京投轨道交通科技控股有限公司
BII Railway Transportation Technology Holdings Company Limited

(Incorporated in the Cayman Islands with limited liability)
Stock code: 1522

2019
Environmental, Social and Governance Report

CONTENTS

CHAIRMAN'S MESSAGE
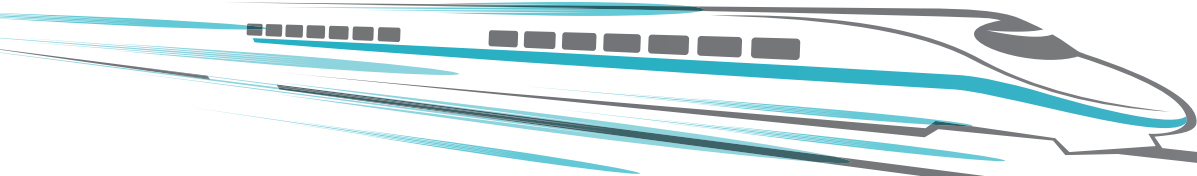
Mr. Zhang Yanyou
Chairman

1. CHAIRMAN'S MESSAGE

As the global market continues to pay more attention to sustainability issues, our Group is also actively assuming its responsibility for the environment and society. As China's leading intelligent rail transit system service provider, the Group is committed to improving passengers' travel experience from an informationized perspective and creating a healthy and environmentally friendly "green travel" approach. We are gradually perfecting our environmental, social and governance (ESG) strategy in order to put our philosophy of sustainable development into practice and create higher value for stakeholders and society.

In 2019, the Group achieved rapid growth in performance. While actively conducting business activities, we further strengthened the Board's work on social responsibility. We continued to review the Group's corporate social responsibility (CSR) strategy to ensure that we could better meet the CSR requirements of the Stock Exchange, stakeholders and society during our development, thereby contributing to social sustainable development.

As an intelligent rail transit system service provider, we empowered cities through our intelligent railway transportation business and infrastructure information business. This has greatly improved train transport efficiency, train energy saving, passenger safety, and passenger travel experience and enhanced the cities' resource utilization and the quality of life.

Within the Group, we worked to continuously develop outstanding talents and integrate social responsibility into our culture to implement the Group's sustainable development goals. In 2019, we delivered employee training and improved employee welfare policies with emphasis on employees' working environment and physical and mental health. Meanwhile, we continued to support environmental stewardship by strengthening the Group's "green office" concept in our daily work and taking different measures to save energy and reduce waste during daily operations.

Our commitment to sustainable development is not limited to our main business. We arrange employees to participate in various charitable activities to show their care for children and the elderly. We organised such activities as visiting old people in Yangshan Nursing Home (陽山護理院) in Suzhou High-tech Zone on the Chung Yeung Festival, meeting children in Suzhou Social Welfare Home (蘇州市社會福利總院) on the eve of the Mid-Autumn Festival, and offering assistance to Zhenningbao Township Central Primary School (鎮寧堡鄉中心小學) in Chicheng County, Zhangjiakou City, Hebei Province. During the year, our employees and their relatives and friends also contributed more than 300 hours of voluntary work in their communities.

We also made utmost efforts to support society in responses to sudden risks through our professional services. During the prevention and control of the 2019 novel coronavirus (2019-nCoV) outbreak from the end of 2019 till now, we have made the best of various technological means and comprehensively adopted measures such as information-based project management and control and networked mobile working, to provide clients with services for various businesses without compromising the health and safety of employees. Our efforts have provided a strong guarantee for the smooth, safe operation of Beijing Rail Transit Control Centre, enabling it to continue playing its key role in the operation of the capital's metro system during the Spring Festival.

In 2019, I was pleased to see that the Board, the Company, and all stakeholders had spared no effort to work together to promote sustainable development in and outside of the Group and proactively take on social responsibilities. I sincerely hope that our Group will continue to receive support from all sectors of society in its sustainable development journey and make a greater contribution to a bright future.

Chairman
Dr. Zhang Yanyou
22 April 2020

ABOUT THIS REPORT

2. ABOUT THIS REPORT

2.1 Overview

This report provides an annual update on the Group's CSR performance in 2019 while demonstrating the philosophy, actions and results of the Group in connection with environment, society and sustainable development by taking into account key concerns of stakeholders and business characteristics of the Group.

2.2 Main scope of the Report

The Company and its subsidiaries ("the Group").

2.3 Time scope

From 1 January 2019 to 31 December 2019.

2.4 Preparation basis of the Report

This report is prepared in accordance with the requirements of "Environmental, Social and Governance Reporting Guide" of the The Stock Exchange of Hong Kong Limited (the "Stock Exchange").

2.5 Description of the Report

This report is published in the traditional Chinese and English. In case of any discrepancies in the content of the report, the traditional Chinese version shall prevail. The electronic version of the report can be read and downloaded through the official website of the Group and the website of the Stock Exchange.

ESG MANAGEMENT VISION AND STRATEGY

3. ESG MANAGEMENT VISION AND STRATEGY

The Board is fully responsible for overseeing and reporting the ESG strategies of the Company and is responsible for assessing and determining the ESG risks to ensure the establishment of an appropriate and effective ESG risk management and internal monitoring system.

With the mission of "energise the railway transportation by intelligent technology", the Group is committed to the mission of developing itself into a "world-class leader in intelligent railway transportation". Moreover, the Group adheres to the spirit of "professionalism, innovation, integrity and win-win" and works together with business partners and employees and contribute its efforts to serve and protect the environments of the communities where it operates.

On 1 January 2016, the 2030 Agenda for Sustainable Development adopted by the United Nations officially came into force. It covers 17 Sustainable Development Goals, the following three of which have been chosen by us as our main directions:

- **Achieve gender equality and empower all women and girls**: We pay attention to providing female employees with equal pay and benefits as well as career development opportunities in the course of our operations;

- **Make cities and human settlements inclusive, safe, resilient and sustainable**: To meet the needs of urbanization for transportation, we enhance railway transportation with technology to help public transportation companies provide safer, more convenient, stable, efficient, and affordable transportation services;

- **Take urgent action to combat climate change and its impacts**: As the transportation sector consumes large amounts of fossil energy and electricity, the way of energy saving is critical to the handling of climate change. We are positioned to reduce the impact of products and services on the natural environment by providing overall solutions that adopt simpler design, increase efficiency, and use fewer materials.

ABOUT THE GROUP

4. ABOUT THE GROUP

The Group is a high-tech conglomerate specializing in the field of rail transit and integrating investment and financing, technology R&D, and intelligent rail transport construction, operation and maintenance. It is also a market leader in the PIS, ACC, TCC, and other intellectual rail transit business. Guided by the mission of "energise the railway transportation by intelligent technology" and the overall strategic development idea of "One Body, One Platform, One Centre", the Group follows the principle of technological innovation and step up its R&D efforts in developing businesses that set rail transit on a path from information to intelligence such as rail transit cloud platforms, big data construction and analysis, smart subways, and intelligent corridors. It has built a new ecosystem that integrates the development of the IoT (Internet of Things), artificial intelligence, cloud computing, big data and rail transit industries.

Looking forward, the Group will focus on the intelligent rail transit industry by continuously exploring innovative rail transit technologies and information system solutions adapted to changes in customer needs and build a business structure that offers full life cycle services for the development of our major rail transit business, aiming to be China's leading intelligent rail transit system service provider. Meanwhile, we adhere to the sustainable development philosophy of being green and environmentally friendly and are committed to creating a harmonious, safe, and green rail transit environment. We strive to create a better travel experience for passengers and transform ourselves into an eco-friendly enterprise while ensuring the sustainable, steady production and operation.

AN OVERVIEW OF 2019

5. AN OVERVIEW OF 2019

5.1 Market

In 2019, the Group's total annual revenue was HK$1,194 million, representing a year-on-year increase of 163.4%.

The Group implemented a three-year development strategy and vigorously developed its main businesses with the intelligent rail transit business as the core. It managed to become a leading enterprise in PIS industry and achieved market leading position AFC industry in 2019. We also develop our main business by investment activities like acquisition of Huaqi Intelligent and Lemashi Technology and facilitating the construction of a research centre through the establishment of research department.

5.2 Employees

In 2019, the Group recruited 235 people, including a total of 72 high-end talents, covering R&D, business, investment and other background, and delivered more than 3,600 man-hours of training.

5.3 Community

We provided more than 300 hours of voluntary charitable activities to communities and donated an equivalent of RMB40,000 to alleviate poverty in poor areas.

5.4 Environment

In 2019, the Group consumed approximately 590,719 degrees and 7,138 tons in water in electricity and its 10 official vehicles used up 14,342 litres of petrol.

THE COMPANY AND THE ENVIRONMENT

6. THE COMPANY AND THE ENVIRONMENT

6.1 Energy consumption and the environment

6.1.1 Energy consumption

In 2019, the Group consumed approximately 590,719 degrees in electricity and 7,138 tons in water, and its 10 official vehicles used up 14,342 litres of petrol. The Group's per capita power consumption was approximately 664.48 degrees and per capita water consumption was approximately 8.03 tons. There has been no issue in sourcing water that is fit for purpose.

6.1.2 Emissions

The Group's businesses mainly involve the construction, operation and maintenance of intelligent rail transit systems, infrastructure information transmission services, technology R&D, investing and financing. Therefore, except for some emissions from daily office work (for example, due to electricity and water consumption), the Group rarely produces pollutants (such as air and greenhouse gas emissions, discharge into water and land, and generation of hazardous and non-hazardous waste) during its business activities. The Group does not use any special equipment for collecting statistics on carbon emissions so it cannot provide accurate carbon emission data. However, its carbon emissions can be estimated based on power consumption in its offices.

In 2019, the Group has no incidents related to material environmental pollutions or excessive emissions.

6.1.3 Waste disposal

The Group's assembly and production involve a small number of dismantling and assembly operations. During the process, tin wires have to be joined together with soldering irons, therefore generating a small amount of exhaust gas and waste. The Group installed recirculating filters (filter elements are regularly inspected and replaced) next to office desks to remove exhaust gas. In addition, approximately 5 kg of tin slag is generated every year, which is specially placed in solid hazardous waste boxes and collected by a qualified manufacturer for recycling. The Group does not use any significant amount of packaging materials during its daily operations.

6.2 Office and the environment

6.2.1 Virtualization

The Group integrated hardware equipment mainly through the virtualization technology based on its actual management situations as a response to China's "Work Plan for Energy Conservation and Emission Reduction in the 13th Five-Year Plan Period", "Beijing's Plan on Energy Conservation, Consumption Reduction and Climate Change Mitigation Responses", and "Overall Implementation Plan of Building Beijing into a Demonstration City of Comprehensive Energy Saving and Emission Reduction Fiscal Policy". These efforts have reduced the amount of physical hardware such as servers, storages, and switches and greatly lowered the energy consumption of relevant hardware and power consumption of cooling machines and uninterrupted power supplies (UPSs), thus improving the utilisation of equipment resources and reducing energy consumption. This has helped build a greener environment and respond the country's call for energy conservation and emission reduction.

After the Group's use of the virtualization technology in servers for its tender and procurement platform, the three servers configured by the Group can perform the same functions as 34 servers. Based on the average power of 5kWh per physical server, the use of the virtualization technology can save 155 degrees per hour. If the electricity is converted into standard coal for calculation, this can save 6.2Kg of standard coal per hour, reducing carbon dioxide emissions by 15.46Kg.

6.2.2 Paperless office

The Group actively seeks for and advocates new low-carbon operating models to build a low-carbon, energy-saving, green and environmentally friendly environment.

The Group built the internal OA system in 2017 for active introduction of paperless office, and integrated the OA system with BII's OA system in 2019 to reduce the online operation of two servers. In 2019, the Group launched a project management and supply chain system thanks to the widespread use of the Group's OA system and promotion of the ERP system development. Combined with the building of its own tender and procurement platform, these efforts have helped the Group achieve an automated and paperless office, thereby improving work efficiency, updating employees and the management on accurate business information in a timely manner, and improving equipment utilization efficiency.

In addition, to respond to the call of the Stock Exchange, the Group adopted its first electronic version for its Social Responsibility Report in 2019 and will no longer use paper versions to be more environmentally friendly.

6.2.3 Low carbonization

The Group uses LED lamps, advocates turning off the lights when leaving, and centrally processes toner cartridges. It encourages employees to practice low-carbon ideas in the areas of clothing, dining, living, consumption and transportation. The employees are also encouraged to adopt low-carbon transportation methods such as walking, cycling, public transport, carpooling, and getting a ride. The Group's employees will preferentially choose high-speed rail instead of aircraft for business trips whenever time permits to reduce carbon emissions. In addition, the Group also adopts an eco-friendly approach in conference management. It holds presidential office meetings every two weeks and asks Party building centre group members to learn together via video conference calls. The Group's subsidiaries can attend meetings via video conferencing to cut down carbon emissions.

The Group uses ceramic tea cups and kettles in meeting rooms, which has greatly reduced the use of paper cups and bottled mineral water. It has also replaced fresh flowers with reusable plastic flowers as decorations for board meetings to reduce the impact on the natural environment.

6.2.4 Water conservation

The Group has adopted measures in minimising the use of water and cultivated the concept of saving for its employees. Several water conservation measures have been adopted by the Group, such as constant checks for water leaks, reporting leaking taps and toilets and the re-using or recycling of water where possible.

6.3 Project and the environment

6.3.1 Increasing subway operational efficiency

6.3.1.1 *Zhengzhou ANCC project*

As the first AFC control centre for cloud platforms in China, the Zhengzhou ANCC project has provided important support for decision analysis and broken down information silos by integrating and analysing a large amount of data generated during subway operations in Zhengzhou. Through the big data processing of a cloud platform, the number of clearing levels has been reduced from 5 to 4, saving a lot of investment in servers and other equipment, conserving resources, and reducing energy consumption. Measures such as passenger flow analysis allow for optimized train schedules for subway operations, and the targeted strengthening of safety protection for passengers at sites during peak hours enhances subway operational efficiency and provides a strong guarantee for reduced social consumption of resources and enhanced social security.

The Zhengzhou ANCC project strictly abides by the following (including but not limited to) various regulations, policies, standards and specifications during implementation:

- Notice of the General Office of the State Council on Forwarding the Green Building Action Plan of the Ministry of Housing and Urban-Rural Development of the Development and Reform Commission (Guobanfa [2013] No. 1);
- Opinions of the People's Government of Zhengzhou Municipality on Accelerating the Development of Green Buildings (Zhengzhengwen [2013] No. 20);
- Code for Design of Metro (GB50157-2013);
- Technical Code of Urban Rail Transit (GB50490-2009);
- Data Centre Design Specification (GB50174-2017);
- Code for Construction and Acceptance of Data Centre Infrastructure (GB50462-2015);
- Code for Construction and Acceptance of Metro Engineering (GB50299-1999);
- Technical Code for Protection of Building Electronic Information System Against Lightning (GB50343-2012);
- Code for Acceptance of Construction Quality of Building Electrical Engineering (GB50303-2015);
- Audit Specification of Occupational Safety and Health Management System (GB/T28001);

- Code for Engineering Design of Generic Cabling System (GB50311-2016);
- Safety Prevention Engineering Procedures and Requirements (GA/T75-94);
- ISO9001 standard (required for the quality and safety system);
- ISO14000 standard (required for the environmental management system);
- Railway Industry Association (RIA) standards;
- American Electronics Industry Association (EIA) standards;
- MIL-STD-189, 471, and 781 standards (formerly US military standards);
- European norms (EN);
- European Union RoHS standards.

6.3.1.2 Kunming Rail Transit Line 4 project

In the Kunming Rail Line 4 project, the AFC system is deployed on a platform that integrates multiple systems. The system platform uses a cloud platform architecture. This design and application have abandoned the original model of independent processing, vertical design, and horizontal limitations among various systems in the original subway system. Instead, it adopts unified management for fewer intermediate levels, thereby lowering procurement costs of equipment hardware and achieving the aim of energy conservation and emission reduction.

During the implementation of the Kunming Rail Transit Line 4 project, the Group strictly abided by the following standards in response to the "Opinions of the Provincial Department of Housing and Urban-Rural Development of the Yunnan Provincial Development and Reform Commission on Vigorously Developing Low-Energy Buildings and Green Buildings" and the "Opinion of the General Office of the State Council on Ensuring the Safe Operation of Urban Rail Transit" (Guobanfa [2018] No. 13):

- "GB 22240-2008-T Information security technology – Classification guide for classified protection of information system security";
- "GB 25058-2010-T Information security technology – Implementation guide for classified protection of information system";
- "GB-T 22239-2008 Information security technology – Baseline for classified protection of information system security";
- GB/T 2589 General principles for calculation of the comprehensive energy consumption;
- "Environmental Protection Law of People's Republic of China" – Law and regulations to be followed for energy conservation and emission reduction, low carbon environmental protection, protection of public health, promotion of ecological civilisation and sustainable development in the course of project implementation; and
- "Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise" – Policies and regulations to be followed for prevention and control of pollution from environmental noise, ensuring human health and promoting living environment in the course of project implementation.

6.3.2 Reducing energy consumption during subway operations

6.3.2.1 Beijing energy consumption platform project

In Beijing subway energy consumption platform project, the Group adopted a unified big data platform and technical standards and collected energy consumption classification itemized data of the energy management system for all Beijing Subway lines. It designed a unified energy consumption index system, and collected, processed, calculated, stored, and shared data by unified statistical dimensions and granularity. The implementation of the project has helped to eliminate information silos, improved the quality of energy consumption data and the timeliness of statistics, realized refined management of rail transit energy consumption, perfected the auxiliary decision analysis functions of rail transit energy management, and identified influence factors of rail transit energy consumption. This has given a comprehensive picture of the current status of rail transit energy consumption, provided data support for the Beijing Subway Company's energy conservation and emission reduction goal, and provided necessary support for decision on the development of energy conservation and emission reduction solutions in the rail transit industry.

The Group vigorously develops the "Beijing Subway Energy Consumption Statistics and Monitoring Platform" project in response to the "Overall Implementation Plan of Building Beijing into a Demonstration City of Comprehensive Energy Saving and Emission Reduction Fiscal Policy" issued by the Beijing Municipal Commission of Development & Reform and strictly abides by the following standards during the continuous development:

- "GB 22240-2008-T Information security technology – Classification guide for classified protection of information system security";
- "GB 25058-2010-T Information security technology – Implementation guide for classified protection of information system";
- "GB-T 22239-2008 Information security technology – Baseline for classified protection of information system security";
- GB/T 2589 General principles for calculation of the comprehensive energy consumption;
- "Environmental Protection Law of People's Republic of China" – Law and regulations to be followed for energy conservation and emission reduction, low carbon environmental protection, protection of public health, promotion of ecological civilisation and sustainable development in the course of project implementation; and
- "Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise" – Policies and regulations to be followed for prevention and control of pollution from environmental noise, ensuring human health and promoting living environment in the course of project implementation.

6.3.2.2 New airport expressway

In the Beijing Daxing International Airport Expressway project, the Group assisted in "smart expressway" to create a people-oriented, intensive and efficient transportation services and enhance the operational efficiency of the expressway. In this project, the Group proposed a charging technology solution for non-stop payment on highways, which allows vehicles make payment without stopping on highways and thus reduces fuel consumption and carbon emissions as vehicles have to stop for payment. Meanwhile, the APP-based online payment method allows for the reduced consumption of paper bills.

The implementation process of the new airport expressway project complies with national and local laws and regulations governing environmental pollution and standards and other regulations issued by relevant departments such as:

Implementation of ambient air quality standard "Ambient air quality standards" (GB3095-2012) Level 2 Standard;

Implementation of surface water standard "Environmental quality standards for surface water" (GB3838-2002) Type II Standard;

Implementation of construction site boiler in compliance with the Beijing local standard "Comprehensive emission standard of pollutants for boilers" (DB11/139-2007) Zone B Standard;

Implementation of the discharge of sewage into the surface water body and its catchment area in accordance with relevant provisions of "Beijing Integrated Discharge Standard of Water Pollutants" (DB11307-2005); implementation of the relevant provisions in the aforesaid standards for discharge of sewage into the urban sewage treatment plant;

Strict implementation of relevant standards regarding the printing and distribution of notices by the Beijing Municipal Roadway Administration Bureau of Beijing Municipal Committee of Communications on "Emergency Plan for Industry Heavy Air Pollution by Beijing Municipal Roadway Administration (Revised in 2017) (Jingjiao Road Office [2017] No. 37)", "Notice of the Beijing Municipal People's Government on Printing and Distributing the Emergency Plan for Heavy Air Pollution in Beijing (Revised in 2016) (Jing Zheng Fa [2016] No. 49)", "Beijing Municipal Committee of Communications on Printing and Distributing the Notice of Beijing Municipal Traffic Industry Air Heavy Pollution Emergency Sub-division (Revised in 2016) (Jingjiao Safety Issue [2016] No. 125)", "Notice of Standards on Dust Pollutant Emission Charges from Construction Projects of Construction Sites" (Jingfagai [2015] No. 265)", and "Notice of Implementation of Collection of Dust Pollutant Emission Charges from Construction Site (Jinghuanfa [2015] No. 5)";

Operators must strictly abide by the mandatory standards for civilised and safe construction, such as the "Administrative Measures for Construction Sites of Beijing Construction Projects" [2013] (Beijing Municipal Government Order No. 247), "The Facilities Standards for Safety & Protection, Environmental Sanitation & Safeguards & Fire Fighting for Construction Engineering" (DB11/945-2012), "Technical Code for Fire Safety of Construction Site" (GB50720-2011), and "Standard of Environment and Sanitation of Construction Site" (JGJ 146-2013);

According to the "Beijing Environmental Functional Zone for Noise", the "Urban Environmental Quality Standard for Noise" (GB3096-2008) Class 1 to 4 standards are implemented for the acoustic environment respectively: among others, Class 1 standards are implemented around the sensitive points such as residential areas, schools, and hospitals; Class 2 standards are implemented in mixed commercial and residential areas; Class 3 standard are implemented in industrial areas, and Class 4 standards are implemented on both sides of the traffic line. When the noise exceeds prescribed limits at construction sites next to residential areas or other noise-sensitive buildings (such as schools and hospitals), timely measures should be taken to minimise the interference of construction activities on residents along the lines. At the same time, construction workers should take effective protective measures when working on a noisy site.

6.3.3 Other projects that support energy conservation and environmental care

The Group adjusted the amount of domestic waste in treatment facilities through the operation and maintenance of the ICC metering system (Phase I) project for domestic waste treatment facilities and accurately collected statistics and recorded the amount of processed domestic waste in various districts and counties as the basis for the payment of relevant fees such as domestic waste treatment fees and economic compensations in full implementation of the Beijing's instructions of "fined management and city beautification".

In addition, we deployed a video conference system in BII's video conference system project to optimise the communication model for enterprise information, enabling remote communication at any time and anywhere, improving the overall operational efficiency of the enterprise, and helping achieve green office.

THE COMPANY AND SOCIETY

7.   THE COMPANY AND SOCIETY

7.1   Employees

7.1.1   Employment

With the acquisition of such companies as Huaqi Intelligent and Lemashi Technology, the number of employees has continued to expand. The Group proactively improves its human resource system always under fair, open, objective, and just employment principles. It strictly observes "Labour's Law of the People's Republic of China", "Labour Contract Law of the People's Republic of China" and "Regulation on the Implementation of the Employment Contract Law of the People's Republic of China", "Employment Ordinance of the Hong Kong Special Administrative Region" and other relevant laws and regulations and maintains a zero-tolerance policy against any violations of laws and regulations.

As of 31 December 2019, the Group has a total of 1,090 people, i.e. 889 employees and 201 outsourced employees.

7.1.2   Staff employment

In 2019, the Group recruited 235 people, including 72 high-end talents, covering R&D, business, investment and other background.

7.1.3   Remuneration benefits

The Group's current salary system includes basic salary, performance pay, performance bonus, year-end awards, performance reward funds, high-temperature subsidies, and heating subsidies. In addition, the Group pays five social insurance and a housing fund, supplementary commercial medical insurance, and accidental personal injury insurance and provides regular health check-ups for employees.

In addition, it offers various benefits such as helping employees apply for working residence permits, household registration for returning overseas students, and point-based household registration. All these measures help further enhance the cohesiveness of employees, encourage employees to more proactively innovate for the Company's development, and are effective in attracting and retaining core talents.

7.1.4   Incentives

The Group pursues position level assessment, makes clear career positioning and pathing for employees, and encourages them to keep improving their professional skills and overall quality. In 2019, the Group adjusted salaries of employees based on a combination of factors such as the current economic benefits, changes in industry pay, and consumer price index (CPI), as well as their ranks to effectively protect their interests.

During the year, the Group proactively promoted HR incentive compensation programs. It adjusted salaries and distributed bonuses based on factors such as performance assessment results, position levels, and salary standards within the system through job evaluation and external market benchmarking. The Plan-Do-Check-Act (PDCA) approach was strengthened throughout performance appraisal to exert pressure on junior and middle-level employees. With equal emphasis to evaluation and incentives, the Group improved its talent team based on performance appraisal and gave extra rewards to top performers and timely praise and recognition to good workers. The Group also established a performance reward fund that

rewarded the middle and senior management based on its mid- and long-term performance. It also put in place an incentive mechanism integrating both immediate short-term key indicators and mid-to – long-term ones associated with its development. In addition, the Group set up a multi-dimensional and multi-level merit-based assessment mechanism, including honorary titles such as advanced groups, outstanding middle-level cadres, outstanding expatriates, and outstanding employees, special achievement awards, and excellent production safety projects to recognise and motivate teams and individuals who have made great contributions to the Group's performance.
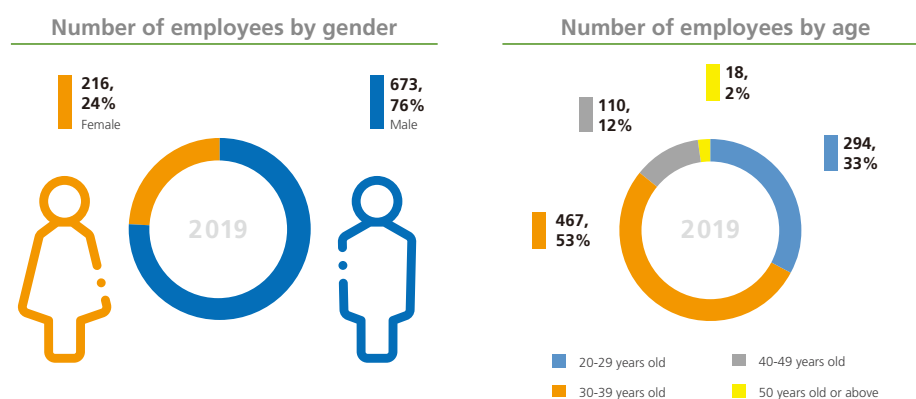
7.1.5 Working hours and holidays

The Group adopts eight-hour working day and implements national regulations for employees who have to work overtime.

Meanwhile, the Group provides employees with benefits such as statutory holidays, paid annual leave, wedding leave, maternity leave, and funeral leave. A total of 10 employees took maternity leave in 2019.

7.1.6 Staff structure

The Group offers equal employment opportunities for people of different races, genders and cultures by clarifying the recruitment management process and disclosing recruitment requirements. It eliminates discrimination in any aspect and strictly prohibits any illegal behaviour. Meanwhile, it adopts a postbased salary mechanism that allows male and female employees to receive equal pay for equal work.
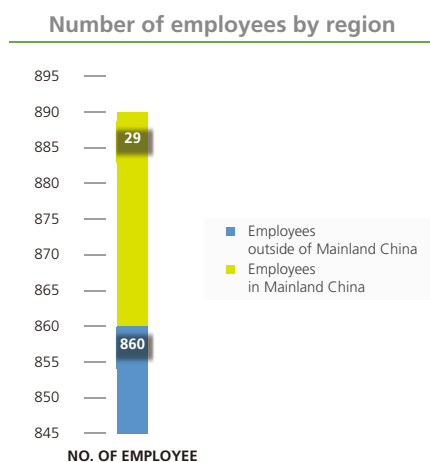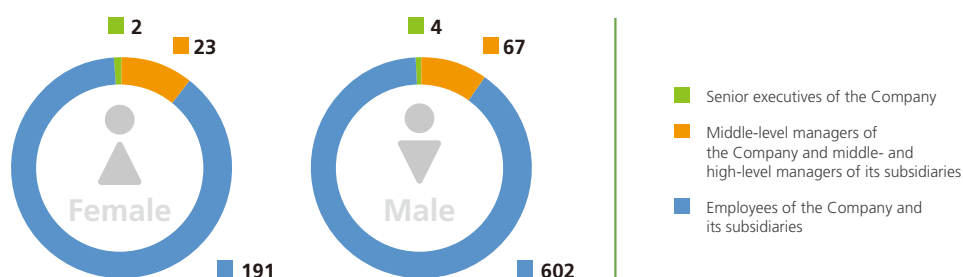
As of 31 December 2019, the Group had a total of 889 regular employees with an average age of 34 years old. Among them 883 were full-time employees and 6 were part-time employees (including reemployed retirees and consultants). The Group even offered part-time job opportunities to fulltime housewives in Hongkong, enabling them to work flexibly in their spare time in support of their family.

Number of employees by gender

216, 24% Female
673, 76% Male
2019

Number of employees by age

18, 2%
110, 12%
294, 33%
467, 53%
2019

- 20-29 years old
- 30-39 years old
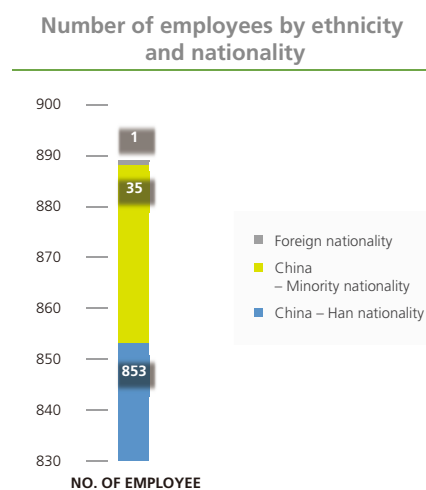- 40-49 years old
- 50 years old or above

In the computer information industry, it is common to see more men than women.

The Group's workforce has a diverse age structure. The Group offers relatively stable employment opportunities for employees over 40 years old while providing employment and career development opportunities for young people.

2 Senior executives of the Company — **23** Middle-level managers

Female **191**

4 Senior executives — **67** Middle-level managers

Male **602**

- Senior executives of the Company
- Middle-level managers of the Company and middle- and high-level managers of its subsidiaries
- Employees of the Company and its subsidiaries

Number of employees by region

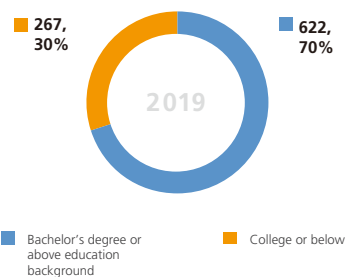| NO. OF EMPLOYEE	
29	Employees outside of Mainland China
860	Employees in Mainland China

Twenty-nine employees in ERG (HK) were Hong Kong permanent residents. A total of nine employees had been working for the Company for more than ten years, five of which had been serving the Company for over 20 years. This shows that employees are deeply loyal to the Company.

Number of employees by ethnicity and nationality

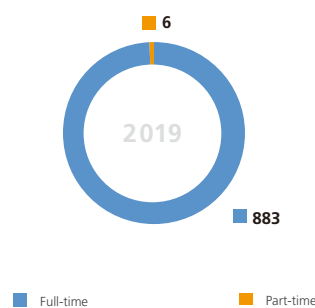| NO. OF EMPLOYEE	
1	Foreign nationality
35	China – Minority nationality
853	China – Han nationality

The Group creates an open and inclusive corporate culture without racial discrimination. The Group has made job opportunities available to people from various areas, with 144 employees from non-urban areas.
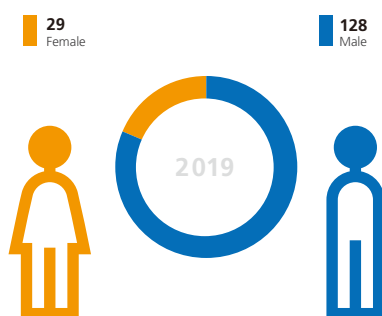
Number of employees by education

267, 30%
622, 70%

2019

- Bachelor's degree or above education background
- College or below

Number of employees by employment type
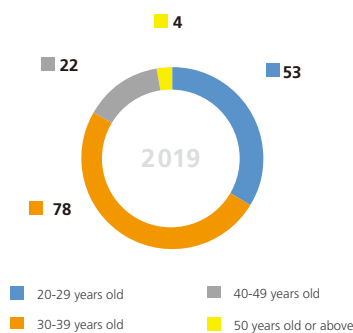
6

2019

883

- Full-time
- Part-time

The Group provided job opportunities for employees with various levels of education background. It is also advocating education improvement programs to encourage employees to study outside of working hours and improve their level of education.
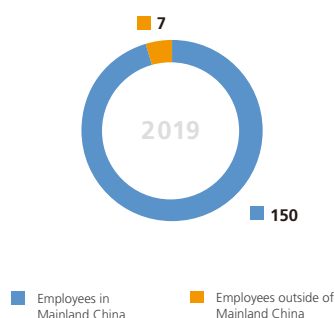
7.1.7 Staff turnover

Number of loss of employees by gender

29 Female
128 Male

2019

Number of loss of employees by age

4
22
53
78

2019

- 20-29 years old
- 30-39 years old
- 40-49 years old
- 50 years old or above

Number of loss of employees by region

7

2019

150

- Employees in Mainland China
- Employees outside of Mainland China

7.2 Health and safety

7.2.1 Health and safety system and measures

The Group has developed "Production Safety Management Approach", "Production Safety Accident Classification Management Approach", "Production Safety Accident Response Plan", "Production Safety Responsibility System" and other various systems to institutionally guarantee employees' work safety. Meanwhile, it organises employees to study the "Law of the People's Republic of China on Prevention and Control of Occupational Diseases", pays attention to annual medical check-ups of all employees, equips front-line workers with labour protection supplies, and delivers teaching and training on the correct use and maintenance of labour protection supplies. The Group works to create a safe and sound working environment and continuously enhance employees' occupational health awareness. The Group has complied with the relevant laws and regulations relating to providing a safe working environment and protecting employees from occupational hazards.

During the year, the Group's operations management department conducted a total of 53 on-site safety inspections, covering projects inside and outside Beijing civil communication business, BII ERG, ERG (BJ), Huaqi Intelligent, and BII Xin An. It issued 19 hidden danger rectification notices, and all rectifications were completed, ensuring that the projects were carried out in a safe way. The Group won the Outstanding Award of Ankang Cup presented by BII thanks to its achievements in safety management. In addition, the Group signed a construction and production safety responsibility letter with suppliers to extend safety protection from its employees to include companies serving it.

7.2.2 Working environment

In 2019, the Company was renovated and relocated to the Phase II office building of Jingtou Plaza and BII ERG moved to Jinghuan Plaza. During the decoration and relocation, we strictly controlled decoration quality, provided comprehensive and refined services to employees, and invited a third-party company to monitor the level of formaldehyde and eliminate formaldehyde, providing employees with comfortable, safe and healthy working environment.

7.2.3 Care to employees

During the year, the trade union visited sick employees for a total of 23 times, showing care to them.

Besides, the Group organises a number of recreational and sports activities are organised to provide employees with many opportunities for quality development.
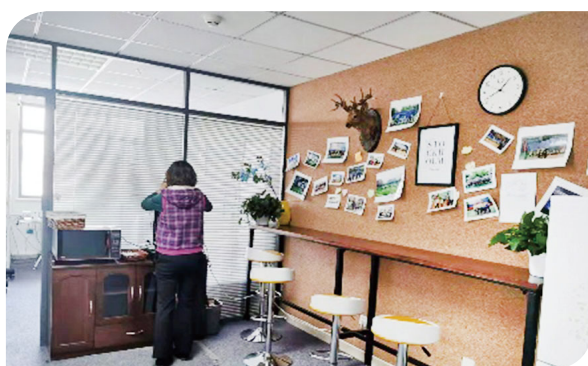

Men's basketball

Badminton competition

Network information interest group

Network information interest group

Table tennis competition

Home of employees

Women's basketball

7.2.4 Safety training

In 2019, we organised five safety production training sessions, covering more than 170 people, continuously enhancing employees' safety awareness and emergency management skills.

In the same year, the Group neither violated China's current regulations governing labour and safety nor was involved in major safety issues for employees. In the past three years, there were no work-related injuries or deaths and no days lost due to workplace injury.

7.3 Development training

The Group built a full-coverage, hierarchical and multi-dimensional training system with an aim to creating a high-end talent team in the rail transit field. During the year, the Group delivered more than 3,600 man-hours of offline training and 1,500 man-hours of online mini MBA course training with the training expenditure of RMB1.024 million.

Trainings for mid- to high-level staff	In the first half of 2019, the Group organised training with the theme of strategic advocacy and discussion for mid- to high-level staff based on its three-year strategic plan to promote its strategic thinking and strengthen the breakdown and implementation of the three-year strategic plan. In the second half of 2019, the Group carried out the "Leadership for Empowerment Program" training with Guanghua School of Management, Peking University under the theme of comprehensive management training and improvement. The course covers management, economics, leadership, and development trends of the rail transit industry. The professional business training from the top university broadened the management perspective of employees in an all-round way and laid a solid foundation for better performance of management responsibilities.
Staff training	The Group invited excellent professors from Beijing Jiaotong University to deliver special training on intelligent rail transit, holistically improving employees' understanding of advanced theories in the industry. It also proactively identified its key employees to develop them into internal trainers and make the most of their knowledge. In addition, the Group actively promoted the application of online training systems to encourage employees to use fragmented time for further study. All these efforts have improved the comprehensive ability and increased core competitiveness of employees.

The Group arranges training equally for both male and female employees. In 2019, 100% of high-level and middle-level management participated in the training with an average training time of approximately 30 hours per person.

7.4 Labour guidelines

As a subsidiary of BII, which is directly under Beijing Municipal State-owned Assets Supervision and Administration Commission, the Company has been operating legally and in compliance with national laws and regulations such as "Labour Law of the People's Republic of China" and "Labour Contract Law of the People's Republic of China" in terms of human resources management. It has also formulated "Staff Recruitment Management Methods" and "Labour Personnel Management Methods". Meanwhile, the Group signs formal contracts with employees who meet employment standards. All employee labour contracts are prepared with reference to the relevant legal system, and staff overtime is reasonably prescribed to protect the legitimate rights of employees. In 2019, the Group neither had case concerning the employment of minors, forced labour, nor had any labour dispute.

7.5 Product innovation

In 2019, the Group completed the construction of Beijing Rail Transit Intelligent Technology Research Institute focusing on the AFC cloud architecture, unified big data access platforms, smart vehicle depots, on-board integrated platform controllers, and passenger service travel platforms based on full-link travel. The Institute explores forward-looking technologies such as artificial intelligence and PHM and turns scientific and technological innovation into results for application in projects. During the year, the Group made remarkable achievements in product innovation. As the first cloud-based AFC control centre in China, Zhengzhou ANCC project implemented a vehicle-mounted visual passenger alarm system in the Hangzhou Metro project and launched the driver fatigue driving monitoring system in some MTR trains.

Among many technologies, the Group's intelligent subway and next generation PIS R&D made significant progress, the overall architecture of which was designed and approved. Five new intelligent subway products, (a visual passenger alarm, passenger counter, in-car passenger density analysis, intelligent pantograph analysis, and train black box) was also developed and approved, and some products had been applied in projects. All these marked that the Group's strategic upgrading from informatization to intelligence had come into play. A large number of other core technologies had made new breakthroughs and were applied in projects after development, including the video intercom technology, 3D imaging and deep learning algorithms used to detect the number of people, speaker sound field analysis technique, smart host hardware platform based on TX2 platform, pantograph intelligent analysis algorithms, structure design for a heat-resistant, corrosion-proof, and anti-destruction storage device in a train black box, and SIP-based ground surveillance servers that comply with national standards.

As a member of BII, the Group actively took part in several cooperation activities within BII and achieved fruitful results. It was granted with the fund for its proposed project "rail transit in-car passenger flow analysis product R&D" as one of BII's R&D reserve projects, participated in the BII's equipment intelligent technology innovation cooperation project to promote the application of several intelligent subway products in the Beijing subway project, and got involved in communication led by ERG with the general intelligent subway administration on the development of integrated on-board intelligent subway controllers. The Group's efforts gained high recognition and support from all parties.

7.6 Intellectual property protection

So far, the Group has obtained 75 core patents and 291 software copyrights in the field of intelligent rail transit, and these results have been widely used in the construction of transportation lines and networks. During the year, the Group attained 59 software copyrights and were authorised with 13 patents. With an aim to seek long-term sustainable development and maximise the benefits, the Group strengthened continuous R&D investment, built core competitiveness in technology, and pushed for growth mainly based on R&D innovation.

With the globalisation of the world economy and new situation in the development of international intellectual property rights, enterprises are encountering tremendous pressure and challenges in managing their intellectual property rights. The Group strengthens the protection of intellectual property rights by effectively formulating and implementing an intellectual property rights management mechanism, thereby giving it a comparative advantage in professional knowledge resources in a bid to maximise its competitiveness and ability to gain market profits and foster its continuous expansion.

The Group attaches great importance to the protection of intellectual property rights and has incorporated applications or acceptance of intellectual property rights into key assessment criteria of the Board. The Group assigned a special person to be responsible for carrying out the work for the protection of intellectual property rights, who at the beginning of each year will according to the Group's development strategies, as well as the work plans of various departments and communication with heads of various levels prepare an "Annual Patent and Intellectual Property Rights Application Plan". Besides, in conjunction with the development progress of projects, the dedicated person tracks and supervises the patent and intellectual property rights application plan, and urges the relevant departments to submit applications in a timely manner to the Intellectual Property Office and the Copyright Administration.

7.7 Qualification

The Group has good qualifications. It has obtained 19 qualification certifications including CMMI5. The acquisition and continuous maintenance of qualification and management system certificates help highlight the strength of the Group, avoid various risks, improve competitiveness, and lay a solid foundation for the Group to win bids.

During the year, the Group updated its new high-tech enterprise certificate and renewed its production safety permits. It passed on-site supervision and evaluation for the operations and maintenance of IT services as it met the requirements of ITSS's Information Technology Service Operation and Maintenance Maturity Level 2;

Besides, the Group passed on-site auditing for ISO9000, ISO14000, and ISO45001 during the year. In addition to compliance with these certification requirements, it also passed ISO20000 and ISO27000 auditing and obtained relevant qualification certificates. In addition, 5 of our PIS production passed on-site audit of the European Union TSI (European Union Railway Interconnection Technical Specification) certification in 2019, and obtained the TSI certificate in February 2020. The TSI certification includes the TSIPRM certification for people with mobility impairment. The certification reflects that we fully consider social responsibility when designing products, and care for the vulnerable groups in the society, so that our products can help them.

7.8   The Company and suppliers

Guided by the principles of integrity, openness, and sharing, the Group maintains long-term strategic cooperation relationships with suppliers to achieve win-win results and co-build a better future in strict compliance with laws and regulations concerning supplier management, including but not limited to the "Implementing Regulations for the Law of the People's Republic of China on Bid Invitation and Submission".

- North China
- East and South China
- Hong Kong and other regions
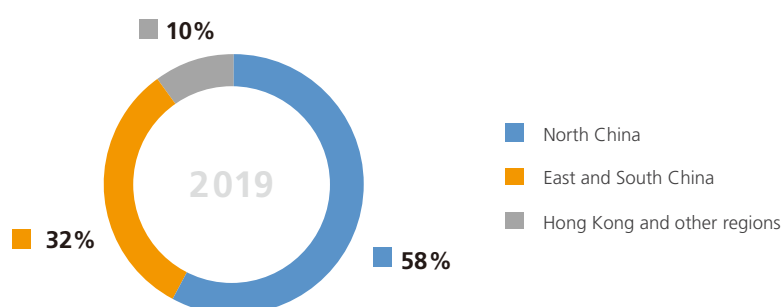
The Group currently has more than 550 suppliers and other business partners, of which 58% is from North China, 32% from East China and South China, and 10% from Hong Kong and other regions. Meanwhile, we are also intensifying efforts to develop new markets in other cities. Accordingly, we have adopted the same clear requirements towards suppliers from each of the regions, especially their performance in sustainable development. In addition, the ability to innovate and reduce production costs is an important criteria for the Group to select long-term strategic partners.

The Group has established a comprehensive supplier classification and management evaluation system. It conducted initial evaluation for new suppliers in accordance with the current "Supplier Management Measures (for Trial Implementation)". The business management department was asked to lead the organisation of supplier re-evaluation and the "Supplier Re-evaluation Form" was formulated after relevant departments participated in the re-evaluation. After an internal examination and approval, the Group published the "List of Qualified Suppliers" for 2019. For the new suppliers involved in 2019, the Group had conducted initial evaluation individually. A total of 215 suppliers had passed the initial evaluation in 2019, among which 65 suppliers were service agencies; and 150 suppliers were within the categories of purchasing other software and hardware equipment, integrating/subcontracting system and software development/services. An annual re-evaluation will proceed before June in 2020.

7.9 Product liability

7.9.1 Product quality management

The Group always believes that "the quality of products and services is the foundation of a company", and this idea is inculcated into the hearts of every employee in their daily work to develop a strong awareness on the quality of products and services, thereby providing high-quality products and customer services for customers. High-quality products and services provided by the Group are well received. We received commendatory letters and honours such as "Outstanding Supplier" from the platform screen door project for Beijing Subway Line 14, Shenzhen NOCC project, Changchun Subway Line 1 BAS project, Beijing Subway Line 16 Phase II project, ticket gate transformation phase I project, Kunming Subway Line 4 AFC, AFC system O&M for three suburban railways, BII information-based O&M, BII video conference project, Nanjing NCC project and other projects. The Group also received letters of thanks and commendation from CRRC Zhuzhou Locomotive Co., Ltd., CRRC Qingdao Sifang Co., Ltd., Hangzhou Metro Group Co., Ltd., Zhengzhou East High-speed Train Operation Institute, and CRRC Hangzhou Co., Ltd. for its outstanding after-sales services. The above honours represent a high recognition of the quality of the products and services provided by the Group. We will continue to improve its products and services, creating a better experience for customers.

As of the end of 2019, the Group did not experience any product recall incident due to significant quality issues or operational violations.

7.10 Customer relationship

The Group has established the "Customer Relationship Management Control Procedure", which stipulates the communication mechanism between the Group and customers during presale, sale and after-sale stages. The operations management department is responsible for discussing and resolving complaints with customers and setting up a temporary complaint handling working group, which is responsible for the analysis and handling of complaints. The Group is also responsible for investigating, recording, taking remedial actions and providing feedback based on customer complaints.

During the year, the Company received 0 significant customer complaints. and its satisfaction survey showed that the customer satisfaction rate exceeded 90%. This means that the Group had provided customers with satisfactory services.

7.11 Projects and society

7.11.1 Improving passenger travel experience for 5G civil communication services

The Group's intelligent rail transportation industry has been enhanced to support efficient and parallel operations of businesses with different characteristics in different scenarios. As one part of the Group's infrastructure information business, the civil communication transmission business provides convenient, fast travel services for citizens, allowing them to enjoy high-quality, high-speed communications services provided by three basic telecommunications operators through the building of transmission systems and improvement of communications network services and public transportation service capabilities. Apart from ensuring communication, the Group proactively participated in the building of Beijing's intelligent subway and rail transit converged cloud and 10 Gigabit Ethernet. and the discussion of intelligent subway application scenarios under 5G. The Group worked with operators to identify the models of leaky 5G cables, working conditions, and signal strength in tunnels through measurement and developed engineering standards and set engineering models for 5G construction of new subway lines in China. It completed the task of launching 5G services for a new airport line, and built a communication system with 5G transmission capabilities for the eastern extension of Line 7 opened at the end of the year, adding another 5G-equipped line for Beijing and improving the quality of communications services for citizens during travel.

7.11.2 Providing "green, effective and intelligent" logistic support by the integrated utility tunnel business

The integrated utility tunnel business is another segment of the Group's infrastructure information business. During the year, "Unified Management Platform for Integrated Utility Tunnel" and "Unified Communication System" supported the International Horticultural Exhibition 2019, Beijing, China, providing "green, effective and intelligent" logistic support. The intelligent management platform for the integrated utility tunnel can realize intelligent environmental monitoring, remote integrated communication and visual intercom, reducing manual inspections, improving operation and repair efficiency, and reducing the incidence of work-related injuries.

During the year, the Beijing Winter Olympics underground integrated utility tunnel project that the Group participated in provided a guarantee for the Beijing 2022 Winter Olympic Games. This project called the "lifeline" of the Yanqing Division of 2022 Beijing Winter Olympic Games plays an important role in providing energy, water used for snowmaking, domestic water, and power communication. The Group is mainly responsible for integrating weak electronic systems and developing, supplying, and commissioning platform software in this Winter Olympics utility tunnel project to comprehensively improve the intelligent management and O&M of the Winter Olympics utility tunnels.

7.11.3 Providing guarantees for passenger travel through ACC/TCC and related O&M services

As the centre of information system of various subway lines in Beijing, the Railway Transportation Command Centre is mainly responsible for interconnecting with various subway lines. The ACC/TCC system and related O&M services provided by the Group enable the ongoing normal operation of Beijing Rail Transit Control Centre's servers and network equipment which is the precondition of orderly, safe and effective operation of Beijing's subways. Throughout 2019, the Group provided logistical guarantee and O&M services for the Beijing Rail Transit Control Centre, ensuring the efficient, safe, and stable operation of

the capital's rail transport, ensuring the safety and convenience of daily travel, and providing important support for social stability and economic growth.

During the 2019-nCoV epidemic at the beginning of 2020, the Group provided supportive services for the Beijing Rail Transit Control Centre without compromising the safety of employees, ensuring the operation of the capital's subways.

7.12 Anti-corruption

The Group developed integrity risk prevention and control forms for all employees, covering more than 1,500 risk points, and signed integrity agreements with employees.

The Group refined relevant systems to ensure an honest party. It formulated and issued a series of integrity management systems and implementation plans, including the Administrative Measures for Whistleblowing and Interim Measures for Talks on Integrity with Leading Cadres, and revised and refined systems related to business trips and reimbursement. It also introduced "Integrity Micro-Courses" that pushed learning materials on a weekly basis and pushed 52 posts throughout whole year. All these had continuously strengthened employees' anti-corruption awareness.

In addition, the Group increased employees' anti-corruption awareness by organising them to learn from warning records, watch warning education movies, and visit an education base in Shijingshan District.

Through the internal OA system, the Group informed all employees of contact methods of the management (email addresses and telephone numbers), so as to be open to complaints. Employees can report to the relevant managers for any problems they discover or any suggestions they wish to make.

There was no litigation of corruption against the Group and its employees during the reporting period.

7.13 Community-based charity

7.13.1 Charitable donation

On 5 February 2020, the Group donated RMB1 million to Wuhan Charity Federation (武漢市慈善總會) to support prevention and control efforts and relief work for the 2019 novel coronavirus epidemic in Wuhan to get through this difficult period with all the people nationwide together.

7.13.2 Community-based charity activities

In 2019, the Group's 53 employees participated in 165 community voluntary activities for a total of more than 300 volunteer hours.

The Group, within its capabilities, show care for elder and children actively, visiting old people in Yangshan Nursing Home in Suzhou High-tech Zone on the Chung Yeung Festival and care children in Suzhou Social Welfare Home on the eve of the Mid-Autumn Festival.

7.13.3 Poverty alleviation activities

The Group fully carries out its responsibilities for helping the education, helping the crisis, and promoting good deeds, and makes continuous efforts to create a better society. On the basis of the trade union's scheme, the Group carried out oriental poverty alleviation consumption to provide assistant to areas such as Qingyundian in Beijing and Zhenningbao Town in Heibei Province, the Group donated an equivalent amount of RMB 40 thousands.

The group organized employees to give "interesting lessons" such as handwork, football, and piano lessons for students in aided areas to improve teaching quality and expand the students' thinking and vision. The Group improved the working and living conditions of teachers and students by donating winter clothing, educational equipment, cultural and sports equipment and other supplies and helping build and repair street lights, flagpoles and other facilities, so as to help teachers and students cultivate patriotism and to enhance the teaching quality and the safety of boarders.

The Group assisted Zhenningbao Township Central Primary School in Chicheng County, Zhangjiakou City, Hebei Province

Environmental protection is a must-go path to achieve sustainable development, and the society is the deep soil for the continuous development and growth of a company. Only by taking root in the community and giving back to the society can we achieve symbiosis and prosperity. As a responsible corporate citizen, the Group will continue unswervingly fulfilling its social responsibilities and strive to set a better model.