PRC treasury bonds with the maturity date similar to the period of the obligations assumed by the Company at the end of the Reporting Period. The service cost and net interest income and expenditures from the supplementary retirement benefits are recorded in the profit or loss for the current period when incurred, while the changes in liabilities from the remeasurement of supplementary retirement benefits are recorded in other comprehensive income.

No planned asset has been established for the defined benefit plan by the Company as at 30 June 2023 and 31 December 2022.

The actuarial method and key assumption adopted for the calculation of the Company's supplementary retirement benefits and internal retirement payables in each year/period are as follows:

Name of the independent actuary: Towers Watson Consulting (Shenzhen) Co., Ltd. (韬睿惠悦管理諮詢(深圳)有限公司), Wu Haichuan;

Qualifications: Member of the Society of Actuaries, member of the American Academy of Actuaries, fellow of China Association of Actuaries and Chartered Enterprise Risk Analyst;

Actuarial method: The Company has adopted expected accumulated benefit unit method in its annual actuarial valuation, and the rolling method in its interim actuarial valuation;

Key assumption: The annual growth rate of average medical costs, the annual growth rate of unreimbursed funeral costs, the annual growth rate of supplementary pension benefits for retired personnel, the annual growth rate of testament grant benefits, the annual growth rate of benefits for internal retired personnel and the death rate remain unchanged.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(XLIX) Long-term employee benefits payable (Continued)

(2) *Changes in defined benefit plans* (Continued)

The following table shows the main actuarial assumptions used on the balance sheet date:

Item	30 June 2023	31 December 2022
Discount rate	3.00%	3.00%
Mortality rate	Average mortality rate of residents in Mainland China	Average mortality rate of residents in Mainland China
Average life expectancy	16	16
Annual growth rate of average medical expenses	8.00%	8.00%
Growth rate of supplementary pension benefits for retired personnel	3.00%	3.00%
Annual growth rate of benefits for internal retired personnel	4.50%	4.50%

Explanation on the material actuarial assumptions and sensitivity analysis results of defined benefit plans

Applicable Not applicable

Other explanations:

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(L) Estimated liabilities

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Opening Balance	Closing balance	Cause of formation
Product quality guarantee	42,272,884.54	33,262,275.86	/
Pending onerous contracts	10,112,537.79	10,112,537.79	/
Less: Estimated liabilities due within one year	23,673,452.22	17,014,491.34	/
Total	28,711,970.11	26,360,322.31	/

Unit: Yuan Currency: RMB

	January to June 2023	January to June 2023	January to June 2023
	Product quality guarantee deposits (note)	Pending onerous contracts and others	Total
Opening balance for the year	42,272,884.54	10,112,537.79	52,385,422.33
Increase for the year	12,128,286.78	–	12,128,286.78
Reversal for the year	3,432,370.12	–	3,432,370.12
Use for the year	17,706,525.34	–	17,706,525.34
Closing balance for the year	33,262,275.86	10,112,537.79	43,374,813.65
Including: estimated liabilities due within one year	17,014,491.34	–	17,014,491.34
	16,247,784.52	10,112,537.79	43,374,813.65

Other explanations, including significant assumptions and estimates related to significant estimated liabilities:

The Company estimates the quality guarantee deposits according to the sales revenue and the estimated warranty rate taking into account the different stages of the product life cycle of different products. The estimated rate of warranty occurrence is based on the historical experience data of the actual occurrence of warranty for the same type of products, and may be estimated according to significant changes due to the different stages of product life cycle of different products and similar products. As at the balance sheet date, the quality guarantee deposits that the Company expects to incur in the future under the above method shall be included into the profit or loss for the period.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LI) Deferred income

Deferred income situation

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Government grants related to assets	68,208,015.18	377,358.49	942,139.34	67,643,234.33
Government grants related to income	146,809,578.28	8,757,861.62	51,128,029.82	104,439,410.08
Total	<u>215,017,593.46</u>	<u>9,135,220.11</u>	<u>52,070,169.16</u>	<u>172,082,644.41</u>

Other explanation:

Applicable Not applicable

(LII) Other non-current liabilities

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIII) Share capital

Applicable Not applicable

Unit: Yuan Currency: RMB

	Opening balance	Issue new shares	Changes for the period (+,-)			Subtotal	Closing balance
			Bonus share	Reserve fund transferred into shares	Others		
Total number of shares	<u>10,589,819,000.00</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>10,589,819,000.00</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIV) Other equity instruments

(1) Basic information on preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

As at 30 June 2023, the details of the Company's outstanding perpetual bonds are as follows:

Outstanding financial instruments	Issue date	Accounting classification	Dividend rate or interest rate	Issue price	Number	Amount	Expiry date or renewal status	Condition of conversion	Transformation status
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	15 December 2021	Perpetual bonds	3.32%	100.00	28,000,000.00	2,800,000,000.00	Unexpired	None	No
Total				<u>100.00</u>	<u>28,000,000.00</u>	<u>2,800,000,000.00</u>			

As at 31 December 2022, the details of the Company's outstanding perpetual bonds are as follows:

Outstanding financial instruments	Issue date	Accounting classification	Dividend rate or interest rate	Issue price	Number	Amount	Expiry date or renewal status	Condition of conversion	Transformation status
2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited	15 December 2021	Perpetual bonds	3.32%	100.00	28,000,000.00	2,800,000,000.00	Unexpired	None	No
Total				<u>100.00</u>	<u>28,000,000.00</u>	<u>2,800,000,000.00</u>			

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30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LIV) Other equity instruments (Continued)

(2) Statement on changes in preferred shares, perpetual bonds and other financial instruments that are outstanding at the end of the period

Applicable Not applicable

Unit: Yuan Currency: RMB

Outstanding financial instruments	Beginning of the period		Increase for the period		Decrease for the period		End of the period	
	Number	Carrying amount	Number	Carrying amount	Number	Carrying amount	Number	Carrying amount
Perpetual bonds	28,000,000	2,796,935,660.38	-	-	-	-	28,000,000	2,796,935,660.38
Total	28,000,000	2,796,935,660.38	-	-	-	-	28,000,000	2,796,935,660.38

Changes (increase or decrease) during the period, reasons for such changes and basis for relevant accounting treatment of other equity instruments:

Applicable Not applicable

Other explanations:

Applicable Not applicable

The Company issued 2021 First Tranche of Medium-term Notes of China Railway Signal & Communication Corporation Limited in the amount of RMB2,800,000,000.00 on 15 December 2021. The net proceeds raised after deducting the underwriting expenses of RMB3,064,339.62 for the Medium-term Notes was RMB2,796,935,660.38. The Company recorded the Medium-term Notes with its net proceeds from the issuance net off underwriting expenses and included in other equity instruments. The initial investment period is 3 years, and the interest rate of the initial investment period is fixed at 3.32%. The Company has the right to choose to defer the interest payment. After the expiration, the Company has the right to choose renewal; the reset rate during the renewal period jumped 300 basis points based on the annual interest rate applicable to the previous investment period.

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LV) Capital reserve

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Capital premium (share capital premium)	15,538,873,267.94	-	-	15,538,873,267.94
Fiscal appropriation	8,670,000.00	-	-	8,670,000.00
Acquisition of minority interest of subsidiaries	9,240,638.86	-	-	9,240,638.86
Adjustment on long-term equity under interest method	620,651.14	-	465,918.80	154,732.34
Other capital reserve	406,663,539.95	-	-	406,663,539.95
Total	15,964,068,097.89	-	465,918.80	15,963,602,179.09

(LVI) Treasury stocks

Applicable Not applicable

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30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LVII) Other comprehensive income

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Amount for the period						Closing balance
		Amounts before income tax during the period	Less: Amount transferred to profit or loss from other comprehensive income	Less: Amount transferred to retained earnings from other comprehensive income	Less: Income tax expenses	Amount attributable to the parent company after tax	Amount attributable to the minority shareholders after tax	
I. Other comprehensive income not reclassified into profit or loss	-206,656,000.00	-14,747,000.00	-	-	-	-14,747,000.00	-	-221,403,000.00
Including: Changes of the re-measurement of defined benefit plan	-206,656,000.00	-14,747,000.00	-	-	-	-14,747,000.00	-	-221,403,000.00
II. Other comprehensive income reclassified to profit or loss	7,811,522.58	1,958,209.17	17,965.52	-	-	1,309,996.08	630,247.57	9,121,518.66
Including: Other comprehensive income that may be transferred to profit or loss under equity method	-	-	-	-	-	-	-	-
Changes in fair value of receivables financing	3,574,845.91	828,594.34	17,965.52	-	-	180,381.25	630,247.57	3,755,227.16
Hedging reserve arising from cash flows	3,344,198.46	-100,698.92	-	-	-	-100,698.92	-	3,243,499.54
Differences on translation of foreign currency financial statements	892,478.21	1,230,313.75	-	-	-	1,230,313.75	-	2,122,791.96
Total other comprehensive income	<u>-198,844,477.42</u>	<u>-12,788,790.83</u>	<u>17,965.52</u>	<u>-</u>	<u>-</u>	<u>-13,437,003.92</u>	<u>630,247.57</u>	<u>-212,281,481.34</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LVIII) Special reserve

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Safety production expenses	343,494,199.17	78,493,719.57	147,527,949.15	274,459,969.59
Total	<u>343,494,199.17</u>	<u>78,493,719.57</u>	<u>147,527,949.15</u>	<u>274,459,969.59</u>

(LIX) Surplus reserve

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Opening balance	Increase for the period	Decrease for the period	Closing balance
Statutory surplus reserve	2,042,968,810.17	4,272.90	-	2,042,973,083.07
Total	<u>2,042,968,810.17</u>	<u>4,272.90</u>	<u>-</u>	<u>2,042,973,083.07</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LX) Retained earnings

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Current period	Last period
Retained earnings at the end of last period before adjustment	13,785,475,907.76	12,308,220,568.86
Total amount of retained earnings at the beginning of the adjustment period (increase +, decrease -)	—	—
Retained earnings at the beginning of the period after adjustment	13,785,475,907.76	12,308,220,568.86
Add: Net profits attributable to owners of the parent during the current period	1,823,846,746.52	3,633,640,258.62
Less: Appropriation to statutory surplus reserve	4,272.90	231,644,115.72
Appropriation to discretionary surplus reserve	—	—
Accrual of general risk reserves	—	—
Dividend payables of ordinary shares	1,800,269,230.00	1,800,269,230.00
Dividend of ordinary shares converted into share capital	—	—
Dividends paid to other equity holders	—	92,960,000.00
Appropriation to employee reward and welfare fund	—	31,511,574.00
Retained earnings at the end of the period	13,809,049,151.38	13,785,475,907.76

Note: In accordance with the resolution at the 2022 annual general meeting of Company, on 9 June 2023, the Company declared dividends for the remaining distributable profits as of 31 December 2022, and distributed cash dividend of RMB0.17 per share (including tax), with total amount of RMB1,800,269,230.00.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales

(1). Revenue and costs of sales

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period		Amount for the last period	
	Revenue	Cost	Revenue	Cost
Principal operations	16,462,750,065.90	12,421,450,751.31	18,242,674,883.36	14,025,194,148.14
Other operations	170,260,134.07	60,706,613.51	140,687,554.39	95,302,083.06
Total	<u>16,633,010,199.97</u>	<u>12,482,157,364.82</u>	<u>18,383,362,437.75</u>	<u>14,120,496,231.20</u>

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

(1). Revenue and costs of sales (Continued)

Revenue is presented as follows:

	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Rail transportation control system	13,450,058,390.29	13,863,975,446.96
Equipment manufacturing	2,472,735,477.33	2,225,462,595.49
System implementation	5,469,658,375.93	7,083,849,049.27
Design and integration	5,507,664,537.03	4,554,663,802.20
Construction contracting	3,134,631,115.38	4,488,978,810.16
Others	48,320,694.30	30,408,180.63
Total	<u>16,633,010,199.97</u>	<u>18,383,362,437.75</u>

Cost of sales is listed as follows:

	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Rail transportation control system	9,669,752,586.98	10,201,993,683.75
Equipment manufacturing	1,600,845,802.86	1,318,919,565.28
System implementation	4,693,896,025.85	6,366,237,689.41
Design and integration	3,375,010,758.27	2,516,836,429.06
Construction contracting	2,791,452,207.32	3,902,382,442.13
Others	20,952,570.52	16,120,105.32
Total	<u>12,482,157,364.82</u>	<u>14,120,496,231.20</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

(2). Revenue generated from contracts

Applicable Not applicable

Unit: Yuan Currency: RMB

Classification of contract	Rail transportation control system	Construction contracting	Others	Total
By region of operation				
China	12,863,331,940.64	3,134,631,115.38	48,320,694.30	16,046,283,750.32
Other countries and regions	586,726,449.65	-	-	586,726,449.65
Total	<u>13,450,058,390.29</u>	<u>3,134,631,115.38</u>	<u>48,320,694.30</u>	<u>16,633,010,199.97</u>

(3). Details of performance obligation

Applicable Not applicable

The revenue recognised in the current year and included in the book value of contract liabilities at the beginning of the year is as follows:

	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Rail transportation control system	2,416,831,726.94	2,883,060,725.89
Equipment manufacturing	67,388,302.08	1,225,289,094.37
System implementation	877,389,768.04	658,045,291.52
Design and integration	1,472,053,656.82	999,726,340.00
Construction contracting	475,336,975.33	277,885,949.18
Others	5,369,414.46	-
	<u>2,897,538,116.73</u>	<u>3,160,946,675.07</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXI) Revenue and costs of sales (Continued)

(4). *Explanation about allocation to the remaining performance obligations*

Applicable Not applicable

Typically, the construction contracts or service rendering contracts provided by the Company as a whole constitutes a single performance obligation and is a performance obligation performed within a certain period of time. As of 30 June 2023, some of the Group's construction contracts or service rendering contract are still in the process of performance. The transaction price allocated to the outstanding (or partially outstanding) performance obligations is related to the performance progress of the corresponding construction contract or service rendering contract, and will be recognized as revenue on the basis of the performance progress in the future performance period of the corresponding construction contract or service rendering contract.

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXII) Taxes and surcharges

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Urban maintenance and construction tax	27,813,986.62	35,117,537.98
Educational surcharge	21,192,897.73	26,039,109.36
Property tax	32,034,169.49	30,557,013.40
Land use tax	6,458,242.40	5,475,544.10
Stamp duty	17,948,219.37	14,704,777.23
Others	1,473,544.43	1,691,892.76
Total	<u>106,921,060.04</u>	<u>113,585,874.83</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXIII) Selling and distribution expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Employee benefits	196,024,281.85	202,591,297.16
Sales service expenses	103,561,095.15	63,858,653.61
Transportation expenses	1,265,979.61	3,288,256.34
Tendering expenses	22,294,046.67	15,651,441.59
Quality guarantee deposits	8,136,510.11	13,332,261.42
Rental expenses	10,224,566.09	4,395,515.09
Others	1,534,689.23	8,119,925.75
Total	<u>343,041,168.71</u>	<u>311,237,350.96</u>

(LXIV) General and administrative expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Employee benefits	570,432,092.33	536,507,962.96
Depreciation and amortization expenses	124,452,557.44	127,913,599.67
Production safety expenses	93,389,205.28	107,291,786.60
Office and rental expenses	72,709,048.52	49,153,155.08
Travel costs and business entertainment expenses	29,204,518.73	14,915,924.82
Others	80,038,234.44	119,612,947.73
Total	<u>970,225,656.74</u>	<u>955,395,376.86</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXV) Research and development expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Labor expenses	461,302,723.11	438,995,774.54
Materials expenses	57,202,498.67	44,569,842.56
Depreciation and amortization expenses	47,012,470.87	49,331,693.61
Testing and processing expenses	43,791,986.88	21,879,222.46
General and administrative expenses	22,869,288.11	19,546,582.02
Travel costs	13,817,692.91	11,292,841.14
Others	2,676,623.21	62,958,709.43
Total	<u>648,673,283.76</u>	<u>648,574,665.76</u>

(LXVI) Finance costs

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Interest expense	45,916,542.28	37,441,870.02
Less: interest income	212,567,569.60	201,603,681.72
Exchange losses/(gains)	1,045,558.55	-47,602,671.83
Financial institutions commissions	22,220,968.57	23,999,804.65
Others	71,264.70	-20,000.00
Total	<u>-143,313,235.50</u>	<u>-187,784,678.88</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVII) Other income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Government grants	226,682,033.15	248,526,114.08
Additional deduction of input tax	223,419.01	—
Withholding of personal income tax fees	1,916,567.50	—
VAT directly exempted	—	—
Total	<u>228,822,019.66</u>	<u>248,526,114.08</u>

Government grants credited to other income:

Item	Amount for the current period	Amount for the last period
Government grants related to assets	106,773.50	518,417.37
Other grants	106,773.50	518,417.37
Government grants related to income	226,575,259.65	266,651,192.38
Refund of taxes	118,691,385.62	94,423,392.64
Other grants	107,883,874.03	153,584,304.07
Total	<u>226,682,033.15</u>	<u>248,526,114.08</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXVIII) Investment income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Income from long-term equity investments under the equity method	52,387,752.96	60,657,924.10
Investment income from disposal of long-term equity investments	13,796,227.51	—
Investment income of financial assets held for trading during the holding period	—	—
Dividend income generated from other equity instrument investments during the holding period	—	—
Interest income from debt investment during the holding period	4,551,081.06	—
Interest income from other debt investment during the holding period	—	—
Investment income from disposal of financial assets held for trading	—	—
Investment income from disposal of investment in other equity instruments	—	—
Investment income from disposal of other debt investment	-499,663.79	—
Income/(loss) from futures transactions	-559,396.94	-274,150.00
Income on debt restructuring	—	11,320,931.24
Total	69,676,000.80	71,704,705.34

(LXIX) Gains on net exposure hedges

Applicable Not applicable

(LXX) Gains on changes in fair value

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXI) Credit impairment losses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Losses from bad debts of bills receivable	-1,882,348.97	—
Losses from bad debts of accounts receivable	77,777,923.92	104,839,694.90
Losses from bad debts of other receivables	6,617,472.38	-2,811,201.43
Impairment losses on debt investment	—	—
Impairment losses on other debt investment	—	—
Losses from bad debts of long-term receivables	27,694,188.02	5,184,889.65
Impairment losses on contract assets	—	—
Impairment losses on receivables financing	810,628.82	-2,288,269.36
Reversal/(losses) from bad debts of other non-current assets	-37,065,300.56	-593,724.64
Losses from bad debts of non-current assets due within one year	75,911.09	454,539.40
Total	74,028,474.70	104,785,928.52

(LXXII) Asset impairment losses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Losses from bad debts	—	—
Losses from decline in value of inventories and impairment losses on contract performance cost	-460.00	-5,649.96
Impairment losses on long-term equity investments	—	—
Impairment losses on investment properties	—	—
Impairment losses on fixed assets	—	—
Impairment losses on construction materials	—	—
Impairment losses on construction in progress	—	—
Impairment losses on productive biological assets	—	—
Impairment losses on oil and gas assets	—	—
Impairment losses on intangible assets	—	—
Impairment losses on goodwill	—	—
Contract asset impairment (losses)/reversal	1,396,639.00	4,587,260.93
Others	—	—
Total	1,396,179.00	4,581,610.97

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIII) Gains on disposal of assets

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Gains on disposal of fixed assets	230,700.77	-871,034.53
Gains on disposal of intangible assets	—	27,651,751.20
Total	<u>230,700.77</u>	<u>26,780,716.67</u>

Other explanations:

Applicable Not applicable

(LXXIV) Non-operating income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period	Amount included in current non-recurring profit or loss
Total gains on disposal of non-current assets	963,325.21	—	963,325.21
Including: Gains on disposal of fixed assets	963,325.21	—	963,325.21
Gains on disposal of intangible assets	—	—	—
Gains on debt restructuring	—	—	—
Gains on exchanging non-monetary assets	—	—	—
Receiving of donations	—	—	—
Government grants	1,341,484.86	3,386,062.14	1,341,484.86
Compensation payments	2,111,392.26	1,808,526.10	2,111,392.26
Accounts payable	693,314.85	1,741,762.65	693,314.85
Others	7,327,146.74	7,687,874.67	7,327,146.74
Total	<u>12,436,663.92</u>	<u>14,624,225.56</u>	<u>12,436,663.92</u>

Other explanations:

Applicable Not applicable

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXV) Non-operating expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period	Amount included in current non-recurring profit or loss
Total losses from disposal of non-current assets	501,369.52	2,670,164.78	501,369.52
Including: losses from disposal of fixed assets	501,369.52	2,670,164.78	501,369.52
Losses from disposal of intangible assets	—	—	—
Losses from debt restructuring	—	—	—
Losses from exchange of non-monetary assets	—	—	—
External donation	39,700.00	—	39,700.00
Lawsuit compensation	665,571.39	1,710.93	665,571.39
Others	1,127,107.98	1,594,435.02	1,127,107.98
Total	<u>2,333,748.89</u>	<u>4,266,310.73</u>	<u>2,333,748.89</u>

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVI) Income tax expenses

(1) Table for income tax expenses

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Current income tax expenses	402,086,346.37	494,814,011.30
Deferred income tax expenses	-18,895,194.95	-17,545,272.00
Total	<u>383,191,151.42</u>	<u>477,268,739.30</u>

(2) Adjustment process for accounting profit and income tax

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period
Total profit	2,491,777,719.38
Income tax at the statutory/applicable income tax rate	622,944,429.85
Effect of different tax rates for subsidiaries	-175,251,158.30
Effect of adjustments in respect of income tax of previous periods	4,868,011.61
Effect of non-taxable income	-12,107,080.48
Effect of non-deductible cost, expenses and loss	7,865,607.74
Effect of utilization of deductible losses in deferred income tax assets not recognized in previous period	-743,388.10
Effect of deductible temporary differences or deductible losses in deferred income tax assets not recognized in the current period	15,276,284.45
Profit or loss attributable to joint ventures and associates	-9,814,456.29
Tax effect of additional deductions	-69,847,099.07
Others	-
Income tax expenses	<u>383,191,151.42</u>

Other explanations:

Applicable Not applicable

The Company's income tax has been provided at the applicable rate on the estimated profits assessable arising in the PRC during the period. Taxes on profits assessable elsewhere have been calculated at the applicable rates of tax prevailing in the countries/regions in which the Company operates, based on existing legislation, interpretations and practices in respect thereof.

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVII) Other comprehensive income

Applicable Not applicable

Please refer to Note VII. (LVII) for details.

(LXXVIII) Items in statement of cash flows

(1) Other cash received related to operating activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Income from other businesses	170,260,134.07	140,687,554.39
Government grants	115,131,974.44	101,408,550.04
Interest income	163,262,456.09	111,090,322.68
Others	373,124,572.30	9,495,177.55
Total	821,779,136.90	362,681,604.66

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVIII) Items in statement of cash flows (Continued)

(2) Other cash paid related to operating activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Research and development expenses	140,358,089.78	160,247,197.61
Production safety expenses	153,879,684.36	107,291,786.60
Travel and business entertainment expenses	43,022,211.64	14,915,924.82
Others	1,124,780,987.66	298,913,093.77
Total	<u>1,462,040,973.44</u>	<u>581,368,002.80</u>

(3) Other cash received related to investment activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Interest income	5,028,765.68	90,513,359.04
Total	<u>5,028,765.68</u>	<u>90,513,359.04</u>

NOTES TO FINANCIAL STATEMENTS

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXVIII) Items in statement of cash flows (Continued)

(4) Other cash paid related to investment activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Futures margin	500,786.63	6,604,890.00
Total	500,786.63	6,604,890.00

(5) Other cash received relating to financing activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Bill bond and performance bond	—	182,977,579.62
Total	—	182,977,579.62

(6) Other cash paid related to financing activities

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Rental expenses and others	39,556,414.81	33,555,088.59
Total	39,556,414.81	33,555,088.59

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIX) Supplementary information to the statement of cash flows

(1) Supplementary information to the statement of cash flows

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Supplementary information	Amount for the current period	Amount for the last period
1. Adjustment of net profit to cash flow of operating activities:		
Net profit	2,108,586,567.96	2,192,590,789.15
Add: Provision for impairment of assets	74,028,474.70	4,581,610.97
Credit impairment losses	1,396,179.00	104,785,928.52
Depreciation of fixed assets, oil and gas assets, productive biological assets	187,701,744.29	179,719,966.85
Amortization of right-of-use assets	37,687,914.87	37,291,200.21
Amortization of intangible assets	112,726,439.87	97,203,433.36
Amortization of long-term prepaid expenses	13,591,210.22	12,162,848.62
Loss from disposal of fixed assets, intangible assets and other long-term assets (income as sign "-")	-230,700.77	-26,780,716.67
Losses from damage and scrap of fixed assets (income as sign "-")	-461,955.69	2,670,164.78
Losses due to changes in fair value (income as sign "-")	-	-
Financial costs (income as sign "-")	38,162,733.35	-109,987,880.60
Investment loss (income as sign "-")	-69,676,000.80	-71,704,705.34
Decrease in deferred income tax assets (increase as sign "-")	-21,066,087.01	-9,537,764.44
Increase in deferred income tax liabilities (decrease as sign "-")	2,170,892.06	-8,007,507.56
Decrease in inventories (increase as sign "-")	-591,541,104.45	-200,014,549.85
Decrease in operating receivables (increase as sign "-")	-1,049,492,650.45	-2,139,973,562.72
Increase in operating payables (decrease as sign "-")	-1,630,607,556.88	226,388,893.93
Others	-84,078,728.75	-1,382,560,915.15
Net cash flow generated from operating activities	<u>-871,102,628.48</u>	<u>-1,091,172,765.94</u>
2. Significant investment and financing activities not involving cash receipts and payments:		
Capital transferred from debts	-	-
Convertible corporate bonds due within one year	-	-
Fixed assets acquired under financing leases	-	-
3. Net change in cash and cash equivalents:		
Closing balance of cash	15,853,410,758.06	14,440,345,821.13
Less: Opening balance of cash	17,241,658,431.27	17,595,724,106.74
Add: Closing balance of cash equivalents	-	-
Less: Opening balance of cash equivalents	-	-
Net increase in cash and cash equivalents	<u>-1,388,247,673.21</u>	<u>-3,155,378,285.61</u>

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXIX) Supplementary information to the statement of cash flows (Continued)

(2) Net cash paid to acquire subsidiaries during the period

Applicable Not applicable

(3) Net cash received from disposal of subsidiaries during the period

Applicable Not applicable

(4) Composition of cash and cash equivalents

Applicable Not applicable

Item	Unit: Yuan Currency: RMB	
	Closing balance	Opening balance
I. Cash		
Including: Cash on hand	373,590.00	567,662.59
Bank deposits available for payment	15,853,037,168.06	17,241,090,768.68
Other monetary funds available for payment	-	-
Funds deposited with the central bank that are available for payment	-	-
Deposit from other banks	-	-
Loans to other banks	-	-
II. Cash equivalents	-	-
Including: Bond investment due within three months	-	-
III. Closing balance of cash and cash equivalents	15,853,410,758.06	17,241,658,431.27
Including: cash and cash equivalents with restriction on use by the parent or subsidiaries within the Group	-	-

Other explanations:

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXX) Notes to items in statement of changes in owner's equity

Explanation of the name of "Others" item that adjusted the closing balance at the end of last year and the amount of adjustment, etc.:

Applicable Not applicable

(LXXXI) Assets with restricted ownership or right of use

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing book value	Reasons of restriction
Monetary funds	432,866,588.20	Acceptance bill deposits, guarantee letter deposits and others
Bills receivable	520,188,010.03	Endorsed, discounted and undue
Accounts receivable	608,756,709.88	Pledged borrowings, etc.
Fixed assets	–	
Intangible assets	–	
Long-term receivables	150,000,000.00	Pledge
Other non-current assets	4,873,429,954.32	Pledged borrowings
Total	<u>6,585,241,262.43</u>	/

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VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXII) Foreign currency monetary items

(1). Foreign currency monetary items

Applicable Not applicable

Unit: Yuan

Item	Ending balance of foreign currency	Exchange rate	Ending balance in RMB equivalent
Monetary funds			310,630,761.65
Including: US Dollar	9,733,367.91	7.2258	70,331,369.84
Euro	546,070.39	7.8771	4,301,451.07
HK Dollar	121,219,698.51	0.9220	111,762,137.63
Indian Rupee	756,705.58	0.0880	66,605.23
Others	121,802,509,069.76	–	124,169,197.88
Accounts receivable			117,978,470.66
Including: US Dollar	13,119,189.29	7.2258	94,796,637.97
Indian Rupee	263,370,060.10	0.0880	23,181,832.69
HK Dollar	–	–	–

(2). Notes on the overseas operating entities, including, for significant overseas operating entities, the necessary disclosure of main overseas operating places, functional currency and selection basis, as well as reasons for changes of the functional currency

Applicable Not applicable

(LXXIII) Hedging

Applicable Not applicable

VII. NOTES TO ITEMS IN THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(LXXXIV) Government grants

(1) Basic information of government grants

Applicable Not applicable

Unit: Yuan Currency: RMB

Type	Amount	Item reported	Amount included in current profits or loss
Government grants related to assets			
Other grants	106,773.50	Other income	106,773.50
Demolition grants	903,484.86	Non-operating income	903,484.86
Government grants related to income			
Refund of taxes	118,691,385.62	Other income	118,691,385.62
		Other income/	
Other grants	110,461,860.54	non-operating income	110,461,860.54
Total	<u>230,163,504.52</u>		<u>230,163,504.52</u>

(2) Return of government grants

Applicable Not applicable

(LXXXV) Others

Applicable Not applicable

Expenses by nature

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Raw materials and spare parts consumed	6,983,003,450.31	7,551,024,641.96
Subcontracting costs	1,547,650,180.38	2,828,926,626.66
Labor expenses	2,478,086,363.08	2,661,467,659.13
Depreciation and amortization expenses	101,434,685.05	160,247,197.61
Research and development expenses	291,051,031.28	334,610,751.26
Others	3,042,871,763.93	2,499,426,748.16
Total	<u>14,444,097,474.03</u>	<u>16,035,703,624.78</u>

Note: The labor expenses of RMB461,302,723.11 (the same period of last year: RMB438,995,774.54) under the research and development expenses have been included in the labor expenses in the above table.

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VIII. CHANGES ON SCOPE OF CONSOLIDATION

(I) Business combination of entities not under common control

Applicable Not applicable

(II) Business combination of entities under common control

Applicable Not applicable

(III) Reverse takeover

Applicable Not applicable

(IV) Disposal of subsidiaries

Whether or not the loss of control occurs immediately after a single disposal of investment in the subsidiaries

Applicable Not applicable

Other explanations:

Applicable Not applicable

(V) Changes in scope of consolidation due to other reasons

Explanation of changes in scope of consolidation due to other reasons (e.g. incorporation of new subsidiaries, and liquidation of subsidiaries, etc.) and relevant information:

Applicable Not applicable

(VI) Others

Applicable Not applicable

IX. INTERESTS IN OTHER ENTITIES

(I) Interests in subsidiaries

(1) Composition of enterprise group

✓ Applicable □ Not applicable

Name of subsidiaries	Places of principal activities	Place of registration	Nature of business	Shareholding percentage of the Group (%)		Means of acquisition
				Direct	Indirect	
CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	Xi'an	Xi'an	Equipment manufacturing	100.00	-	Incorporation
CRSC Cables Company Ltd. (通號電纜集團有限公司)	Zhengzhou	Zhengzhou	Equipment manufacturing	100.00	-	Incorporation
CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	Beijing	Beijing	Design integration	100.00	-	Incorporation
CASCO Signal Ltd. (卡斯柯信號有限公司)	Shanghai	Shanghai	Design integration	51.00	-	Business combination not under common control
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	Beijing	Beijing	Design integration	100.00	-	Incorporation
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	Beijing	Beijing	Design integration	100.00	-	Incorporation
China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	Shanghai	Shanghai	System delivery service and design integration	100.00	-	Incorporation
CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	Beijing	Beijing	System delivery service	100.00	-	Incorporation
CRSC International Holdings Company Limited (通號國際控股有限公司)	Beijing	Beijing	Design integration	100.00	-	Incorporation
CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司)	Beijing	Beijing	Investment management	100.00	-	Incorporation
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	Changsha	Changsha	System delivery service	100.00	-	Incorporation
CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	Changsha	Changsha	General engineering contracting	100.00	-	Incorporation
Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	Zhengzhou	Zhengzhou	General engineering contracting and system delivery service	65.00	-	Business combination not under common control
CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司)	Zhengzhou	Zhengzhou	General engineering contracting	65.00	-	Business combination not under common control
CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	Jishou	Jishou	Project management of engineering and operation and maintenance	90.00	-	Incorporation
CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	Jishou	Jishou	Project management of engineering and operation and maintenance	90.00	-	Incorporation
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	Hong Kong, the PRC	Hong Kong, the PRC	Technical exchange and trade	100.00	-	Incorporation
CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	Taixing	Taixing	Design integration	88.00	2.00	Incorporation
CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	Beijing	Beijing	Bidding agency	100.00	-	Incorporation
CRSC Group Finance Limited (通號集團財務有限公司)	Beijing	Beijing	Enterprise group finance company services	95.00	-	Incorporation

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

(1) *Composition of enterprise group* (Continued)

- Notes:
1. All the companies above are limited liability companies;
 2. For changes in particulars of major subsidiaries for the year, see note “VIII. CHANGES ON SCOPE OF CONSOLIDATION”.
 3. The Articles of Association stipulate that CRSC CASCO is a Sino-foreign joint venture, with the Board as its highest authority, and the proportion of voting rights is calculated according to the proportion of seats on the Board. The Board of CRSC CASCO consists of seven members, including four from CRSC.

IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

(2) Significant non-wholly owned subsidiaries

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of subsidiary	Shareholding percentage of non-controlling shareholder (%)	Current profits and losses attributable to non-controlling shareholders	Current dividends declared and paid to non-controlling shareholders	Closing balance of interest of non-controlling shareholders
CRSC CASCO	49%	-240,424,822.90	–	1,246,629,517.40

Explanations for the inconsistency of shareholding percentage of non-controlling shareholders of subsidiaries with proportion of their voting rights:

Applicable Not applicable

Other explanations:

Applicable Not applicable

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

(3) Main financial information of significant non-wholly owned subsidiaries

✓ Applicable Not applicable

Unit: Yuan Currency: RMB

Name of subsidiary	Closing balance			Opening balance			Non-current liabilities	Total liabilities				
	Current assets	Non-current assets	Total assets	Current assets	Non-current assets	Total assets			Current liabilities	Non-current liabilities		
CRSC CASCO	6,225,735,597.42	1,254,698,090.31	7,480,433,687.73	4,869,986,501.06	66,129,850.18	4,936,116,351.24	5,682,476,751.78	1,189,582,811.11	6,872,059,562.89	4,459,686,231.02	81,026,918.95	4,540,713,149.97
Name of subsidiary	Amount for the current period			Amount for the last period			Revenue	Net profit	Total comprehensive income	Cash flows from operating activities		
	Revenue	Net profit	Total comprehensive income	Revenue	Net profit	Total comprehensive income						
CRSC CASCO	2,560,081,811.40	502,688,659.93	503,994,038.99	2,229,397,454.76	436,620,673.63	436,620,673.63	436,620,673.63	436,620,673.63	149,561,239.79			

IX. INTERESTS IN OTHER ENTITIES (Continued)

(I) Interests in subsidiaries (Continued)

(4) *Major restrictions on the use of assets of the Group and repayment of debts of the Group:*

Applicable Not applicable

(5) *Financial support or other support provided for structured entities included in the scope of consolidated financial statements:*

Applicable Not applicable

Other explanations:

Applicable Not applicable

(II) Transaction in which the share of owner's interests in the subsidiary changes while control over the subsidiary remained unchanged

Applicable Not applicable

(III) Interests in the joint venture or associate

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(III) Interests in the joint venture or associate (Continued)

(1) Significant joint ventures or associates

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of joint ventures or associates	Places of principal activities	Place of registration	Nature of business	Shareholding percentage of the Group (%)		Accounting methods for investments in joint ventures or associates
				Direct	Indirect	
Joint ventures						
Wenzhou Hangwen High-Speed Railway Investment Partnership (LLP) (溫州杭溫高鐵投資合夥企業(有限合夥))	Wenzhou	Wenzhou	Commercial services	29.99		Equity method
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Xi'an	Xi'an	Manufacturing of product		50.00	Equity method
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Beijing	Beijing	Technology development		45.00	Equity method
Associates						
CSCEC Foshan Joint Investment Co., Ltd. (佛山中建交通聯合投資有限公司)	Guangzhou	Guangzhou	Investment project construction	11.00		Equity method
Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	Siping	Siping	Project contracting	20.00		Equity method
Guangdong Utrust Financial Leasing Co., Ltd. (廣東粵財金融租賃股份有限公司)	Guangzhou	Guangzhou	Financial leasing	30.00		Equity method
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Tianshui	Tianshui	Project contracting	35.63		Equity method
Siemens Signalling Company Ltd. (西門子信號有限公司)	Xi'an	Xi'an	Manufacturing of product		30.00	Equity method
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Beijing	Beijing	Technology development		20.00	Equity method
Henan Huazhou Railway Co., Ltd. (河南滑州鐵路有限公司)	Anyang	Anyang	Project contracting		44.00	Equity method
Zhuhai Huatong Private Equity Fund Management Enterprise (Limited Partnership) ("Zhuhai Huatong") (珠海華通私募基金管理企業(有限合夥))	Zhuhai	Zhuhai	Equity investment management		40.00	Equity method
Tianshui Tram Co., Ltd. (Phase II) (天水有軌電車有限責任公司)	Tianshui	Tianshui	Project contracting		36.00	Equity method
Zhejiang Jiaotou Intelligent Transportation Technology Co., Ltd. (浙江交投智能交通科技有限公司)	Hangzhou	Hangzhou	Technology development		40.00	Equity method
Beijing Solong Electronic Technology Co., Ltd. (北京索隆電子科技有限公司)	Beijing	Beijing	Manufacturing of product		49.00	Equity method
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Wenzhou	Wenzhou	Rail transit operation		30.00	Equity method
China Liantou (Shanghai) Data Intelligent Technology Co., Ltd. (中聯投(上海)數據智能科技有限公司)	Shanghai	Shanghai	Data technology		20.00	Equity method
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	Tianjin	Tianjin	Manufacturing industry		20.00	Equity method

(2) Main financial information of significant joint ventures

Applicable Not applicable

(3) Main financial information of significant associates

Applicable Not applicable

IX. INTERESTS IN OTHER ENTITIES (Continued)

(III) Interests in the joint venture or associate (Continued)

(4) Summary of financial information of insignificant joint ventures and associates

Applicable Not applicable

Unit: Yuan Currency: RMB

	Closing balance/ amount for the current period	Opening balance/ amount for the last period
Joint ventures:		
Total book value of investment	137,602,781.64	235,031,314.57
Total amount of the following items calculated on the basis of shareholding percentage		
– Net profit	7,146,894.38	27,193,610.80
– Other comprehensive income		
– Total comprehensive income	7,146,894.38	27,193,610.80
Associates:		
Total book value of investment	1,315,575,447.71	1,269,978,853.11
Total amount of the following items calculated on the basis of shareholding percentage		
– Net profit	44,835,048.19	69,117,119.13
– Other comprehensive income		
– Total comprehensive income	44,835,048.19	69,117,119.13

(5) Explanation for the significant restrictions on the ability of joint ventures or associates to transfer funds to the Company

Applicable Not applicable

(6) Excessive loss incurred by joint ventures or associates

Applicable Not applicable

(7) Unrecognised commitments related to investments in joint ventures

Applicable Not applicable

(8) Contingent liabilities related to investments in joint ventures or associates

Applicable Not applicable

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IX. INTERESTS IN OTHER ENTITIES (Continued)

(IV) Significant joint operation

Applicable Not applicable

(V) Interests in structured entities not included in the scope of consolidated financial statements

Explanation about structured entities not included in the scope of consolidated financial statements:

Applicable Not applicable

(VI) Others

Applicable Not applicable

X. RISKS RELATED TO FINANCIAL INSTRUMENTS

Applicable Not applicable

(I) Category of financial instruments

Financial assets:

Item	Measured at amortized cost	Measured at fair value through other comprehensive income		Total
		Standards	Designated	
Cash and bank balances	22,269,181,227.27	-	-	22,269,181,227.27
Bills receivable	1,329,633,555.39	-	-	1,329,633,555.39
Receivables for financing	-	575,977,092.01	-	575,977,092.01
Accounts receivable	23,566,499,888.48	-	-	23,566,499,888.48
Other receivables	1,534,379,815.70	-	-	1,534,379,815.70
Debt investment	273,172,183.50	-	-	273,172,183.50
Other equity instrument investments	-	-	1,204,594,107.20	1,204,594,107.20
Long-term receivables	6,469,877,986.28	-	-	6,469,877,986.28
Financial assets included in other non-current assets	5,224,191,792.64	-	-	5,224,191,792.64
Total	<u>60,666,936,449.26</u>	<u>575,977,092.01</u>	<u>1,204,594,107.20</u>	<u>62,447,507,648.47</u>

X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(I) Category of financial instruments (Continued)

Financial liabilities:

Item	Measured at fair value through other comprehensive income		Total
	Measured at amortized cost		
Short-term borrowings	2,752,831,289.37	–	2,752,831,289.37
Bills payable	1,247,199,875.60	–	1,247,199,875.60
Accounts payable	49,348,789,223.60	–	49,348,789,223.60
Customers deposits and deposits from banks and other financial institutions	148,219,938.55	–	148,219,938.55
Other payables	3,445,903,381.77	–	3,445,903,381.77
Employee benefits payable (cash payment)	727,481,617.17	–	727,481,617.17
Long-term borrowings	3,066,373,923.16	–	3,066,373,923.16
Financial liabilities in non-current liabilities due within one year	463,560,073.61	–	463,560,073.61
Lease liabilities	94,678,203.71	–	94,678,203.71
Long-term payables	78,764,383.16	–	78,764,383.16
Total	61,373,801,909.70	–	61,373,801,909.70

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X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(I) Category of financial instruments (Continued)

Transferred financial assets that are not derecognized in their entirety

As at 30 June 2023, the book value of bank acceptance bills and commercial acceptance bills that the Company has endorsed or discounted to suppliers for settlement of trade payables were RMB137,765,233.17 and RMB382,422,776.85 respectively (31 December 2022: RMB123,779,958.94 and RMB604,494,019.30). The Company believed that almost all risks and rewards have been retained, including related default risks. Therefore, it continued to recognise the full carrying amounts of the Endorsed Bills and the associated trade payables settled. Subsequent to the endorsement, the Company no longer reserves the right to use it, including the right to sell, transfer or pledge it to other third parties. The aggregate carrying amount of the trade payables settled by the endorsed bills as at 30 June 2023 was RMB520,188,010.03 (31 December 2022: RMB728,273,978.24).

Transferred financial assets that are derecognised in their entirety in which continuing involvement exists

As at 30 June 2023, the book value of bank acceptance bills that the Company has endorsed to suppliers for settlement of trade payables and other credit instruments measured at fair value through other comprehensive income was RMB295,205,450.98 and RMB124,967,210.53 (31 December 2022: RMB517,617,447.59 and RMB0.00).

As at 30 June 2023, the derecognized bills had a maturity of one to twelve months. In accordance with the Law of Negotiable Instruments, the holders of the derecognized bills have the right of recourse against the Company if the accepting banks default (the "Continuing Involvement"). In the opinion of the Company, the Company has transferred substantially all risks and rewards relating to the Derecognised Bills. Accordingly, it has derecognised the carrying amounts of such Derecognised Bills and the associated trade payables settled. The maximum exposure to loss from the Company's Continuing Involvement in the Derecognised Bills and the undiscounted cash flows to repurchase these Derecognised Bills is equal to their carrying amounts. In the opinion of the Company, the fair values of the Company's Continuing Involvement in the Derecognised Bills are not significant.

In January to June 2023, the Company did not recognise any profit or loss on the date of transfer of the derecognised bills. The Company had no current or accumulated gains or expenses related to continuing involvement of financial assets which had been derecognized. The endorsement happened evenly throughout the year.

(II) Risk of financial instruments

The Company is faced with risks of various financial instruments in daily activities, which mainly include credit risk, liquidity risk and market risk (including exchange rate risk, interest rate risk and commodity price risk). The main financial instruments of the Company include monetary funds, equity investment, borrowings, receivables for financing and accounts receivable, bills payable and accounts payable and others. The risks associated with these financial instruments and the risk management strategies adopted by the Company to mitigate these risks are described below.

X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

The board of directors shall be responsible for planning and establishing the risk management framework of the Company, formulating the Company's risk management policies and relevant guidelines, and supervising the implementation of risk management measures. The Company has developed risk management policies to identify and analyze risks faced by the Company. These risk management policies specify specific risks and cover many aspects such as market risk, credit risk and liquidity risk management. The Company periodically evaluates changes in the market environment and the Company's business activities to determine whether to update risk management policies and systems. The risk management of the Company shall be carried out by the Risk Management Committee in accordance with the policies approved by the board of directors. The Risk Management Committee works closely with other business units of the Company to identify, assess and mitigate risks. The internal audit department of the Company conducts regular audits on risk management control and procedures and reports the audit results to the Company's Audit Committee.

The Company diversifies the risk of financial instruments through appropriate diversification of investments and business portfolios, and reduces the risk of concentration in any single industry, specific region or specific counterparty by formulating appropriate risk management policies.

1. *Credit risk*

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

The Company only deals with recognized and reputable third parties. According to the Company's policy, credit review is required for all customers who seek to carry out credit-based transactions. In addition, the Company continuously monitors the balance of accounts receivable to ensure that the Company is not exposed to significant bad debt risks. For transactions that are not settled in the functional currency of the relevant business entity, the Company does not provide credit-based transactions unless specifically approved by the credit control department of the Company.

Since the counterparties of monetary funds and bank acceptance bills receivable are banks with good reputation and high credit ratings, these financial instruments have low credit risk.

Financial assets of the Company include monetary funds, receivables for financing, accounts receivable, other receivables, debt investments, other equity instrument investments, long-term receivables, and financial assets included in other non-current assets. The credit risk of these financial assets originates from the default of the counterparty. The maximum risk exposure is equal to the book value of these instruments.

As the Company only deals with recognized and reputable third parties, no collateral is required. Credit risk is centrally managed by customers/counterparties, geographic region and industry. Customers owing accounts receivable to the Company were widely engaged in different sectors and industries, therefore, there was no concentration of significant credit risks within the Company. The Company did not hold any collateral or other credit enhancement against the balance of accounts receivable.

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X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

1. *Credit risk* (Continued)

Criteria for judgment of significant increase in credit risk

On each balance sheet date, the Company assessed whether or not the credit risk of relevant financial instruments has increased significantly since initial recognition. In determining whether or not the credit risk has increased significantly since the initial recognition, the Company considered that the reasonable and reliable information could be obtained without unnecessary extra costs or efforts, including qualitative and quantitative analysis based on the Company's historical data, external credit risk rating and forward-looking information. Based on a single financial instrument or a combination of financial instruments with similar credit risk characteristics, the Company compared the risk of default of financial instruments as at the balance sheet date with the risk of default on the initial recognition date to determine the changes in the default risk of financial instruments during their lifetime.

The Company believed that the credit risk of financial instruments has increased significantly when one or more of the following quantitative and qualitative criteria or upper limit indicators are triggered:

- The quantitative criteria are satisfied if the probability of default for the remaining lifetime on the reporting date rises by more than a certain proportion compared with the probability of default at time of the initial recognition;
- Qualitative criteria mainly comprise material adverse changes in the debtor's business or financial position, and alert list of customers;
- The upper limit indicator is defined as the debtor's contract payment (including principal and interest) has been overdue for more than 30 days.

Definition of assets with credit impairment

In order to determine whether or not credit impairment has occurred, the Company adopted the definition criteria consistent with the internal credit risk management objectives for relevant financial instruments, while considering both quantitative and qualitative indicators. When the Company evaluated whether or not the debtor suffers from credit impairment, it mainly considered the following factors:

- the issuer or debtor is in material financial difficulties;
- the debtor violates the contract, such as default or overdue payment of interest or principal, etc.;
- the creditor gives concessions that it would not make under any other circumstance based on economic or contractual considerations related to the debtor's financial difficulties;

X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)**(II) Risk of financial instruments** (Continued)**1. Credit risk** (Continued)*Definition of assets with credit impairment* (Continued)

- the debtor is likely to go bankrupt or undergo other financial restructuring;
- difficulties of the issuer or debtor result in the disappearance of the active market of the financial asset;
- purchase or generate a financial asset at a substantial discount, which reflects the fact that credit impairment has occurred.

Credit impairment of financial assets might be caused by the combined action of multiple events, but not necessarily by separately identifiable events.

Parameters for measuring expected credit loss

Depending on whether credit risk has increased significantly and whether credit impairment has occurred, the Company measures impairment provision for different assets with the expected credit loss for 12 months or the lifetime period, respectively. The key parameters for expected credit loss measurement include default probability, default loss rate and default risk exposure. Considering the quantitative analysis and forward-looking information of historical statistical data (such as counterparty ratings, guarantees and collateral types, repayment methods and others), the Company establishes a default probability, default loss rate and default risk exposure model.

The relevant definitions are as follows:

- Probability of default (PD) refers to the possibility that the debtor will not be able to fulfill its obligations of repayment over the next 12 months or throughout the entire remaining lifetime. The Company's PD is adjusted based on the results of the historical mobility model of receivables, taking into account the forward-looking information to reflect the debtor's PD under the current macroeconomic environment;
- Loss given default (LGD) refers to the Company's expectation of the extent of the loss resulting from the default exposure. Depending on the type of counterparty, the method and priority of the recourse, and the type of collaterals, the LGD varies. The LGD is the percentage of loss of risk exposure at the time of default, calculated over the next 12 months or over the entire remaining lifetime;
- Exposure at default (EAD) is the amount that the Company should be reimbursed at the time of the default in the next 12 months or throughout the entire remaining lifetime.

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X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

1. Credit risk (Continued)

Parameters for measuring expected credit loss (Continued)

The assessment of a significant increase in credit risk and the calculation of ECL both involve forward-looking information. Through the analysis of historical data, the Company identified the key economic indicators that affect the credit risk of each business type and ECL.

Please see Notes “VII. (V)”, “VII. (VI)”, “VII. (VIII)”, “VII. (X)”, “VII. (XII)”, “VII. (XIV)”, “VII. (XVI)” and “VII. (XXXI)” for the quantitative data of credit risk exposure of the Company due to receivables, receivables for financing, other receivables, contract assets, non-current assets due within one year, debt investments, long-term receivables and other non-current assets.

2. Liquidity risk

The Company monitors its risk of deficiency of funds using a recurring liquidity planning tool. This tool considers the maturity of both its financial instruments and estimated cash flows from the Company’s operations.

The Company sets its objective as maintaining a balance between continuity of funding and flexibility through the use of several financing methods such as notes settlement and bank borrowings, as well as optimizing financing structure through the combination of long and short-term financing. The Company has obtained banking facilities from several commercial banks to fund the working capital requirements and capital expenditure.

Management of the Company monitors the liquidity position of the Company on an ongoing basis to ensure the availability of sufficient liquid funds to meet all obligations as they fall due and to make the most efficient use of the Company’s financial resources.

The table below summarizes the maturity profile of the Company’s financial liabilities and lease liabilities based on the undiscounted contractual cash flows:

30 June 2023

Unit: Yuan Currency: RMB

Item	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Short-term borrowings	2,752,831,289.37	-	-	-	2,752,831,289.37
Bills payable	1,247,199,875.60	-	-	-	1,247,199,875.60
Accounts payable	49,348,789,223.60	-	-	-	49,348,789,223.60
Other payables	1,521,204,037.35	-	-	-	1,521,204,037.35
Lease liabilities	80,035,559.30	90,922,796.45	8,512,311.86	16,097,432.96	195,568,100.57
Long-term borrowings (including maturity within 1 year)	370,919,092.80	-	193,000,000.00	2,873,373,923.16	3,437,293,015.96
Interest on long – and short-term borrowings	184,586,916.62	154,197,574.16	581,558,833.42	373,295,186.54	1,293,638,510.74
Long-term payables (including maturity within 1 year)	25,331,458.95	78,764,383.16	-	-	104,095,842.11

X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

2. Liquidity risk (Continued)

31 December 2022

Unit: Yuan Currency: RMB

Item	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Short-term borrowings	261,169,967.41	-	-	-	261,169,967.41
Bills payable	2,260,154,270.80	-	-	-	2,260,154,270.80
Accounts payable	49,888,119,903.73	-	-	-	49,888,119,903.73
Other payables	1,366,728,778.59	-	-	-	1,366,728,778.59
Lease liabilities	68,141,726.23	89,815,559.25	24,483,238.96	17,333,939.37	199,774,463.81
Long-term borrowings (including maturity within 1 year)	1,145,289,546.40	24,000,000.00	442,947,076.77	2,823,839,096.00	4,436,075,719.17
Interest on long - and short-term borrowings	186,373,851.39	156,041,333.01	576,899,190.72	432,197,781.89	1,351,512,157.01
Long-term payables (including maturity within 1 year)	32,003,740.26	58,629,829.67	-	-	90,633,569.93

3. Market risk

(1) Interest rate risk

The Company's exposure to the risk of changes in market interest rates relates primarily to the Company's borrowings and bank current deposit in large amount with floating interest rates.

The Company regularly reviews and monitors the mix of fixed and floating interest rate in order to manage its interest rate risk. Borrowings and monetary funds are stated at amortized cost and are not revalued on a periodic basis. Floating rate interest income and expenses are credited/charged to the profit or loss as earned/incurred.

As at 30 June 2023, floating interest rate loans and fixed interest rate loans accounted for 87.84% and 12.16% of the Company's borrowings respectively. Management would adjust the floating rate assets based on changes in the market interest rates to reduce the significant impact arising from interest rate risk.

If there was a general increase/decrease in the interest rate of borrowings with floating interest rates by 1%, with all other variables held constant, the consolidated net profits and other comprehensive income, net of tax would have decreased/increased by approximately RMB20,389,848.81 for January to June 2023 (2022: RMB29,191,842.65), and there is no impact on other components of the consolidated equity, except for retained earnings, of the Company. The sensitivity analysis above has been determined assuming that the change in interest rates had occurred as at 30 June 2023 and the exposure to interest rate risk has been applied to those financial instruments in existence at that date. The estimated 1% of increase or decrease represents management's assessment of a reasonably possible change in interest rates over the period from the year until the date of balance sheet of the next year.

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X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

3. Market risk (Continued)

(1) Interest rate risk (Continued)

If there was a general increase/decrease in the interest rates of demand deposit of bank with floating interest rates by 0.1 percentage point, with all other variables held constant, the consolidated net profits and other comprehensive income, net of tax would have increased/decreased by approximately RMB6,155,519.30 for January to June 2023 (2022: RMB9,832,754.73), and there is no impact on other components of the consolidated equity, except for retained earnings, of the Company. The sensitivity analysis above has been determined assuming that the change in interest rates had occurred as at 30 June 2023 and the exposure to interest rate risk has been applied to those financial instruments in existence at that date. The estimated 0.1 percentage point of increase or decrease represents management's assessment of a reasonably possible change in interest rates over the period from the year until the date of balance sheet of the next year.

(2) Foreign currency risk

As a result of its significant business operations in Mainland China, the Company's revenue, expenses and over 95% of the financial assets and liabilities are denominated in RMB. The effect of the fluctuations in the exchange rates of RMB against foreign currencies on the Company's results of operations is therefore minimal and the Company has not entered into any hedging transactions as at 30 June 2023 and 31 December 2022 in order to reduce the Company's exposure to foreign currency risk in this regard.

The following table demonstrates the sensitivity analysis on the foreign currency risk, reflecting the influence of reasonable possible change in the exchange rates of the United States dollar and Hong Kong dollar, with all other variables held constant, on the Company's net profit net of tax.

Item	Increase/(decrease) in United States dollar exchange rate	Increase/(decrease) in net profit or loss	Increase/(decrease) in total shareholder's equity
Depreciation of RMB against United States dollar	5%	4,096,018.69	4,096,018.69
Appreciation of RMB against United States dollar	5%	<u>-4,096,018.69</u>	<u>-4,096,018.69</u>

Item	Increase/(decrease) in Hong Kong dollar exchange rate	Increase/(decrease) in net profit or loss	Increase/(decrease) in total shareholder's equity
Depreciation of RMB against Hong Kong dollar	5%	4,191,527.57	4,191,527.57
Appreciation of RMB against Hong Kong dollar	5%	<u>-4,191,527.57</u>	<u>-4,191,527.57</u>

X. RISKS RELATED TO FINANCIAL INSTRUMENTS (Continued)

(II) Risk of financial instruments (Continued)

3. *Market risk* (Continued)

(2) *Foreign currency risk* (Continued)

The sensitivity analysis above has been determined assuming that the change in foreign exchange rates had occurred as at 30 June 2023 and 31 December 2022 and the exposure to foreign currency risk has been applied to those monetary assets and liabilities in existence at that date. The estimated percentage increase or decrease represents management's assessment of a reasonable possible change in foreign exchange rates over the period from the year until the date of balance sheet of the next year.

(III) Capital management

The Company's primary objectives for capital management are to safeguard the Company's ability to continue as a going concern and keep the capital ratio at a healthy level, so that it can support business development and maximize the value of Shareholders.

The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. In order to maintain or adjust the capital structure, the Company may adjust the profit distribution to Shareholders, return capital to Shareholders, issue new shares or sell assets to reduce debts. The Company is not bound by external compulsory capital requirements. For the six months ended 30 June 2023 and in 2022, no changes were made in the objectives, policies or processes for managing capital.

The Company manages its capital through gearing ratio, which is total liabilities divided by total assets. The gearing ratios of the Company as at the balance sheet date are as follows:

Item	30 June 2023	31 December 2022
Total assets	118,721,134,594.77	116,806,544,483.88
Total liabilities	71,224,060,922.67	69,528,809,483.31
Gearing ratio	59.99%	59.52%

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XI. DISCLOSURE OF FAIR VALUE

(I) Closing fair value of assets and liabilities measured at fair value

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing fair value			
	Level-1 fair value measurement	Level-2 fair value measurement	Level-3 fair value measurement	Total
I. Fair value measurement on an ongoing basis				
(I) Financial assets held for trading	-	-	-	-
(II) Receivables financing	-	575,977,092.01	-	575,977,092.01
(III) Investments in other equity instruments	-	-	1,204,594,107.20	1,204,594,107.20
(IV) Investment properties	-	-	-	-
(V) Biological assets	-	-	-	-
Total assets measured at fair value on an ongoing basis	-	575,977,092.01	1,204,594,107.20	1,780,571,199.21

XI. DISCLOSURE OF FAIR VALUE (Continued)

(II) Basis for determining the market value of ongoing and non-ongoing Level-1 fair value measurement items

Applicable Not applicable

(III) Qualitative and quantitative information of valuation techniques and significant inputs used in ongoing and non-ongoing Level-2 fair value measurement items

Applicable Not applicable

(IV) Qualitative and quantitative information of valuation techniques and significant inputs used in ongoing and non-ongoing Level-3 fair value measurement items

Applicable Not applicable

(V) Information on reconciliation of opening and closing book values and sensitivity analysis of unobservable inputs for ongoing Level-3 fair value measurement items

Applicable Not applicable

(VI) Reasons for transfer between levels for ongoing fair value measurement items during the period, and policies for determination of time point of the transfer

Applicable Not applicable

(VII) Changes in valuation techniques during the current period and reasons for such changes

Applicable Not applicable

(VIII) Fair value of financial assets and financial liabilities not measured at fair value

Applicable Not applicable

(IX) Others

Applicable Not applicable

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS

(I) Parent of the Company

Applicable Not applicable

Unit: 0'000 Yuan Currency: RMB

Name of the parent	Place of registration	Nature of business	Registered capital	Shareholding percentage of the parent in the Company (%)	Percentage of voting right of the parent in the Company (%)
CRSC Group	Beijing, the PRC	Railway communication, signal power and production of automatic control equipment	1,000,000	62.69	62.69

The ultimate holding company of the Company is CRSC Group. The principal place of business of CRSC Group is located at 20/F, CRSC Building A, 1 Compound, Automobile Museum South Road, Fengtai District, Beijing.

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(II) Subsidiaries of the Company

Applicable Not applicable

For details of the subsidiaries of the Company, refer to Note IX. (I)

(III) Details of the joint ventures and associates of the Company

Applicable Not applicable

For details of significant joint ventures or associates of the Company, see Note IX. (III)

Information for other joint ventures and associates which form balance through related party transaction during the current or previous periods

Applicable Not applicable

(IV) Other related parties

Applicable Not applicable

Name of other related parties

Relationship between other related parties and the Company

Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	Joint venture of the Parent
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Joint venture of the Parent
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Associate of the subsidiary under control of the ultimate holding company
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Associate of the subsidiary under control of the ultimate holding company
Siemens Signalling Company Ltd. (西門子信號有限公司)	Associate of the subsidiary under control of the ultimate holding company
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Associate of the subsidiary under control of the ultimate holding company
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	Associate of the subsidiary under control of the ultimate holding company
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Associate of the subsidiary under control of the ultimate holding company
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Associate of the subsidiary under control of the ultimate holding company
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Associate of the subsidiary under control of the ultimate holding company
Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	Associate of the subsidiary under control of the ultimate holding company
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Associate of the subsidiary under control of the ultimate holding company
China Railway Transportation Equipment Co., Ltd. (中國城軌交通設備有限公司)	Associate of the subsidiary under control of the ultimate holding company

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(IV) Other related parties (Continued)

Name of other related parties	Relationship between other related parties and the Company
Tianjin Keyvia Electric Co., Ltd. (天津凱發電氣股份有限公司)	Associate of the subsidiary under control of the ultimate holding company
Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	Subsidiary under control of the ultimate holding company
Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	Subsidiary under control of the ultimate holding company
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Subsidiary under control of the ultimate holding company
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Subsidiary under control of the ultimate holding company
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Subsidiary under control of the ultimate holding company
CRSC Real Estate Co., Ltd. (通號置業有限公司)	Subsidiary under control of the ultimate holding company
CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	Subsidiary under control of the ultimate holding company
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	Subsidiary under control of the ultimate holding company
Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	Minority shareholder having material influence on subsidiary of the Group
Alstom Technical Services (Shanghai) Co., Ltd. (阿爾斯通技術服務(上海)有限公司)	Related party of a minority shareholder having material influence on subsidiary of the Group

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(IV) Other related parties (Continued)

Name of other related parties	Relationship between other related parties and the Company
ALSTOM Signaling Inc.	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport SA-Villeurbanne	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Ferroviaria S.p.A	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport India Limited	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport (S) Pte Ltd.	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport Australia Pty. Ltd	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Hong Kong Ltd	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport Mexico, S.A. de C.V.	Related party of a minority shareholder having material influence on subsidiary of the Group
CITADIS ISRAEL LTD	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport SA (Romania)	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport Spain Limited	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport SA-Saint Ouen	Related party of a minority shareholder having material influence on subsidiary of the Group
ALSTOM Transport S.A.	Related party of a minority shareholder having material influence on subsidiary of the Group

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions

(1) Related party transactions of purchasing or selling goods and rendering or receiving services

Statement on procurement of goods/receipt of services

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Related party	Contents of related party transactions	Amount for the current period	Approved transaction cap (if applicable)	Whether the transaction cap is exceeded (if applicable)	Amount for the previous period
ALSTOM Transport SA-Saint Ouen	Procurement of goods	38,476,285.61	/	/	-
Siemens Signalling Company Ltd. (西門子信號有限公司)	Procurement of goods	14,177,929.94	/	/	22,852,354.14
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Procurement of goods	11,828,386.28	/	/	10,057,363.47
ALSTOM Transport SA-Villeurbanne	Procurement of goods	10,117,127.93	/	/	15,543,433.40
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Procurement of goods	5,514,772.20	/	/	19,541,501.10
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Procurement of goods	5,025,751.04	/	/	-
ALSTOM Signaling Inc.	Procurement of goods	4,205,473.95	/	/	2,552,580.07
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Procurement of goods	1,069,959.35	/	/	409,415.27
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	Procurement of goods	1,769,434.51	/	/	-
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Procurement of goods	469,621.97	/	/	54,789.19
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Procurement of goods	48,947.80	/	/	-
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Procurement of goods	-	/	/	8,487,283.27
ALSTOM Transport S.A.	Receiving technology transfer	-	/	/	79,361,182.86
ALSTOM Transport SA-Saint Ouen	Receipt of services	87,839,423.35	/	/	-
ALSTOM Signaling Inc.	Receipt of services	20,623,019.91	/	/	-
ALSTOM Transport SA-Villeurbanne	Receipt of services	11,801,415.61	/	/	-
CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	Receipt of services	3,061,748.36	/	/	-
Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	Receipt of services	345,388.69	/	/	219,067.91
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Receipt of services	200,520.00	/	/	-
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Receipt of services	33,500.00	/	/	-

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(1) Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Statement on sales of goods/provision of services

✓ Applicable □ Not applicable

Related party	Contents of related party transactions	Unit: Yuan Currency: RMB	
		Amount for the current period	Amount for the previous period
Siemens Signalling Company Ltd. (西門子信號有限公司)	Sale of goods	25,287,075.00	11,243,378.15
ALSTOM Transport S.A.	Sale of goods	18,027,854.20	8,268,342.50
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Sale of goods	5,646,296.94	4,420,378.76
ALSTOM Transport India Limited	Sale of goods	3,338,540.00	–
Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	Sale of goods	1,235,849.06	–
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Sale of goods	123,785.85	21,238.94
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Sale of goods	–	19,527,682.77
ALSTOM Transport Australia Pty. Ltd	Sale of goods	–	10,738,720.85
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Sale of goods	–	2,199,116.26
CITADIS ISRAEL LTD	Sale of goods	–	2,126,404.67
ALSTOM Transport India Limited	Sale of goods	–	2,076,836.00
ALSTOM Transport (S) Pte Ltd.	Sale of goods	–	131,815.00
ALSTOM Transport Mexico, S.A. de C.V.	Sale of goods	–	29,120.00
China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	Sale of goods	–	5,309.73
CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	Provision of services	271,640,898.23	20,500,000.00

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(1) Related party transactions of purchasing or selling goods and rendering or receiving services (Continued)

Related party	Contents of related party transactions	Amount for the current period	Amount for the previous period
Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	Provision of services	96,581,872.78	–
CRSC Real Estate Co., Ltd. (通號置業有限公司)	Provision of services	15,450,443.34	37,664,142.08
Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	Provision of services	14,566,035.72	–
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	Provision of services	1,836,540.44	29,814,472.23
Siemens Signalling Company Ltd. (西門子信號有限公司)	Provision of services	540,575.84	81,276.55
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特實電氣有限公司)	Provision of services	291,792.45	–
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Provision of services	86,564.86	–
Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	Provision of services	–	12,192,055.97
Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	Provision of services	–	7,294,327.73
CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	Provision of services	–	38,994.34
Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	Provision of services	–	13,077.74
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	Provision of services	–	471.70

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(1) *Related party transactions of purchasing or selling goods and rendering or receiving services* (Continued)

Explanation about related party transactions of purchasing or selling goods and rendering or receiving services

Applicable Not applicable

(2) *Connected entrusted management/contracting and entrusted management/outsourcing*

Statement on entrusted management/contracting by the Company:

Applicable Not applicable

Description of connected custody/contracting

Applicable Not applicable

Statement on entrusted management/outsourcing by the Company:

Applicable Not applicable

Description of connected management/outsourcing

Applicable Not applicable

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(3) Leases with related parties

The Company as lessor:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of lessee	Type of leased assets	Rental income recognized in the current period	Rental income recognized in the previous period
Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	Fixed assets	2,433,302.75	2,433,302.75
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	Fixed assets	589,276.39	117,855.00
Xi'an Tongxin Railway Equipment Manufacturing Co., Ltd. (西安同鑫鐵路器材製造有限責任公司)	Fixed assets	-	754,919.18

The Company as lessee:

Applicable Not applicable

Unit: Yuan Currency: RMB

Name of lessor	Type of leased assets	Short-term lease and low-value asset lease expense under simplified approach (if applicable)		Variable lease payments not included in the measurement of the lease liabilities (if applicable)		Rental expenses		Interest expense on lease liabilities		Right-of-use asset acquired	
		Amount for the current period	Amount for the previous period	Amount for the current period	Amount for the previous period	Amount for the current period	Amount for the previous period	Amount for the current period	Amount for the previous period	Amount for the current period	Amount for the previous period
CRSC Real Estate Co., Ltd. (通號置業有限公司)	Property	1,338,792.00	-	-	-	-	-	-	-	-	-
Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	Property	211,354.70	-	-	-	-	-	-	-	-	-

Explanation about leases with related parties

Applicable Not applicable

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(3) *Leases with related parties* (Continued)

Note 1: Related party transactions in connection with the above items also constitute connected transactions or continuing connected transactions as defined in Chapter 14A of the Listing Rules of the Hong Kong Stock Exchange.

Note 2: The prices of the property leases between the Company and related parties were determined by both parties through negotiation with referring to market prices.

(4) *Related guarantee*

The Company as guarantor

Applicable Not applicable

The Company as guaranteed party

Applicable Not applicable

Description of related party guarantee

Applicable Not applicable

(5) *Capital lending to/borrowing from related parties*

Applicable Not applicable

(6) *Asset transfer and debt restructuring of related parties*

Applicable Not applicable

(7) *Emolument of key management*

Applicable Not applicable

Unit: 0'000 Yuan Currency: RMB

Item	Amount for the current period	Amount for the previous period
Emolument of key management	<u>315.36</u>	<u>267</u>

Key management comprise executive directors, supervisors, independent non-executive directors and senior management.

(8) *Other related party transactions*

Applicable Not applicable

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(V) Related party transactions (Continued)

(8) *Other related party transactions* (Continued)

The corresponding interests on funds under the centralized management deposited by related parties with the financial company

Related parties	Amount for the current period	Amount for the previous period
CRSC Real Estate Co., Ltd. (通號置業有限公司)	112,296.73	—
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	26,273.16	—
Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	3,942.87	—
Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	1,155.10	—
China Railway Signal and Communication (Group) Corporation Limited	888.46	—
Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	0.04	—

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties

(1) Receivables

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Name of item	Related Party	Closing balance		Opening balance	
		Book balance	Provision for bad debts	Book balance	Provision for bad debts
Accounts receivable					
	CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	271,640,898.23	-	270,478,117.58	-
	CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	223,968,129.60	13,248,590.65	223,364,552.80	10,435,579.15
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	70,172,654.32	-	81,207,832.22	-
	Siemens Signalling Company Ltd. (西門子信號有限公司)	18,164,311.20	10,768.55	5,668,983.32	21,768.12
	Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	14,566,035.72	-	37,235,921.67	-
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	6,940,445.46	-	11,039,721.40	-
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	6,667,245.78	33,783.01	6,286,930.23	31,881.44
	Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	3,022,393.80	15,111.97	1,847,160.00	15,347.01
	ALSTOM Transport S.A.	233,368.00	1,166.85	-	-
	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	103,600.00	-	-	-
	Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	-	-	40,716,302.73	204,604.54
	Siping Integrated Pipeline Construction Co., Ltd. (四平市綜合管廊建設運營有限公司)	-	-	40,053,876.28	200,269.39
	ALSTOM Transport India Limited	-	-	952,347.84	15,489.51
	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)	-	-	287,160.54	-
	ALSTOM Transport (S) Pte Ltd.	-	-	164,889.00	825.84
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	-	-	127,800.00	639.00
	ALSTOM Transport SA-Saint Ouen	-	-	80,391.00	401.96
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	-	-	23,760.00	-
	ALSTOM Transport SA (Romania)	-	-	16.00	-

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

(1) Receivables (Continued)

Name of item	Related Party	Closing balance		Opening balance	
		Book balance	Provision for bad debts	Book balance	Provision for bad debts
Prepayments	ALSTOM Transport SA-Saint Ouen	98,338,259.53	-	30,370,662.61	-
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	2,458,416.39	-	2,055,834.67	-
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	948,719.22	-	-	-
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	14,919.80	-	20,887.72	-
	ALSTOM Signaling Inc.	2,940.24	-	-	-
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	-	-	3,900.00	-
	Dividends receivable				
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	22,500,000.00	-	-	-
	Siemens Signalling Company Ltd. (西門子信號有限公司)	-	-	6,075,000.00	-
Other receivables	Siemens Signalling Company Ltd. (西門子信號有限公司)	855,604.62	-	649,774.21	-
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	734,070.00	-	-	-
	China Railway Transportation Equipment Co., Ltd. (中國城軌交通設備有限公司)	420,885.29	-	-	-
	Beijing CRSC Beifang Real Estate Co., Ltd. (北京通號北房置業有限公司)	381,544.87	-	2,222,766.76	-
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	111,615.44	-	32,134.56	-
	CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	20,300.00	-	-	-
	CRSC Foshan Real Estate Co., Ltd. (通號佛山置業有限公司)	13,815.82	-	17,301.18	-
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	10,000.00	-	10,000.00	-
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	-	-	314,943.80	-
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	-	-	285,358.28	22,051.44

XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

(2) Payables

Applicable Not applicable

		Unit: Yuan	Currency: RMB
Name of item	Related party	Book balance at the end of the period	Book balance at the beginning of the period
Accounts payable			
	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	140,647,078.85	132,845,757.18
	CRSC Smart Data Technology (Beijing) Co., Ltd. (通智數據科技(北京)有限公司)	48,832,564.35	-
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	28,697,815.79	32,954,805.20
	ALSTOM Transport SA-Saint Ouen Siemens Signalling Company Ltd. (西門子信號有限公司)	19,339,308.78	82,545,944.04
	Zhongguancun Chipsea Prioritizing Technology Co., Ltd. (中關村芯海擇優科技有限公司)	11,102,981.21	13,684,417.69
	Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)	5,326,630.78	262,954.81
	Alstom Investment (Shanghai) Co., Ltd. (阿爾斯通投資(上海)有限公司)	3,699,873.61	1,700,412.61
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	2,675,568.40	2,963,223.11
	ALSTOM Signaling Inc.	844,790.57	-
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	426,373.66	52,779,024.61
	Tianjin Keyvia Electric Co., Ltd. (天津凱發電氣股份有限公司)	369,621.97	256,751.53
	Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	257,209.02	-
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	64,953.41	64,953.41
	ALSTOM Transport SA-Villeurbanne	35,510.00	908,553.36
	ALSTOM Ferroviaria S.p.A	-	1,195,269.63
		-	83,048.45

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

(2) Payables (Continued)

✓ Applicable □ Not applicable

		Unit: Yuan	Currency: RMB
Name of item	Related party	Book balance at the end of the period	Book balance at the beginning of the period
Bills payable	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	1,993,509.86	–
	Xi'an Schaltbau Electric Corp., Ltd. (西安沙爾特寶電氣有限公司)	100,000.00	100,000.00
	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	–	1,500,000.00
Other payables	China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)	30,297,036.45	777,896.85
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	2,558,017.60	697,728.66
	China Tietong Railway Operation Co., Ltd. (中鐵通軌道運營有限公司)	220,129.73	186,783.90
	Tianshui Tram Co., Ltd. (天水有軌電車有限責任公司)	104,241.22	–
	Gu'an Beixin Railway Signal Co., Ltd. (固安北信鐵路信號有限公司)	15,500.00	–
	Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	3,706.00	–
	CRSC Tianshui Tram Co., Ltd. (天水通號有軌電車有限責任公司)	–	103,461.75

NOTES TO FINANCIAL STATEMENTS

30 June 2023

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VI) Amounts due from/to related parties (Continued)

(2) Payables (Continued)

Applicable Not applicable

		Unit: Yuan	Currency: RMB
Name of item	Related party	Book balance at the end of the period	Book balance at the beginning of the period
Contract liabilities			
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	13,719,089.94	-
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	8,461,272.77	8,390,102.80
	ALSTOM Transport S.A.	4,660,841.56	-
	ALSTOM Transport SA-Saint Ouen	-	4,238,125.56
	ALSTOM Transport Australia Pty. Ltd	-	975,045.42
	ALSTOM Transport (S) Pte Ltd.	-	206,954.00
	ALSTOM Transport India Limited	-	46,105.06
Customers deposits and deposits from banks and other financial institutions			
	CRSC Real Estate Co., Ltd. (通號置業有限公司)	94,700,186.13	-
	Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	19,457,617.30	-
	CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)	14,722,566.14	-
	China Railway Signal and Communication (Group) Corporation Limited	11,167,089.46	-
	Beijing Railways Signal & Communication Complete Equipment Company Ltd. (北京鐵路通信信號成套設備有限公司)	5,161,083.08	-
	Beijing Erqi Communication Factory Co., Ltd. (北京二七通信工廠有限公司)	1,527,154.03	-
	Beijing Beixin Fengyuan Railway Electronic Equipment Co., Ltd. (北京北信豐元鐵路電子設備有限公司)	1,484,185.53	-
	Xi' an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	56.88	-

Note: As of 30 June 2023, the Company's receivables from and payables to related parties were interest-free, unsecured and with no fixed repayment date.

NOTES TO FINANCIAL STATEMENTS

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XII. RELATED PARTIES AND RELATED PARTY TRANSACTIONS (Continued)

(VII) Commitments of related parties

Applicable Not applicable

Name of item	Related party	30 June 2023	31 December 2022
Procurement of goods/ receipt of services	ALSTOM Transport SA-Saint Ouen	461,530,093.13	214,869,007.73
	ALSTOM Signaling Inc.	5,856,510.90	6,848,028.00
	Siemens Signalling Company Ltd. (西門子信號有限公司)	4,044,325.20	6,427,113.61
	Shanghai Xinlicheng Communication Technology Service Co., Ltd. (上海信立城通信技術服務有限公司)	420,000.00	–
	ALSTOM Transport SA-Villeurbanne	–	19,657,533.25
	Xi'an Weixun Monitoring Equipment Co., Ltd. (西安唯迅監控設備有限公司)	–	167,644.00
	Sale of goods/provision of services	ALSTOM Transport S.A.	234,137,587.90
ALSTOM Transport Australia Pty. Ltd		33,104,499.66	38,288,033.77
ALSTOM Transport India Limited		32,456,712.00	31,843,658.00
China Railway Signal and Communication (Group) Corporation Limited (中國鐵路通信信號集團有限公司)		12,196,994.27	–
ALSTOM Signaling Inc.		1,444,950.00	–
ALSTOM Transport (S) Pte Ltd.		750,695.00	690,693.00
ALSTOM Hong Kong Ltd		385,000.00	325,000.00
Alstom Technical Services (Shanghai) Co., Ltd. (阿爾斯通技術服務(上海)有限公司)		370,238.28	–
CRSC Guizhou Real Estate Co., Ltd. (通號貴州置業有限公司)		249,867.93	–
CITADIS ISRAEL LTD		190,991.82	–
ALSTOM Transport Spain Limited		126,501.25	843,854.25
ALSTOM Transport SA (Romania)		23,508.00	73,822.00
Tianjin Jingui Huihai Technology Development Co., Ltd. (天津津軌匯海科技發展有限公司)		–	2,613,553.00

(VIII) Others

Applicable Not applicable

XIII. SHARE-BASED PAYMENTS

1. Overview of share-based payments

Applicable Not applicable

(I) Equity-settled share-based payments

Applicable Not applicable

(II) Cash-settled share-based payments

Applicable Not applicable

(III) Modification and termination of share-based payments

Applicable Not applicable

(IV) Others

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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XIV. COMMITMENTS AND CONTINGENCIES

(I) Significant commitments

Applicable Not applicable

Major external commitments, nature and amount thereof as at the balance sheet date

Name of item	Closing balance	Balance at the end of the previous year
Contracted, but not provided for	–	–
Capital commitment	–	1,000,000.00
Investment commitment	422,350,000.00	<u>422,600,000.00</u>
Total	<u>422,350,000.00</u>	<u>423,600,000.00</u>

(II) Contingencies

(1) Significant contingencies existing as at the balance sheet date

Applicable Not applicable

(2) The Company shall also give an explanation if it has no disclosable significant contingencies:

Applicable Not applicable

As at the balance sheet date, the Company has no disclosable contingencies.

(III) Others

Applicable Not applicable

XV. EVENTS AFTER THE BALANCE SHEET DATE

(I) **Material non-adjusting events**

Applicable Not applicable

(II) **Profit distribution**

Applicable Not applicable

(III) **Sales return**

Applicable Not applicable

(IV) **Explanation of other events after the balance sheet date**

Applicable Not applicable

XVI. OTHER SIGNIFICANT EVENTS

(I) **Early correction of accounting error**

(1). Retrospective restatement

Applicable Not applicable

(2). Prospective application

Applicable Not applicable

(II) **Debt restructuring**

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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XVI. OTHER SIGNIFICANT EVENTS (Continued)

(III) Asset replacement

(1) *Exchange of non-monetary assets*

Applicable Not applicable

(2) *Other asset replacement*

Applicable Not applicable

(IV) Annuity plan

Applicable Not applicable

(V) Discontinuing operations

Applicable Not applicable

(VI) Segment information

(1) *Basis for determining and accounting policies of reportable segments*

Applicable Not applicable

For management purposes, the Company is divided into business units based on the products and services. The Company has the following three reportable segments:

- (1) The rail transportation control system segment mainly provides a specialized “three-in-one” service comprising of design and integration, equipment manufacturing and system delivery for rail transportation control systems;
- (2) General engineering contracting segment mainly includes municipal engineering contracting and the construction services of other engineering projects;
- (3) Other segments mainly engage in trading etc.

The management separately manages the operating results of each business unit for the purpose of making decisions about resources allocation and performance assessment.

Segment performance is evaluated based on the profit of a reportable segment. The indicator is consistent with the total profit of the Company.

Inter-segment transfer pricing is determined by reference to prices adopted in sales or provision of labor services to third parties.

XVI. OTHER SIGNIFICANT EVENTS (Continued)

(VI) Segment information (Continued)

(2) Financial information of reportable segment

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Rail transportation control system	General engineering contracting	Others	Inter-segment offsetting	Total
Revenue from external transactions	13,450,058,390.29	3,134,631,115.38	48,320,694.30	-	16,633,010,199.97
Revenue from inter-segment transactions	162,596,310.23	7,402,352.49	2,433,566.86	172,432,229.58	-
Investment income from joint ventures and associates	29,594,600.79	22,793,152.17	-	-	52,387,752.96
Asset impairment loss	3,774,801.51	-2,378,622.51	-	-	1,396,179.00
Credit impairment loss	92,308,717.87	-18,377,975.28	97,732.11	-	74,028,474.70
Depreciation and amortization fees	277,232,462.94	13,727,471.84	91,096.50	-	291,051,031.28
Total profit	/	/	/	/	2,491,777,719.38
Income tax expenses	/	/	/	/	383,191,151.42
Net profit (net loss)	/	/	/	/	2,108,586,567.96
Long-term equity investments in joint ventures and associates	1,260,519,565.65	192,658,663.70	-	-	1,453,178,229.35
Capital expenditures	318,807,749.45	755,784,126.14	12,066.34	-	1,074,603,941.93
Total assets	81,183,090,207.11	35,363,954,083.45	2,174,090,304.21	-	118,721,134,594.77
Total liabilities	43,704,595,470.96	27,268,345,069.88	251,120,381.83	-	71,224,060,922.67

Note: Capital expenditures include the increases in investment property, fixed assets, construction in progress, right-of-use assets, intangible assets, development expenditures and long-term deferred expenses this year.

(3) Company shall explain the reason why there is no reportable segment or it cannot disclose the total assets and total liabilities of each reportable segment

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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XVI. OTHER SIGNIFICANT EVENTS (Continued)

(VI) Segment information (Continued)

(4) Other explanation

Applicable Not applicable

(VII) Other material transactions and matters that have an impact on investors' decisions

Applicable Not applicable

(VIII) Others

Applicable Not applicable

Geographic information

(1) Revenue from external transactions

Revenue from external transactions	Amount for the current period	Amount for the same period last year
China	16,046,283,750.32	17,949,387,934.79
Other countries or regions	586,726,449.65	433,974,502.96
Total	<u>16,633,010,199.97</u>	<u>18,383,362,437.75</u>

Note: Revenue from external transactions is categorized by where the customers are located.

(2) Total non-current assets

Total non-current assets	30 June 2023	31 December 2022
China	<u>11,145,208,501.80</u>	<u>10,913,880,128.68</u>

Note: Non-current assets are categorized based on where the assets (excluding financial assets and deferred tax assets) are located.

NOTES TO FINANCIAL STATEMENTS

30 June 2023

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS

(I) Bills receivable

Item	Closing balance	Balance at the end of last year
Bank acceptance bills	3,795,752.50	79,973,817.53
Commercial acceptance bills	73,304,857.43	80,214,460.91
Subtotal	77,100,609.93	80,214,460.91
Less: Provision for bad debt	219,914.57	240,643.38
Total	<u>76,880,695.36</u>	<u>79,973,817.53</u>

Note: As at 30 June 2023, the Company has no bills receivables that have been pledged, endorsed or discounted but not yet due at the balance sheet.

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable

(1) Disclosure by ageing on recording dates

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging

Within 1 year
1 to 2 years
2 to 3 years
Over 3 years

Subtotal
Less: Provision for bad debt

Total

Closing book balance

826,619,249.08
293,584,539.95
235,915,851.91
340,092,266.69

1,696,211,907.63
127,958,628.11

1,568,253,279.52



XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

(2) Disclosure by the method of provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Categories	Closing balance					Opening balance				
	Gross carrying amount		Provision for bad debt			Gross carrying amount		Provision for bad debt		
	Amount	Proportion (%)	Amount	Percentage of provision (%)	Book value	Amount	Proportion (%)	Amount	Percentage of provision (%)	Book value
Single provision for bad debt	452,335,189.88	26.67	2,831,288.06	0.63	449,503,901.82	459,225,210.57	24.07	2,831,288.06	0.62	456,393,922.51
Provision withdrawn for bad debt on a combination basis	1,243,876,717.75	73.33	125,127,340.05	10.06	1,118,749,377.70	1,448,370,012.51	75.93	116,657,877.67	8.05	1,331,712,134.84
Total	1,696,211,907.63	100.00	127,958,628.11		1,568,253,279.52	1,907,595,223.08	100.00	119,489,165.73	/	1,788,106,057.35

Single provision for bad debt:

Applicable Not applicable

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

(2) Disclosure by the method of provision for bad debts (Continued)

Unit: Yuan Currency: RMB

Name	Gross carrying amount	Closing balance		Reasons for provision
		Provision for bad debt	Percentage of provision (%)	
Single provision for bad debt	<u>452,335,189.88</u>	<u>2,831,288.06</u>	<u>0.63</u>	Estimated irrecoverable
Total	<u>452,335,189.88</u>	<u>2,831,288.06</u>	<u>0.63</u>	/

Descriptions of Single provision for bad debt:

Applicable Not applicable

Provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

(2) Disclosure by the method of provision for bad debts (Continued)

Items of provision on a combination basis: accounts receivable for which provision for bad debt is made based on a combination basis by credit risk characteristics

Unit: Yuan Currency: RMB

Name	Closing balance		Percentage of provision (%)
	Accounts receivable	Provision for bad debt	
Within 1 year	619,225,697.01	3,096,128.58	0.50
1 to 2 years	235,686,328.45	11,784,316.40	5.00
2 to 3 years	207,971,972.43	20,797,197.25	10.00
Over 3 years	180,992,719.86	89,449,697.82	49.42
Total	<u>1,243,876,717.75</u>	<u>125,127,340.05</u>	/

Recognition standards and descriptions of provision withdrawn for bad debt on a combination basis:

Applicable Not applicable

If provisions for bad debts are made as per the general model of ECL, please make disclosure with reference to other receivables:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

(3) Provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Category	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Single provision for bad debt	2,831,288.06	-	-	-	2,831,288.06
Provision withdrawn for bad debt on a combination basis by credit risk characteristics	116,657,877.67	8,468,788.34	-	-	125,127,340.05
Total	119,489,165.73	8,468,788.34	-	-	127,958,628.11

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

(4) Write-off of accounts receivable for the period

Applicable Not applicable

(5) Top five accounts receivable by closing balance of debtors

Applicable Not applicable

30 June 2023

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB495,679,207.42, accounting for 29.20% of the total closing balance of accounts receivable. The total closing balance of the corresponding provision for bad debt amounted to RMB18,103,496.01.

31 December 2022

The total amount of top five accounts receivable by closing balance of debtors amounted to RMB588,251,757.04, accounting for 30.84% of the total closing balance of accounts receivable. The total closing balance of the corresponding provision for bad debt amounted to RMB2,748,849.85.

(6) Accounts receivable derecognized due to the transfer of financial assets

Applicable Not applicable

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(II) Accounts receivable (Continued)

(7) Amount of assets or liabilities resulting from transferring of accounts receivable and continuing involvement

Applicable Not applicable

Other explanation:

Applicable Not applicable

(III) Receivable for financing

(1) Receivable for financing

Item	Closing balance	Closing balance of last year
Bank acceptance bills	14,100,000.00	54,684,084.19
Commercial acceptance bills	—	—
Total	<u>14,100,000.00</u>	<u>54,684,084.19</u>

(2) Notes receivable endorsed or discounted by the Company at the end of the period and not yet due on the balance sheet date

Item	Amount derecognized at the end of the period	Amount not derecognized at the end of the period
Bank acceptance bills	—	—
Total	<u>—</u>	<u>—</u>

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables

Presentation of item

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance	Opening balance
Interests receivable	—	—
Dividends receivable	2,136,012,930.31	161,752,930.31
Other receivables	6,265,275,617.88	6,255,470,067.85
Total	8,401,288,548.19	6,417,222,998.16

Other explanation:

Applicable Not applicable

Interests receivable

(1) *Classification of interests receivable*

Applicable Not applicable

(2) *Significant overdue interest*

Applicable Not applicable

(3) *Provision for bad debts*

Applicable Not applicable

Other explanation:

Applicable Not applicable

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Dividends receivable

(4) Dividends receivable

Applicable Not applicable

Item (or investee)	Unit: Yuan Currency: RMB	
	Closing balance	Opening balance
CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	740,430,000.00	-
CASCO Signal Ltd. (卡斯柯信號有限公司)	356,370,000.00	-
CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	336,420,000.00	-
CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	186,986,000.00	158,136,000.00
China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	112,540,000.00	-
CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	111,560,000.00	-
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	91,080,000.00	-
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	61,540,000.00	-
Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	55,810,000.00	-
CRSC Cables Company Ltd. (通號電纜集團有限公司)	27,850,000.00	-
CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	13,800,000.00	-
CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	11,040,000.00	-
CRSC International Holdings Company Limited (通號國際控股有限公司)	10,750,000.00	-
CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	7,950,000.00	-
CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	6,110,000.00	-
CRSC Wanquan Signal Equipment Co., LTD. (通號萬全信號設備有限公司)	3,616,930.31	3,616,930.31
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	1,980,000.00	-
CRSC (Zhengzhou) Electrification Bureau Co., Ltd. (通號(鄭州)電氣化局有限公司)	180,000.00	-
Total	2,136,012,930.31	161,752,930.31

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Dividends receivable (Continued)

(5) *Significant dividends receivable with an age over 1 year*

Applicable Not applicable

(6) *Provision for bad debts*

Applicable Not applicable

Other explanation:

Applicable Not applicable

Other receivables

(7) *Disclosure by ageing*

Applicable Not applicable

Unit: Yuan Currency: RMB

Aging

Within 1 year

1 to 2 years

2 to 3 years

Over 3 years

Subtotal

Less: Provision for bad debts

Total

Closing book balance

1,022,770,941.51

2,586,137,967.56

2,406,094,587.90

252,357,628.06

6,267,361,125.03

2,085,507.15

6,265,275,617.88



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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Other receivables (Continued)

(8) *Classified by nature of accounts*

Applicable Not applicable

Unit: Yuan Currency: RMB

Nature of accounts	Closing book balance	Opening book balance
Loans from subsidiaries	4,112,843,130.00	5,942,843,130.00
Advances	2,106,431,882.67	256,412,878.94
Others	48,086,112.36	56,799,306.71
Sub-total	6,267,361,125.03	6,256,055,315.65
Less: Provision for bad debts	2,085,507.15	585,247.80
Total	<u>6,265,275,617.88</u>	<u>6,255,470,067.85</u>

NOTES TO FINANCIAL STATEMENTS

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Other receivables (Continued)

(9) *Provision for bad debts*

Applicable Not applicable

Unit: Yuan Currency: RMB

Provision for bad debt	Stage 1	Stage 2	Stage 3	Total
	12-month ECL	Lifetime ECL (non-credit impaired)	Lifetime ECL (credit-impaired)	
Amounts due as at 1 January 2023	213,196.80	–	372,051.00	585,247.80
Amounts due for the period as at 1 January 2023	–	–	–	–
– Transferred to stage 2	–	–	–	–
– Transferred to stage 3	–	–	–	–
– Reversed to stage 2	–	–	–	–
– Reversed to stage 1	–	–	–	–
Provision for the period	1,500,259.35	–	–	1,500,259.35
Reversal for the period	–	–	–	–
Write-off for the period	–	–	–	–
Cancellation for the period	–	–	–	–
Other changes	–	–	–	–
Amounts due as at 30 June 2023	<u>1,713,456.15</u>	<u>–</u>	<u>372,051.00</u>	<u>2,085,507.15</u>

Explanation about obvious changes in gross carrying amount of other receivables for which loss provision has changed in the period:

Applicable Not applicable

Amount of provision for bad debt for the period and basis for evaluating whether credit risk of financial instruments increases significantly:

Applicable Not applicable

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Other receivables (Continued)

(10) Provision for bad debts

Applicable Not applicable

Unit: Yuan Currency: RMB

Categories	Opening balance	Increase/decrease during the period			Closing balance
		Provision	Recovery or reversal	Write-off or cancellation	
Provision for bad debts	585,247.80	1,500,259.35	-	-	2,085,507.15
Total	585,247.80	1,500,259.35	-	-	2,085,507.15

Including significant amounts of provision for bad debts recovered or reversed in the period:

Applicable Not applicable

(11) Write-off of other receivables for the period

Applicable Not applicable

Explanation for write-off of other receivables:

Applicable Not applicable

(12) Top five other receivables by closing balance of debtors

Applicable Not applicable

30 June 2023

The total amount of top five other receivables by closing balance of debtors amounted to RMB5,641,810,776.89, accounting for 90.01% of the total closing balance of other receivables. There was no need to make provision for bad debt.

31 December 2022

The total amount of top five other receivables by closing balance of debtors amounted to RMB5,761,642,694.29, accounting for 92.10% of the total closing balance of other receivables. There was no need to make provision for bad debt.

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(IV) Other receivables (Continued)

Other receivables (Continued)

(13) *Receivables involving government subsidies*

Applicable Not applicable

(14) *Other receivables derecognized due to the transfer of financial assets*

Applicable Not applicable

(15) *Amount of assets or liabilities resulting from transfer of other receivables and continuing involvement*

Applicable Not applicable

Other explanation:

Applicable Not applicable

(V) Long-term equity investments

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Closing balance			Opening balance		
	Balance of carrying amount	Impairment provision	Carrying amount	Balance of carrying amount	Impairment provision	Carrying amount
Investment in subsidiaries	18,429,896,919.24	-	18,429,896,919.24	18,350,119,539.81	-	18,350,119,539.81
Investments in associates and joint ventures	835,194,569.70	-	835,194,569.70	895,054,025.19	-	895,054,025.19
Total	<u>19,265,091,488.94</u>	<u>-</u>	<u>19,265,091,488.94</u>	<u>19,245,173,565.00</u>	<u>-</u>	<u>19,245,173,565.00</u>

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

(1) Investment in subsidiaries

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Investee	Opening balance	Increase for the period	Decrease for the period	Closing balance	Provision for impairment for the period	Closing balance of provision for impairment
China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd. (中國鐵路通信信號上海工程局集團有限公司)	1,635,118,995.36	-	-	1,635,118,995.36	-	-
CRSC Research & Design Institute Group Co., Ltd. (北京全路通信信號研究設計院集團有限公司)	2,183,153,452.31	-	-	2,183,153,452.31	-	-
CRSC Communication & Information Group Company Ltd. (通號通信信息集團有限公司)	370,790,731.45	-	-	370,790,731.45	-	-
CRSC Urban Rail Transit Technology Co., Ltd. (通號城市軌道交通技術有限公司)	100,000,000.00	-	-	100,000,000.00	-	-
CRSC International Holdings Company Limited (通號國際控股有限公司)	463,000,000.00	79,777,379.43	-	542,777,379.43	-	-
CRSC Innovation Investment Co., Ltd. (通號創新投資有限公司)	2,901,431,060.71	-	-	2,901,431,060.71	-	-
CRSC Engineering Group Company Ltd. (通號工程局集團有限公司)	1,090,447,494.77	-	-	1,090,447,494.77	-	-
CRSC Cables Company Ltd. (通號電纜集團有限公司)	389,223,087.50	-	-	389,223,087.50	-	-
CRSC (Changsha) Rail Transit Control Technology Company Limited (通號(長沙)軌道交通控制技術有限公司)	1,454,470,000.00	-	-	1,454,470,000.00	-	-

NOTES TO FINANCIAL STATEMENTS

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

(1) Investment in subsidiaries (Continued)

Investee	Opening balance	Increase for the period	Decrease for the period	Closing balance	Provision for impairment for the period	Closing balance of provision for impairment
CASCO Signal Ltd. (卡斯柯信號有限公司)	731,460,709.51	-	-	731,460,709.51	-	-
CRSC (Xi'an) Rail Industry Group Co., Ltd. (通號(西安)軌道交通工業集團有限公司)	2,161,476,363.60	-	-	2,161,476,363.60	-	-
Zhengzhou Zhongyuan Railway Engineering Co., Ltd. (鄭州中原鐵道工程有限責任公司)	325,000,000.00	-	-	325,000,000.00	-	-
CRSC Construction Group Co., Ltd. (通號建設集團有限公司)	1,278,913,017.40	-	-	1,278,913,017.40	-	-
China Railway Signal & Communication International Co., Ltd. (中國通號國際有限公司)	2,581,200.00	-	-	2,581,200.00	-	-
CRSC Jishou Tengda Project Management Co., Ltd. (吉首通號騰達項目管理有限責任公司)	405,000,000.00	-	-	405,000,000.00	-	-
CRSC Jishou Huatai Pipeline Project Management Co., Ltd. (吉首通號華泰管廊項目管理有限責任公司)	522,000,000.00	-	-	522,000,000.00	-	-
CRSC (Jiangsu) Smart City Construction & Development Co., Ltd. (通號(江蘇)智慧城市建設開發有限公司)	431,053,427.20	-	-	431,053,427.20	-	-
CRSC (Beijing) Tendering Company Ltd. (通號(北京)招標有限公司)	5,000,000.00	-	-	5,000,000.00	-	-
CRSC Group Finance Limited (通號集團財務有限公司)	1,900,000,000.00	-	-	1,900,000,000.00	-	-
Total	18,350,119,539.81	79,777,379.43	-	18,429,896,919.24	-	-

NOTES TO FINANCIAL STATEMENTS

30 June 2023

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(V) Long-term equity investments (Continued)

(2) Investments in associates and joint ventures

Applicable Not applicable

Unit: Yuan Currency: RMB

Investee	Increase/decrease during the period										
	Opening balance	Increase in investment	Decrease in investment	Investment gains/losses recognized under the equity method	Other comprehensive income adjustment	Other equity changes	Declared and paid cash dividends or profits	Provision for impairment	Others	Closing balance	of provision for impairment
I. Joint venture											
Hangwen High-Speed Railway	76,503,772.49	-	76,503,772.49	-	-	-	-	-	-	-	-
Subtotal	76,503,772.49	-	76,503,772.49	-	-	-	-	-	-	-	-
II. Associates											
CSCEC Foshan	12,616,233.38	-	-	-	-	-	-	-	-	12,616,233.38	-
Siping Pipeline	224,763,946.36	-	-	-	-	-	-	-	-	224,763,946.36	-
Guangdong Ultrast	351,646,087.12	-	-	-	-	-	-	-	-	351,646,087.12	-
CRSC Tianshui	229,523,985.84	-	-	16,644,317.00	-	-	-	-	-	246,168,302.84	-
Subtotal	818,550,252.70	-	-	16,644,317.00	-	-	-	-	-	835,194,569.70	-
Total	895,054,025.19	-	76,503,772.49	16,644,317.00	-	-	-	-	-	835,194,569.70	-

Other explanation:

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

30 June 2023
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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(VI) Revenue and costs of sales

(1) Revenue and costs of sales

✓ Applicable □ Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period		Amount for the last period	
	Revenue	Cost	Revenue	Cost
Principal operations	1,518,137,692.07	1,418,788,390.06	1,602,937,077.38	1,408,622,584.16
Other operations	81,985,715.96	18,931,368.31	77,932,554.52	16,509,972.13
Total	<u>1,600,123,408.03</u>	<u>1,437,719,758.37</u>	<u>1,680,869,631.90</u>	<u>1,425,132,556.29</u>

Revenue is presented:

	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Rail transportation control system	1,505,634,124.12	1,573,073,047.16
System implementation	–	600,978,385.55
Design and integration	686,074,981.49	972,094,661.61
Construction contracting	819,559,142.63	29,864,030.22
Others	13,636,443.92	77,932,554.52
Total	<u>80,852,839.99</u>	<u>1,680,869,631.90</u>

XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(VI) Revenue and costs of sales (Continued)

(1) Revenue and costs of sales (Continued)

Cost of sales is listed:

	For the six months ended 30 June 2023	For the six months ended 30 June 2022
Rail transportation control system	1,406,245,741.49	1,381,014,290.40
Equipment manufacturing	–	–
System implementation	628,288,395.03	530,665,710.57
Design and integration	777,957,346.46	850,348,579.83
Construction contracting	12,693,799.57	27,608,293.76
Others	18,780,217.31	16,509,972.13
Total	<u>1,437,719,758.37</u>	<u>1,425,132,556.29</u>

(2) Revenue from contracts

Applicable Not applicable

(3) Details of performance obligation

Applicable Not applicable

(4) Explanation about allocation to the remaining performance obligations

Applicable Not applicable

NOTES TO FINANCIAL STATEMENTS

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XVII. NOTES TO KEY ITEMS OF THE PARENT COMPANY'S FINANCIAL STATEMENTS (Continued)

(VII) Investment income

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount for the current period	Amount for the last period
Income from long-term equity investments under the cost method	1,981,553,000.00	1,737,439,667.36
Income from long-term equity investments under the equity method	16,644,317.00	34,079,576.40
Investment income from disposal of long-term equity investments	13,796,227.51	—
Investment income from holding financial assets held for trading	—	—
Dividend income from holding other equity instrument investments	—	—
Interest income from holding debt investments	4,551,081.06	—
Interest income from holding investment in other equity instruments	—	—
Investment income from disposal of financial assets held for trading	—	—
Investment gain from disposal of investment in other equity instruments	—	—
Investment gain from disposal of debt investments	—	—
Investment gain from disposal of other equity investments	—	—
Income on debt restructuring	—	—
Investment income from capital borrowings (note)	117,789,895.00	112,762,803.89
Total	<u>2,134,334,520.57</u>	<u>1,884,282,047.65</u>

Other explanations:

The investment income from borrowings is the interest charged by the Company for providing capital for subsidiaries.

(VIII) Others

Applicable Not applicable

XVIII. SUPPLEMENTARY INFORMATION

(I) Breakdown of current non-recurring profit or loss

Applicable Not applicable

Unit: Yuan Currency: RMB

Item	Amount	Note
Profit and loss on disposal of non-current assets	14,026,928.28	
Government grants recognized through profit or loss for the period (other than government grants which are closely related to the Company's normal business operations, which comply with national policies and can be enjoyed continuously based on a fixed amount or a fixed quantity according to a certain standard)	109,332,132.39	
Reversal of the impairment provision for receivables and contract assets which are tested individually for impairment	–	
Other non-operating income and expenses apart from the aforesaid items	8,761,430.17	
Other gain or loss items falling within the definition of extraordinary items	–	
Less: Effect of income tax	11,890,735.46	
Effect of minority interest (after tax)	10,809,944.11	
Total	109,419,811.27	

Reasons shall be given with respect to the Company classifying the non-recurring profit and loss items defined and listed in the Explanatory Notice on Information Disclosure of Companies with Public Offering No. 1-Non-recurring Profit and Loss (《公開發行證券的公司信息披露解釋性公告第1號—非經常性損益》) as recurring profit and loss items.

Applicable Not applicable

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XVIII. SUPPLEMENTARY INFORMATION (Continued)

(II) Return on net assets and earnings per share

Applicable Not applicable

Profit for the Reporting Period	Weighted average return on net assets (%)	Earnings per share	
		Basic earnings per share	Diluted earnings per share
Net profit attributable to ordinary shareholders of the Company	4.03	0.17	0.17
Net profit attributable to ordinary shareholders of the Company after deducting non-recurring profits and losses	3.79	0.16	0.16

(III) Differences in accounting data between domestic and overseas accounting standards

Applicable Not applicable

(IV) Others

Applicable Not applicable

Chairman: ZHOU Zhiliang

Date of approval by the Board for submission: 24 August 2023

Information on amendment

Applicable Not applicable