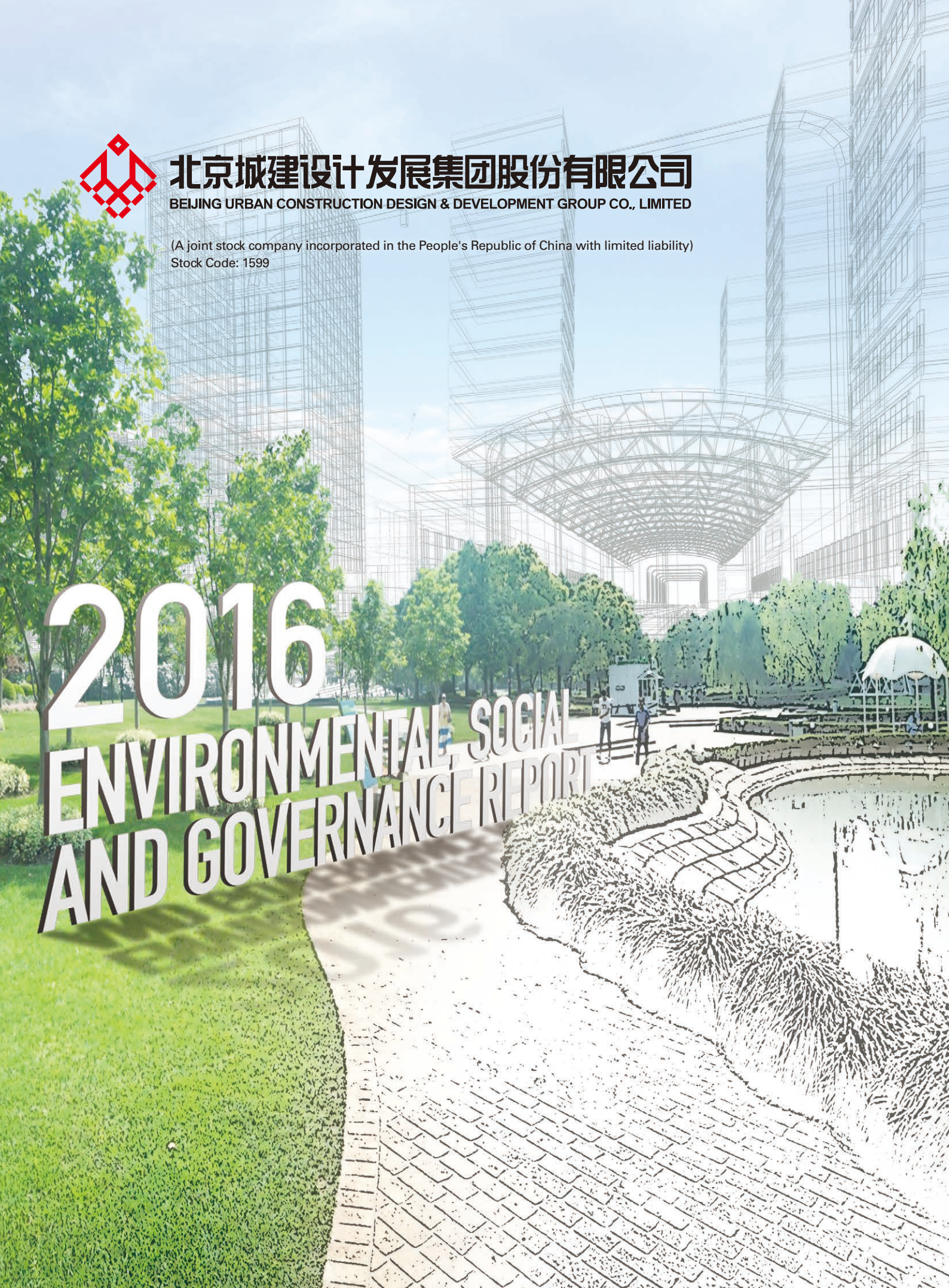
北京城建设计发展集团股份有限公司

BEIJING URBAN CONSTRUCTION DESIGN & DEVELOPMENT GROUP CO., LIMITED

(A joint stock company incorporated in the People's Republic of China with limited liability)
Stock Code: 1599



2016 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

ABOUT THIS REPORT

Reporting Period

The reporting period is from 1 January 2016 to 31 December 2016, and also includes additional information beyond the stated reporting period.

Reporting Scope

This report covers the operations at Beijing Urban Construction Design & Development Group Co., Limited's headquarters, its branches and subsidiaries falling within the scope of listing.

Reference

For the convenience of reading this report, Beijing Urban Construction Design & Development Group Co., Limited is referred to as "UCD", "we/us" and "the Company". Beijing Urban Construction Exploration & Surveying Design Research Institute Co., Ltd. (北京城建勘測設計院有限責任公司), a subsidiary, is referred to as "Exploration & Surveying Institute", while the Beijing Urban Rail Transit Construction Engineering Co., Ltd. (北京城建軌道交通建設工程有限公司), another subsidiary, is referred to as "Rail Company".

Preparation Procedure

This report is prepared based on the implementation of social responsibility by UCD. The basic procedure begins with the collection of materials → preparation and revision → consideration and approval by senior management → public disclosure. Both contents and information disclosed in this report were approved upon consideration of the board of directors (the "Board") of the Company.

Principles for Report Preparation

This report is prepared with reference to the "Environmental, Social and Governance Reporting Guide" (the "ESG Guide") issued by The Hong Kong Stock Exchange and the "Sustainability Reporting Guidelines" (GRI 4.0) issued by The Global Reporting Initiative.

Data Source

The key financial data set out in this report is extracted from "2016 Annual Report of Beijing Urban Construction Design & Development Group Co., Limited", while other data is generated within the Company or by manual sorting. This report adopts Renminbi as the measurement currency.

Publication Forms of the Report

The report is published both in print and electronic versions.

Contents

ABOUT US

Company Profile

Beijing Urban Construction Design & Development Group Co., Limited (hereinafter referred to as "UCD"), traces its origin as Beijing Urban Construction Design & Research Institute (北京城建設計研究總院), which was established in 1958. It was established for the design and survey services of Beijing Metro Line No. 1 (北京地鐵1號線), China's first subway line. The Company was then converted into a joint stock company with limited liability and renamed as Beijing Urban Construction Design & Development Group Co., Limited (北京城建設計發展集團股份有限公司) on 28 October 2013. The Company was listed on the Main Board of The Stock Exchange of Hong Kong Limited on 8 July 2014.

We are a technology-based engineering company engaged in providing a variety of professional services for urban construction. Principle activities include: design, survey and consultation services for urban rail transit and related industrial, civil construction and municipal engineering projects, and construction contracting services for urban rail transit and other infrastructures. We have an established business presence in more than 50 cities of China and have set up branches or offices in more than 30 cities. Furthermore, we have also succeeded in winning some market shares in other countries, such as Angola, Vietnam, Russia and Kazakhstan etc.

ABOUT US (CONTINUED)

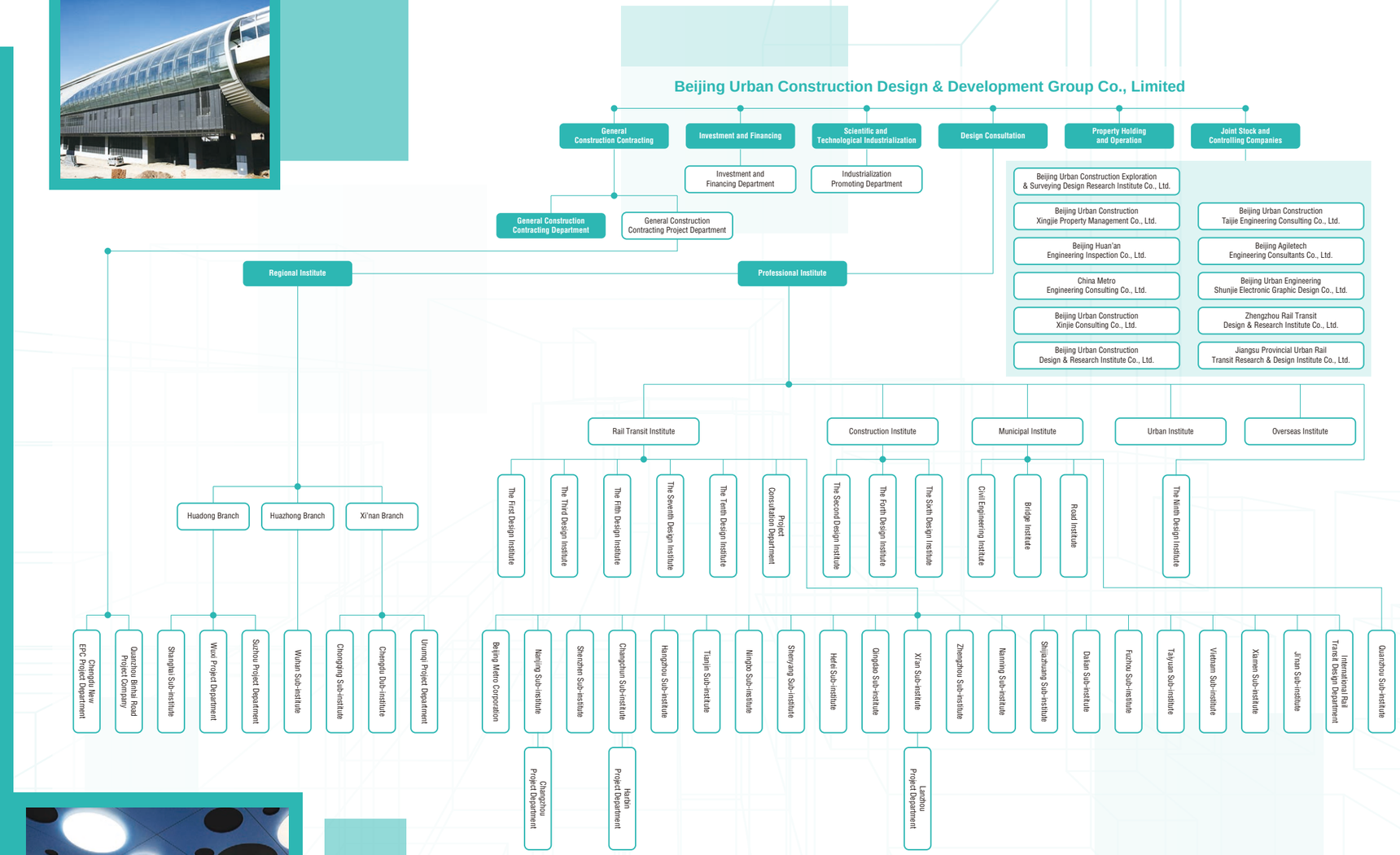


Figure: Organisational Structure

COMPLIANT OPERATION

Corporate Governance

We strictly carry out the Company Law of the People's Republic of China (《中華人民共和國公司法》), the Securities Law of the People's Republic of China (《中華人民共和國證券法》) and other laws and regulations to standardise our operation. Upon completion of listing in 2014, the Company has gradually improved its working rules on corporate governance, introduced the terms of reference of all professional committees, and continuously strengthened our internal control and supervision capabilities and enhanced the standard of corporate governance under the guidance of regulatory documents.

The Company has established an excellent internal control and governance structure. We have established the Nomination Committee, the Remuneration Committee, the Audit Committee and the Overseas Risk Control Committee under the Board to conduct supervision and inspection on strategy, appointment of management, incentive measures, risk control and other works of the Company. The Board of Supervisors supervises the establishment and implementation of internal controls by the Board and the senior management. For the specific responsibilities and composition of the Board and the professional committees under it and the Board of Supervisors, please refer to the "Corporate Governance Report" in the 2016 Annual Report of Beijing Urban Construction Design & Development Group Co., Limited (1599.HK).

COMPLIANT OPERATION (CONTINUED)

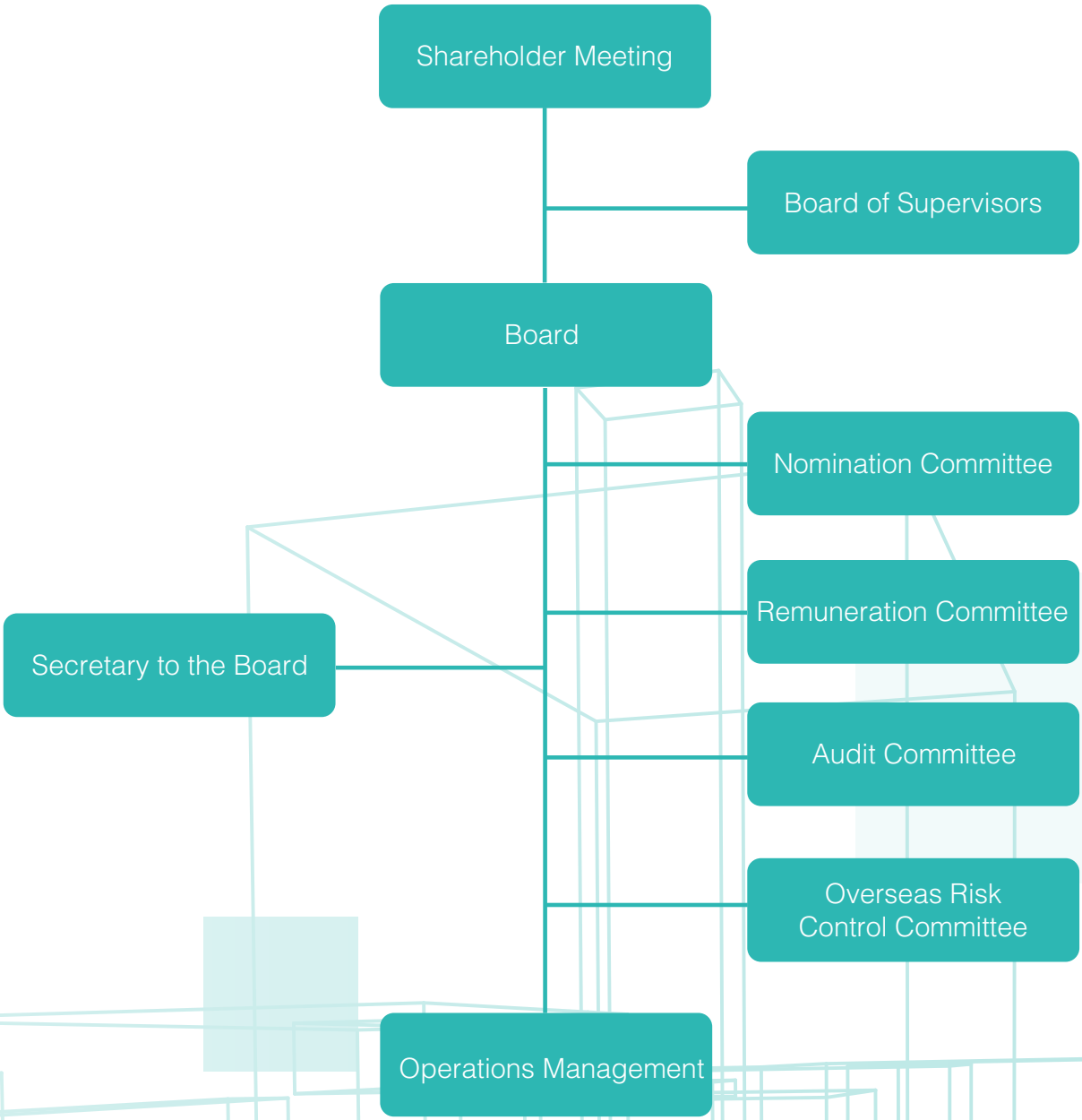


Figure: Governance Structure of the Company

COMPLIANT OPERATION (CONTINUED)

Internal Control and Risk Management

We have been constantly strengthening the establishment of our internal control system on the basis of "Basic Standard for Enterprise Internal Control" and its supplementary guidelines with a focus on management and business processes covering five basic elements, namely the internal environment, risk assessment, control activities, information and communication and internal supervision, so as to build a comprehensive internal control system. Through procedures such as identifying, evaluating and measuring key business risks, regularly evaluating, monitoring and improving the internal controls, the Company has managed to fully strengthen its risk management and control risks to an acceptable level.

The legal audit department of the Company monitors how the Company and its subsidiaries establish and improve their respective internal control systems and review the implementation of each of the internal control systems. The legal audit department is also responsible for organising the internal audit function to perform audit responsibilities, which helps safeguard the sustained, healthy and stable development of the Company.

Anti-corruption

We attach great importance to the construction of a clean administration and firmly fights against any kind of corruption. On the basis of relevant laws and regulations and with reference to the actual situation of the Company, we formulated and implemented a series of policies and relevant administrative measures such as "the Implementation Measures with Regard to the Effective Implementation of the Accountability Mechanism for the Construction of Clean Administration of the Party Committee of Beijing Urban Construction Design & Development Group Co., Limited", "the Indicator System for the Inspection, Assessment and Evaluation of the Accountability Mechanism for the Construction of Clean Administration of the Party Committee of UCD" and "the Implementation Measures for the Management of Works on Disciplinary Inspection, Supervision and Whistleblowing", to enhance the prevention of corruption from its origins. Furthermore, we require our employees of each of the sub-institutes and subsidiaries to stringently comply with all requirements in relation to the clean administration of UCD when engaging in market operation activities. The Commitment Letter of Clean Administration is signed at the same time with the production and operation contract, procurement contract and bid and tender contract with business partners to govern the behaviours of both parties.

COMPLIANT OPERATION (CONTINUED)

In order to further strengthen the centralised management and standardised processing of the problem-reflected clues, we set up whistleblowing boxes and hotlines for anti-corruption, formulated and implemented the "Notice on the Processing of Problem-reflected Clues Reported", the "Statistic Table for the Processing of Problem-reflected Clues of Disciplinary Inspection Authorities" and the "Registration Form for the Processing of Problem-reflected Clues of Disciplinary Inspection Authorities". We enhanced the anti-corruption awareness of employees through studying party regulations and disciplines and watching movies on anti-corruption and clean administration, among others, maintaining a healthy, fair and transparent business environment through the above efforts. During the reporting period, no lawsuit about anti-corruption or bribery occurred in the Company.

Supply Chain Management

We formulated and implemented a series of administrative measures for the procurement with suppliers by business segments, for instance, the "Control Procedure for Procurement Process" for design, survey and consultation segments applies to the procurement of instrument and equipment related to products, bulk materials and resources such as construction tools, safety and environmental protection equipment as well as the sub-contracting of labour, professional construction contracting, equipment and facilities leasing and technology services involving exploration and surveying, mapping and geotechnical construction projects. This controls the procurement procedure and suppliers and ensures that the materials and services procured meet the required standards in terms of quality, environment, occupational health and safety, delivery and services. For management purposes, we had also created a list of qualified suppliers for relevant business segments and conducted dynamic management on shortlisted suppliers while observing the performance of suppliers in terms of environment, society, etc., in order to improve their capability of fulfilling their environmental and social responsibilities.

ESG MANAGEMENT

UCD has constantly optimised its management work on environmental, social and governance (ESG), facilitated the integration of ESG with business operations, and continuously push forward the achievement of ESG targets of the Company. The Company constructed its own ESG management system through the establishment of an ESG management department at the headquarter level. This department takes charge of the formulation and promotion of the overall work plan on ESG of the Company and the annual ESG information disclosure process. An ESG liaison would also be deployed at each of the headquarter departments, branches and subsidiaries to implement relevant plans and manage daily social responsibility information. In addition, we are actively facilitating communication between internal and external stakeholders, paying attention to the requests of stakeholders such as customers, employees and local communities, formulating targeted strategies, and striving to achieve the ESG targets of the Company.

Engagement of Stakeholders

We highly value the concerns and interests of each stakeholder, and we constantly strive to improve our stakeholder participation mechanism, strengthen communication with stakeholders, enhance operational transparency, and work in partnership with stakeholders.

ESG MANAGEMENT (CONTINUED)

Stakeholder	Needs and expectations	Communication and response
Government	– Compliance with laws and regulations – Payment of taxes – Economic support for development	– Conducting business in compliance with relevant laws and regulations – Payment of taxes
Investors	– Return on investment – Growth of business and earnings – Risk management – Information disclosure	– Regular disclosure of operational information – General investor meetings – Investor summits – Roadshows
Customers	– Provision of quality products and services – Meeting customers' diversified needs – Creation of value for customers	– Assurance of product quality – Protection of customer information – Survey of customer satisfaction
Employees	– Protection of employee interests – Sound career development paths – Protection of occupational health – Work and life balance	– Provision of good remuneration and welfare – Improvement of career development paths – Implementation of employee training
Business partners	– Open, fair and equitable purchases – Compliance with contracts	– Execution of contracts according to the law – Open tendering – Project cooperation
Environment	– Energy saving and emission reduction – Protection of ecology	– Managing emissions – Increase in efficiency of resources and energy used – Participation in environmental protection welfare
Community and the public	– Engagement in community development – Support for charities	– Public welfare undertakings – Volunteer services

Materiality Determination

Pursuant to the "Environmental, Social and Governance Reporting Guide" issued by The Hong Kong Stock Exchange, the Board of the Company is responsible for evaluating and determining the Company's ESG-related risks and for ensuring that appropriate and effective ESG risk management and internal control systems are in place. In 2016, we further improved the content reporting

ESG MANAGEMENT (CONTINUED)

determination process, enhanced interaction with stakeholders by various means, identified stakeholder's material issues and concerns, and determined the extent and scope of disclosure to ensure the disclosed information is more accurate, complete and related to operations and management.

Environmental, social and governance issues selection process

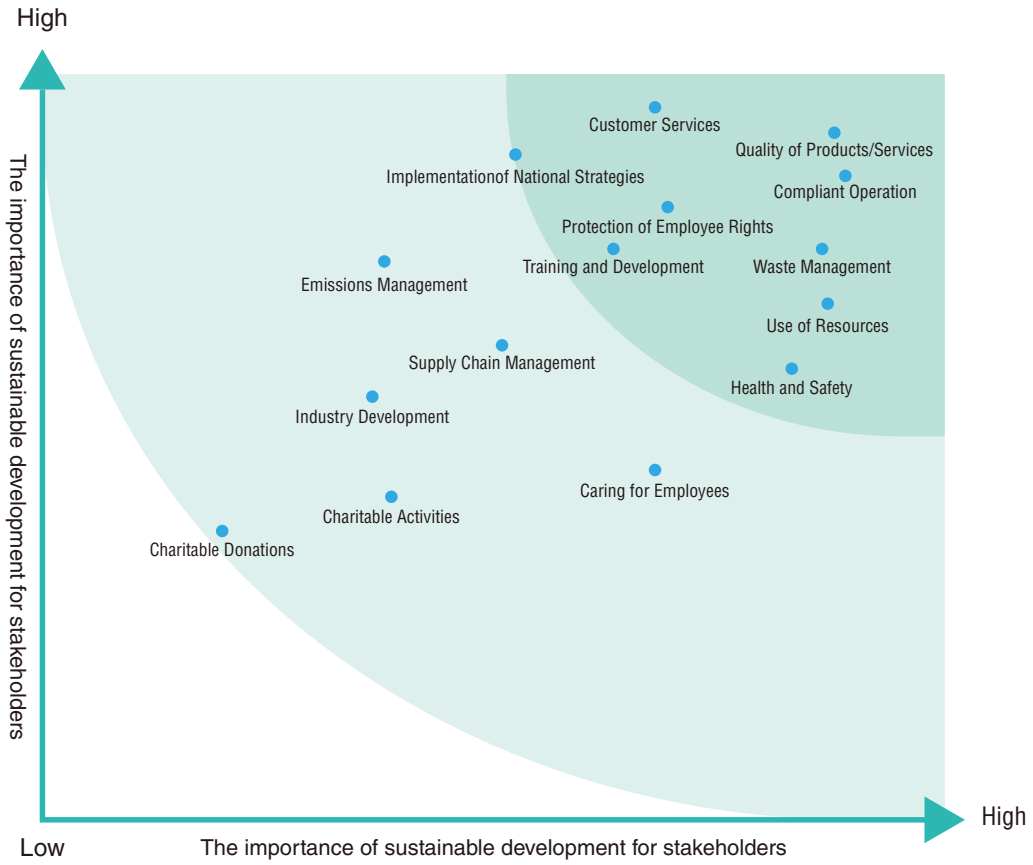
Source of issues

- Suggestions made by the Company's management
- Analysis and suggestions made by internal and external experts
- Analysis of media information
- Study on standards conducted by peers in China and foreign countries
- ESG Guide of The Hong Kong Stock Exchange
- Guidance on Standards of Social Responsibility

Standards of selection

- Contribution to sustainable development
- General issues of concern to stakeholders
- Emphasised by the Guidance on Standards of Social Responsibility
- Meet the Company's strategic development needs

Results of determination of significance



1. CREATION OF CUSTOMER VALUE

UCD actively responded to the "new normal" of the China's economy, actively seized the favourable opportunities arising from the acceleration of urban rail transit construction in China, made strong efforts to expand and consolidate the traditional design, survey and consultation business, and proactively developed diversified businesses using models such as PPP to provide customers with quality products and services, continuously enhancing customer satisfaction and market competitiveness of the Company.

1.1 Provision of Quality Services

Our businesses cover domains in urban rail transit, integrated transport hubs, underground space development, industrial and civil construction, and municipal engineering of bridges and roads. We provide our clients of these domains with professional, high-quality and all-in-one services, which include pre-engineering consultation, planning, investment and financing, surveying and mapping, designing, project management, EPC, system integration, project assessment, and economic analysis. By the end of 2016, our businesses cover over 50 cities across China with branches in over 30 cities, and further extends overseas markets such as Angola and Vietnam.

1.1.1 Laying Solid Foundation for Major Businesses

Our major businesses include design, survey and consultation, and engineering contracting. In 2016, by fully leveraging our technical strengths in the industry, actively seizing the favourable opportunities arising from the acceleration of urban rail transit construction in China, earnestly working on the performance and marketing of market projects on hand, and actively expanding our businesses in third- and fourth-tier cities, we won bids for 17 general design projects of rail transit in cities including Beijing, Yantai, Shenzhen, Shijiazhuang, Urumqi, Nanjing, Zhengzhou and Changchun.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Design, Survey and Consultation	By the end of December 2016, the Group undertook the overall design tasks of 88 urban rail transit lines in over 20 cities across China, of which 48 lines have been put into operation with a total distance of 986 kilometres. • **Rail transit:** We ranked first in design services for urban rail transit lines in China, in terms of total mileage in operation. We became an overall design unit for urban rail transit with the largest market share and greatest comprehensive strength in China. • **Civil construction:** We undertook the design tasks for a number of Olympics projects, such as the National Indoor Stadium and the Olympic Village. By adhering to the three major Olympic concepts of "Green, Science and Technology, and Humanity", the Group successfully presented the advanced level of architecture and construction techniques of the PRC to the world. • **Municipal engineering:** We provided all-round and comprehensive services for municipal engineering project construction, including projects of urban roads, highways, transport planning, bridges, tunnels, BRT, water supply and drainage, subway security check, and accessibility facilities.
Construction Contracting	By the end of December 2016, we had participated in the construction contracting projects for 29 urban rail transit lines in China, which included 61 stations and 69 tunnels, covering major cities such as Beijing, Guangzhou, Shenzhen, Tianjin, Hangzhou and Dalian. • **Construction general contracting (procurement and Construction):** We provided project services of overall procurement and construction implementation according to plan and schedule of customers. • **Construction contracting (engineering, procurement and construction):** We provided full-process (or phased) services for construction projects.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: Beijing Metro Line 10 Won the "Nobel Prize" in Terms of Engineering Design

In September 2016, Beijing Metro Line 10, which we acted as the general contractor for design, won the FIDIC's Outstanding Project Award at the annual meeting of The International Federation of Consulting Engineers (the "FIDIC"). The Company's design and consulting project had won the world-class award for the first time, and also became the first infrastructure project in Beijing to obtain the FIDIC award.

FIDIC awards is known as the "Nobel Prize in the engineering consultation industry". Beijing Metro Line 10 designed by the Rail Transit Institute of the Company is currently the largest closed underground loop subway line in the world and is also the second loop subway line within the BRT network in Beijing. The total length of the line is 57.11 kilometres and comprises of 45 stations, 24 of which are transfer stations. The project team overcame many difficulties and challenges including lingering construction period, poor geological conditions, sensitive and complicated surroundings, and extreme difficulties in engineering technology and environmental protection. Taking into consideration the needs of the city and adhering to the design principles of "Innovative Ideas, Technologies and Operation", the project team mapped out the physical loop for the line through ingenious, novel and careful design, fully demonstrating the "people-centred, green and sustainable" concept of rail transit construction and made their work parallel to world advanced standards.

With extreme difficulties in engineering technology and environmental protection, the project adopted unprecedentedly innovative structural designs:

- Utilization of Pile-Beam-Arch Method (PBA) was popularised in China for the first time;
- Pile-bottom grouting technology was adopted in China for the first time and piloted in tunnels;
- Cover-excavation consequent operation was adopted in China for the first time;
- The application of soil nailed wall in deep foundation pit support (the depth of the foundation pit was around 15 metres) was adopted in China for the first time;
- Technologies for design and construction of small-spacing and long-distance parallel shield tunnels were adopted and successfully implemented in China for the first time;
- Assessment of risk sources and the earmarked design system were systematically put forward in China for the first time for subway construction.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

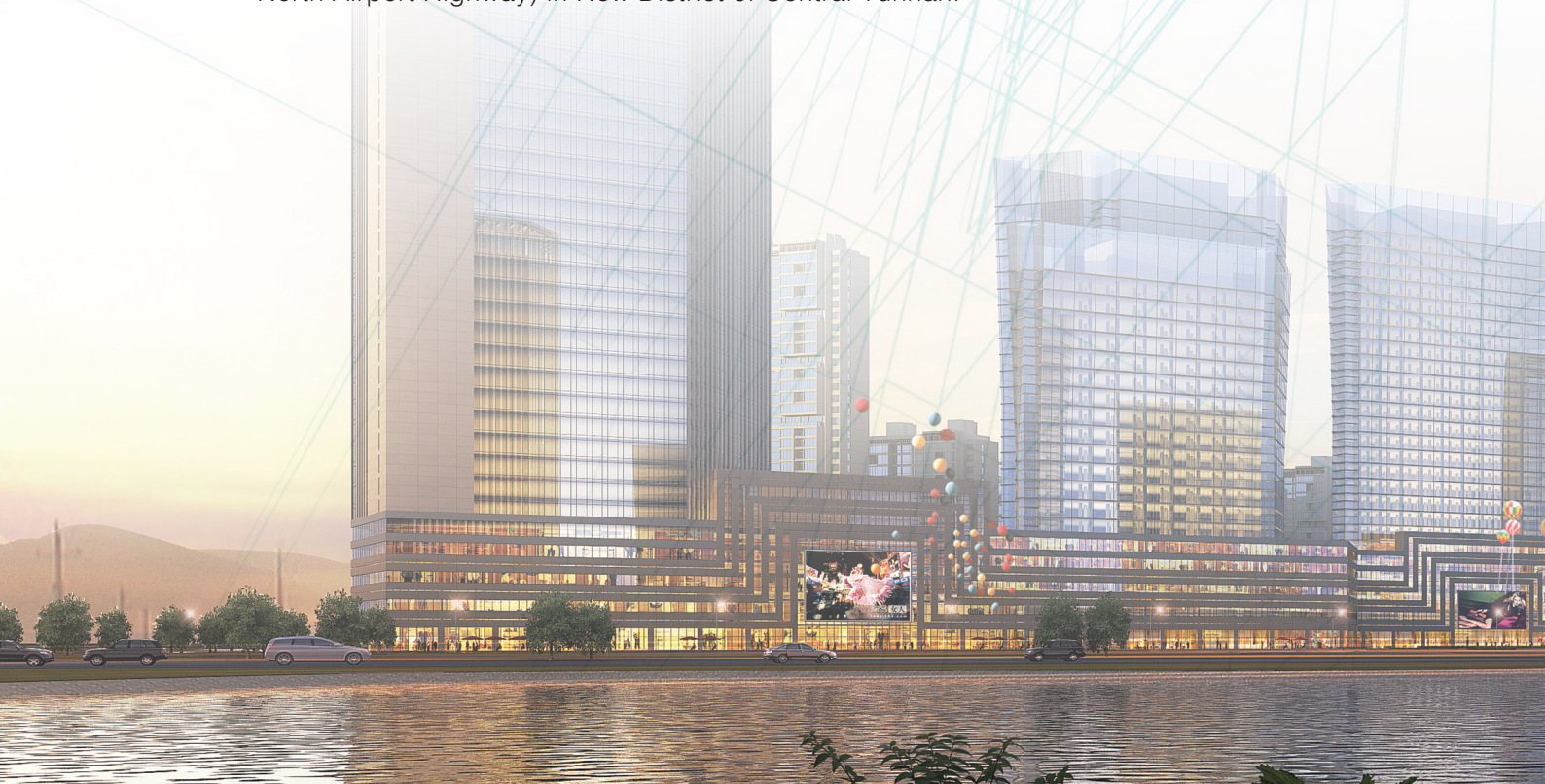
1.1.2 Expanding Diversified Businesses

As for areas of investment and financing, we make use of capital market platform to raise funds for investment and finance projects through issuing shares and other forms. Through the construction of standardised scientific and technological industrialization platform, we actively promote the combination of scientific research innovation and industrialization achievements, and provide new economic growth strategy for the Company's business development.

PPP Projects

As an important measure in the construction of national infrastructure, PPP investment model formally entered a stage of profound promotion upon the conclusion of the Third Plenary Session of the 18th CPC Central Committee which promulgated a series of PPP policies by the Ministry of Finance and the NDRC, and the establishment of database for national PPP projects.

As a scientific and technological company guided by design and a development vision to be an integrated service provider of urban construction, we have been paying close attention to PPP policies and development patterns over the past three years. We successively won bids for PPP projects such as Anqing Outer Ring North Road, Zunyi Fengxin Expressway, Airport Avenue in New District of Central Kunming and Kunming Rail Transit Line 4 (Machine Electricity). In 2016, the PPP project of Anqing Outer Ring North Road was completed and opened to traffic. We won the bids for the PPP project of Zunyi Fengxin Expressway and the PPP project of Airport Avenue Mid-section (Wenlin Road to North Airport Highway) in New District of Central Yunnan.



1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: Completion of the Main Works of the Bridge for the PPP Project of Anqing Outer Ring North Road

The Anqing Outer Ring North Road Project undertaken by us is the first non-profitable PPP project of municipal roads in China, a demonstration project of the Ministry of Finance project database, and is a key project of Anqing city in Anhui Province. Located at the northeast part of Anqing, the project is a trunk road of the city with a total length of 14.93 kilometres. The project has 12 bridges, including seven aqueducts and five viaducts, with a total bridge length accounting for 28.7% of the total length.

During the process of project execution, we took advantage of complete closure of the whole industrial chain and gained rich experiences in design consultation, project investment and financing, project construction and industrialization of science and technology. In July 2016, the main works of the project was completed and opened to traffic eight months in advance, which attracted more than 260 cities and offices nationwide to visit and conduct study tours, receiving favourable public comments and recognition from relevant departments of Anhui Province and Anqing City. The establishment of Outer Ring North Road is of great significance for the further expansion of Anqing City's framework, accelerated the construction of Eastern New City and set-up an interconnected transportation system and established a rapid channel to connect Anqing with its surrounding cities.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

1.2 Optimization of Service Quality

We are continuing to enhance the quality management of our products and services, maintaining good communication and interaction with customers, responding to customers' demands actively, and constantly improving customers' experiences, aimed at winning customers' recognition and satisfaction with first-class products and services.

1.2.1 Quality Management

We are continuing to enhance the quality management of all businesses by stringently complying with relevant laws, regulations, standards, rules, specifications and requirements at the national, industrial and local levels, such as the "Construction Law", the "Regulations for the Quality Management of Construction Projects", the "Standards on the Quality Management of Construction Enterprises" as well as formulating and implementing the "Administrative Measures for Project Quality" and the "Rules for the Quality Management of Construction Projects". Enterprises of each business segment formulate more specific and detailed measures according to work requirements and actual management, such as the "Management Procedures for Design Change and Business Negotiation" issued by the survey institute and the "Provisions for Quality Control of Project and Management of Excellence Creation" issued by the rail transit company.

Detail Explanation: Survey Institute: "Integrated Management Handbook on Quality, Environment, Occupational Health and Safety"

The handbook applies to geotechnical engineering surveying, hydrogeological surveying, engineering measurement, geotechnical engineering design, ground and foundation engineering construction (geotechnical engineering construction), engineering checking, monitoring and testing, and risk assessment on geological disasters; all departments, positions and facilities and activities of the decision-making, management and executive levels in relation to products applicable to our institute's geotechnical engineering surveying, hydrogeological surveying, engineering measurement, geotechnical engineering design, ground and foundation engineering construction (geotechnical engineering construction), engineering checking, monitoring and testing, risk assessment on geological disasters and products in relation to all departments, positions and facilities and activities of the decision-making, management and executive levels.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

1.2.2 Customer Communication

We formulated and implemented the "Rules for the Collection of Customer Satisfaction Information and Reward and Punishment for Projects Upon Owners' Evaluation (Trial)", increased service awareness of employees, encouraged employees to actively participate in excellence appraisal and creation, standardised the collection of customer satisfaction information and stated clearly the standards and procedures set by the owners regarding excellence appraisal or project complaints and individual reward and punishment. The "Customer Service Control Procedures" of the survey institute specified the departments-in-charge and procedures of customer survey and satisfaction survey and set out rules for a series of works such as preparing service plans, receiving customer complaints, establishing relevant accounts, and analysing and reporting customer satisfaction on top of the foregoing. The "Management Procedures for Design Change and Business Negotiation" by the rail transit company specified the management procedures for design change and business negotiations during the construction process of the project, thereby ensuring the quality of projects and the realisation of rights and interests of all cooperative parties.

We set hotlines for complaints in forms of telephone, facsimile and emails to further improve our communication mechanism and receive timely opinions and suggestions from owners and relevant units on design documents and customer services in order to provide owners with more convenient and better services and improve the overall level of services rendered by the general institute. The "Deal with Each Thing Method" was adopted in handling the complaints from owners by specific persons in charge who operate the whole process by following the external documents of the general institute and identifying which categories the information belongs to, such as human resource guarantee, quality, technology, project management or others, and then timely deliver the relevant information to relevant departments such as the Professional Institute, general engineer's office, quality management department, Regional Institute and Design Institute for analysis and implementation. Specific treatment opinions should be provided for all complaints and suggestions and the operation and management department shall be responsible for tracking the execution of relevant information to ensure the closure of works.

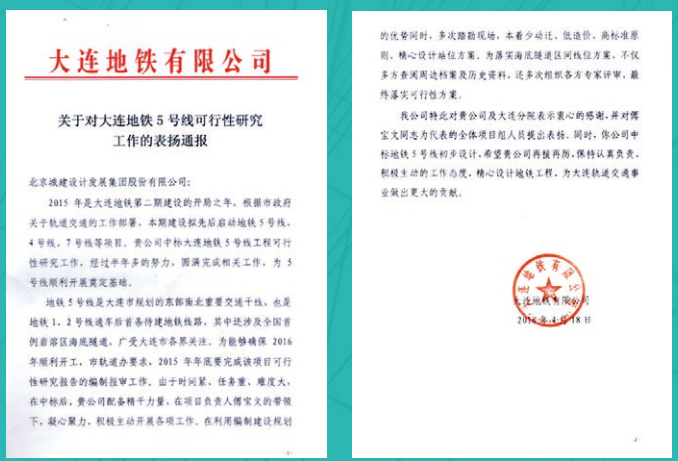
1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: Commendatory Letter from Shenyang CSCEC Pipe Rack Development Co., Ltd.

In 2016, Shenyang ranked top among the first 10 municipalities for pilot projects of comprehensive underground pipe rack in China, with the planned arterial pipe rack in the city's main urban area stretching approximately 103 kilometres long. We have undertaken the design of the entire comprehensive pipe rack at the South Canal Segment, as well as the design of some of the tender-prescribed sections (the tender-prescribed sections are about 5 kilometres in all). The project covers an important area for the implementation of the comprehensive pipe rack plan. The pipe rack will be laid along the main trunk roads in the main urban area and neighbouring areas along the South Canal river system. With a stretch of about 12.80 kilometres, the whole pipe rack will be constructed with the method of 6-metre shield, which is currently the very first pipe rack being constructed in the old town area with the shield construction method in China. The project is of exemplary significance to similar projects that may take place in other cities in the future.

Case Study: Preparation Works on Feasibility Study on Dalian Metro Line 5 Won Favourable Comments

In 2016, Dalian Metro Co., Ltd. sent a commendatory letter and gave favourable public comments on the outstanding performance of the Company in the preparation works on feasibility study on Dalian Metro Line 5. Dalian Metro Co., Ltd. also pinned high hopes on the primary design of the project in the next step.



大连地铁有限公司

关于对大连地铁5号线可行性研究工作的表扬通报

北京城建设计发展集团股份有限公司：

2015年是大连地铁第二期建设的开局之年，根据市政府关于轨道交通的工作部署，本期建设拟先启动地铁5号线、4号线、7号线等项目。贵公司中标大连地铁5号线工程可行性研究工作，经过半年多的努力，圆满完成相关工作，为5号线顺利开展奠定基础。

地铁5号线是大连市规划的东部临北重要交通干线，也是地铁1、2号线通车后首条待建地铁线路，其中还涉及全国首例沿海区海底隧道，广受大连市各界关注。为能够确保2016年顺利开工，市轨道办要求，2015年年底要完成该项目可行性研究报告的编制报审工作。由于时间紧、任务重、难度大，在中标后，贵公司配备精干力量，在项目负责人儒宝文的带领下，凝心聚力，积极主动开展各项工作。在利用编制建设规划

的优势同时，多次踏勘现场，本着少动迁、低造价、高标准原则，精心设计站位方案，为落实海底隧道区间线位方案，不仅多方查阅周边档案及历史资料，还多次组织各方专家评审，最终落实可行性方案。

我公司特此对贵公司及大连分院表示衷心的感谢，并对儒宝文同志为代表的全体项目组人员提出表扬。同时，你公司中标地铁5号线初步设计，希望贵公司再接再厉，保持认真负责、积极主动的工作态度，精心设计地铁工程，为大连轨道交通事业做出更大的贡献。

大连地铁有限公司

2016年4月18日

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: Section 05 of Beijing Metro Line 14 was Highly Recognised by Owners

On 22 June 2016, Beijing Railway Construction and Management Co., Ltd sent a commendatory letter to express its recognition and commendation for our outstanding performance of the Company in the preparation for work resumption for Section 05 of Beijing Metro Line 14.

1.3 Enhancement of Technological Innovation

We insisted on transforming technology innovation and achievements to primary drivers for corporate development and actively construct an innovative system of science and technology which is enterprise-based, market-oriented, and integrates industry, university and research.

1.3.1 Innovative Platforms

We effectively controlled the schedule, quality and level of the themed study of group members to realise the intra-group coordination, interconnection, and collaborative promotion of scientific research. We formulated and implemented a series of administrative measures for scientific and technological innovation to promote a systematic and scientific management of scientific research. We formulated and implemented administrative measures for intellectual property rights to promote the sharing of scientific and technological resources and the management of scientific achievements to safeguard the legal rights and interests of the nation, the Company and individuals. We set up relevant systems for the design, survey and consultation business segments, such as the “Administrative Measures for External Scientific and Technological Innovation”, “Administrative Measures for Proprietary Intellectual Property Rights (Trial)” and “Implementation Rules for rewards to High-tech Enterprises” to enhance innovation management.

We integrated internal and external resources and maintained platforms for technological innovation to keep enhancing the level of our science and technology, as well as capabilities in achievement transformation. We also made use of existing platforms of innovation technology to develop innovative research, communication and cooperation to build a team of innovation talents. By the end of 2016, the Company had one fellow of the Chinese Academy of Engineering, one master of prospective design, seven experts who enjoy governmental allowances, and over 400 registered members with professional certificates. Intermediate and advanced professional technicians account for 60% of the total number of employees.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: The Inauguration of National Engineering Laboratory for Green & Safe Construction Technology in Urban Rail Transit

Led by the Company and jointly constructed by three advantageous domestic organisations in rail transit industry including Beijing Jiaotong University, Tsinghua University and Nanjing Metro, the "National Engineering Laboratory for Green & Safe Construction Technology in Urban Rail Transit" was inaugurated on 30 August 2016 in Beijing for the purpose of the exploration of the collaborative innovation model of "industry-university-research-use".

The laboratory is constructed using leading construction infrastructures, technological base and abundant technical personnel. Regarding to problems including frequent accidents, significant environmental impacts and low efficiency of urban rail transit construction and operation in China, the laboratory lays emphasis on the construction of the demonstrative platform for research, development and application of green construction technology in urban rail transit while supporting the research, development and engineering of technologies, processes and equipment including green construction, new track structures as well as construction and operation safety for underground and viaduct projects centring on the urgent demands for safety, environment-friendly, efficient and sustainable development of urban rail transit in China. In addition, the laboratory will focus on constructing the "three major innovation platforms, one major supporting platform, seven research centres and 1+N demonstrative bases for application", leading the advancement and innovation of China in the technological development of urban rail transit area, improving the construction quality and efficiency of rail transit projects, achieving the infrastructures which are environment-friendly, safe, reliable and easy to maintain and providing supporting platforms for technology research and development of the innovative, safe and smart urban rail transit so as to lead the technology development of global urban rail transit projects.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

1.3.2 Achievements in Innovation

In 2016, our national engineering laboratory, structure centre and energy conservation centre led the pursuit in industry improvements. The Company obtained the State Technological Invention Award and was awarded "National Awards for Science and Technology" for the first time, which fully showcased our extraordinary innovative capacity. By the end of 2016, the Company obtained a total of 30 authorised patents, including 10 patents for invention and 19 patents for utility models and one patent for design.

Case Study: The Company Won the State Technological Invention Award for the First Time

At the 2016 National Science and Technology Awards Conference, the "Innovation and Application of Subway Environment Security and High-efficiency and Energy-saving Key Technologies" filed by the Company was granted the State Technological Invention Award (Second Class). This is the first State Technological Invention Award granted to the Company and the first in the urban rail transit field of China. Winning this award will further strengthen our innovation and the development of new power and enhance our brand influence and competitiveness.

The "Innovation and Application of Subway Environment Security and High-efficiency and Energy-saving Key Technologies" is an innovative invention achieved through more than ten years of strenuous efforts in new technologies, design methods and technical equipment for subway environment control series and used to solve the historical problems that have long hindered subway engineering construction and operation, such as high consumption, large occupation space and complex form of the environment control system. As the project achievements are generalised and extensively applied in the subway engineering construction of big cities all over China, they have significantly contributed to the implementation of strategic requirements on domestication of urban rail transit and equipment manufacturing in China and the realisation of subway environment security, energy saving and emission reduction, promoted the technical progress in subway environment control industry, and have wide application prospect and significant promotion value.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: The Company Won the Tien-Yow Jeme Civil Engineering Prize

In March 2016, the award ceremony of the 13th Tien-Yow Jeme Civil Engineering Prize was held in Beijing. Two projects, namely, the Beijing Subway Line 9 and the Beijing Rail Transit Yizhuang Line, for which the company serves as one of the constructors, won prizes.

The Tien-Yow Jeme Civil Engineering Prize (Tien-Yow Jeme Prize for short), which is approved by the Ministry of Science and Technology, accredited by the Ministry of Housing and Urban-Rural Development and jointly supported and directed by the Ministry of Housing and Urban-Rural Development, China Railway Corporation, the Ministry of Transport and the Ministry of Water Resources, aims to carry forward the spirit of "science and technology innovation" to commend and reward engineering projects with outstanding achievements in science and technology innovation and the application of new technologies. It was initiated by China Civil Engineering Society in 1999, reflecting the highest-level civil engineering technology and the latest science and technology innovation and application in China.

1.3.3 Promoting Industry Development

We actively promoted industrial development, in particular the development of the urban rail transit industry, and led the industry to the path of new technologies and thought. We kept ourselves abreast of the professional trends nationally and abroad, studied on the directions of industrial development as well as hot topics and difficult problems, enhanced information exchange, encouraged technology innovation and guided the industry in technology development.

We are the main decision-maker in formulating design standards for the urban rail transit industry in China. By the end of 2016, we played a leading role in formulating six national standards for the urban rail transit industry of China and two industry standards, participated in formulating 10 national standards and four industry standards, and we are currently leading projects to formulate three additional national standards, and participating in the creation of five additional national or industry standards.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: 2016 Forum on the Development of China's Modern Tram Industry & Symposium on Technical Standard for Modern Tram Engineering

The 2016 Forum on the Development of China's Modern Tram Industry & Symposium on Technical Standard for Modern Tram Engineering, which the Company participated in the organisation, was successfully held in Beijing in November 2016. More than 200 specialists and scholars from tram research, design, investment, project execution, construction, operation and equipment manufacturing units across the nation attended the meeting, where they discussed together and exchanged views over matters concerning planning and development of the modern tram industry and related technology and equipment, jointly interpreted the tram technical standard, and partook in tram engineering cases. The forum was aimed at smoothly facilitating the process of constructing the modern tram industry in all cities and advancing the sustainable and sound development of the modern tram industry in China.

Case Study: "Integration of Metro and City for a Green and Liveable City" – International Seminar on Subway and Urban Space Integration Construction

In July 2016, the "Integration of Metro and City for a Green and Liveable City – International Seminar on Subway and Urban Space Integration Construction", which was co-organised by the Company, was held in Beijing. More than 120 persons from rail transit investment, construction and design units of more than 20 domestic and overseas cities attended this meeting. The following topics were sufficiently communicated and exchanged during the seminar: the new mode for harmonious and integrated development of metro and city, the relationship between urban railway and city, the 10 principles for development oriented at high-strength public transportation, reduction of vibration and noise, implementation of disaster monitoring, insistence on ownership initiation, etc. in integrated development.

1. CREATION OF CUSTOMER VALUE (CONTINUED)

Case Study: 2016 China (Shenzhen) Urban Rail Traffic Key Technologies and the 25th Subway Academic Exchanges Conference

In April 2016, China (Shenzhen) Urban Rail Traffic Key Technologies and the 25th Subway Academic Exchanges Conference was held in Shenzhen, during which, more than 300 people in aggregate from rail traffic construction, design and scientific research universities, five major central enterprises and other enterprises of construction industry as well as equipment manufacturers across China participated and communicated technologies.

The theme of the conference is the Innovation and Application of the Construction Process and Technology of Urban Rail Traffic Projects, among which, Key Technologies for the Expansion Design of the Project Information Centre, AFC Test Centre and ACC/TCC System of Beijing Urban Traffic Control Centre Phase II and the Construction Technologies of Nanning Urban Rail Traffic Control Network of the Company were honoured as “technical innovation promotion projects”. The conference received 66 papers and launched them in a journal. A total of 20 papers, including some from the Company, were evaluated as excellent ones.

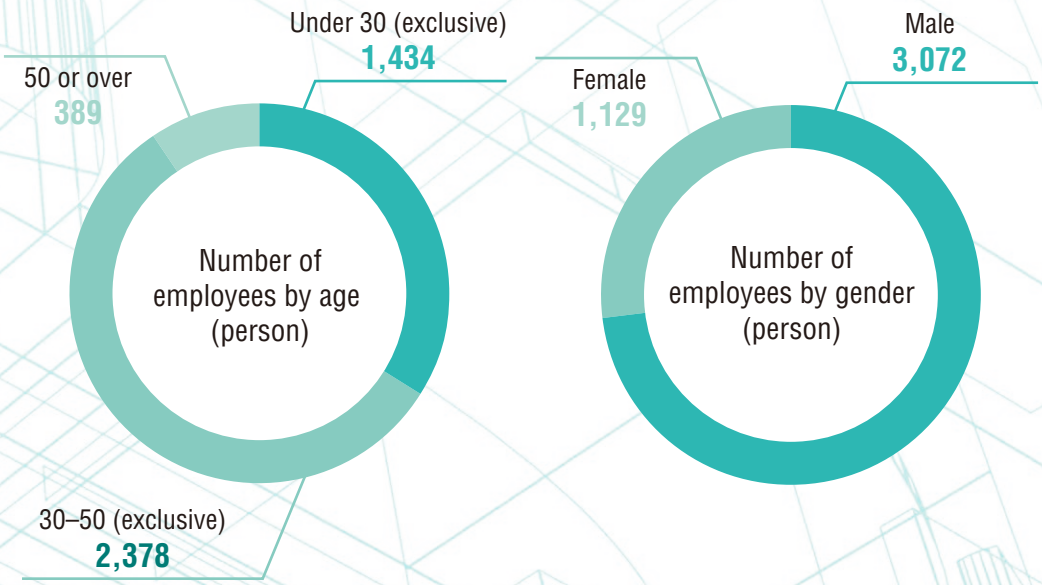
2. PROMOTION OF EMPLOYEES' GROWTH

UCD insists on the concept of "people-orientation", protects the basic rights and interests of employees, pays attention to the needs of employees, and devotes itself in creating a healthy, safe, open and equal working environment for employees to promote their growth and develop their potential.

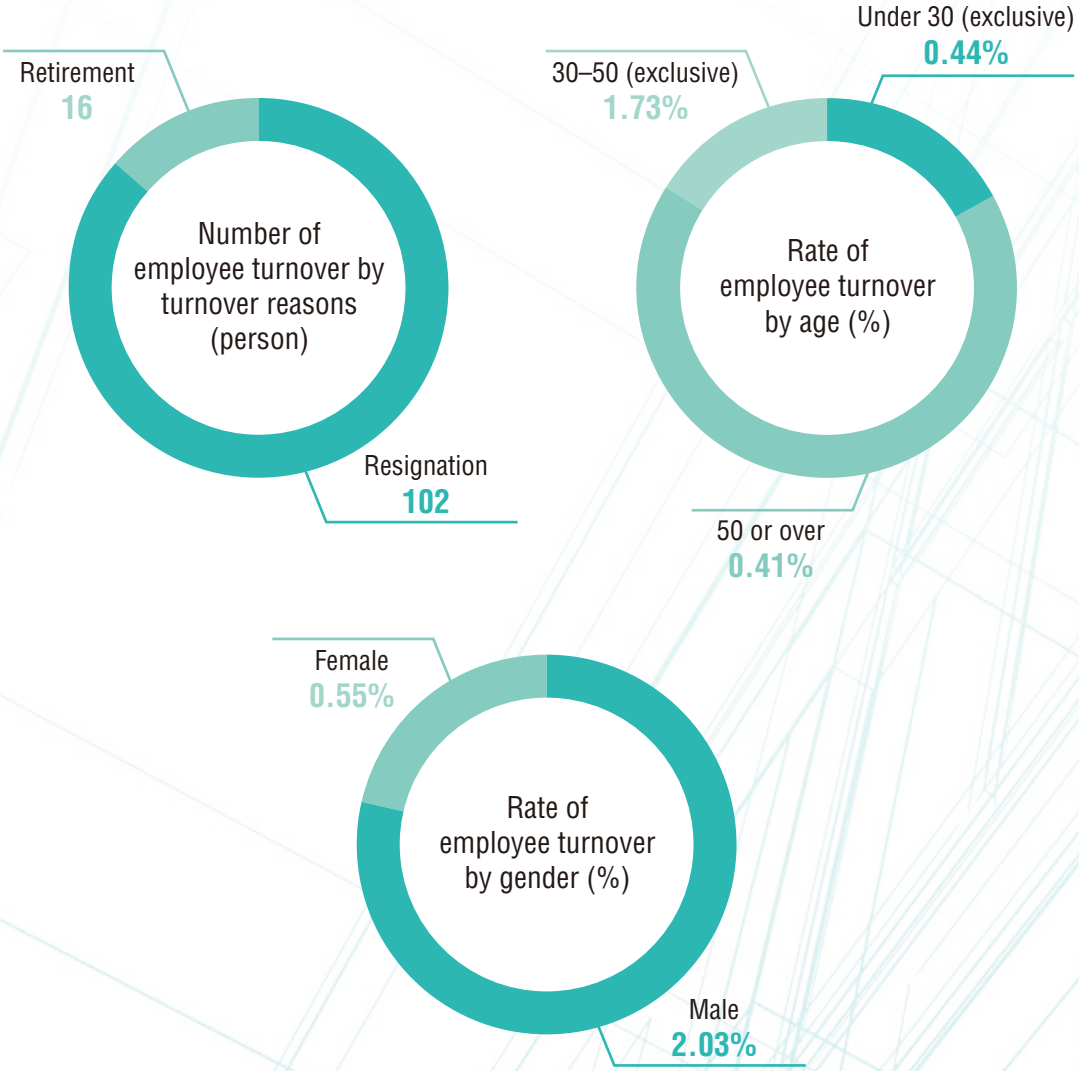
2.1 Protection of Legitimate Rights and Interests

We complied with the Labour Law and the Employment Contracts Law as well as other relevant laws and regulations, formulated and implemented administrative measures for recruitment, stated clearly the management procedures for recruitment, stringently prohibited discrimination in gender, race, religion, age, etc. and stringently prohibited child labour employment and forced labour in the process of recruitment and employment. We regularly monitored the movement in the employee structure of the Group through "Notification on Employee Movements" so as to better manage employees of the Group.

We formulated and implemented the "Measures for the Management and Calculation of Employees' Remuneration", providing employees with competitive remuneration and benefits that both matches their performance and the internal remuneration structure. Besides, such measures allowed the Company to make contribution to various kinds of insurance for its employees such as pension, unemployment, medical care, employment injury and maternity along with housing provident funds. We also provided diversified benefits such as fitness and business etiquette training for talents of different positions. We paid attention to communication among employees by collecting rational suggestions from employees through the employee representative congress with an aim to keep improving relevant management systems and measures.



2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)



2.2 Promotion of Career Development

We provide employees with a broad development platform through clear career development paths and a thorough training system. We formulated and implemented the "Administrative Measures for Positions and Ranks", set up a scientific system of positions and ranks, reinforced the composition of our working team, and established a system to nurture, select and manage talents based on the responsibilities and requirements for a particular position.

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

We formulated and implemented "Administrative Measures for Training", standardised training and management works, enhanced the comprehensive capability of employees, and promoted the mutual development of employees and the Company. We provide employees with various opportunities for training and development such as expertise and skill learning, overseas study, further study, idea exchange with industry peers and project management according to different positions and ranks. We customise training programmes for employees through various channels such as on-site training, distance and online training, self-study with courseware, and expatriates and visits. We set academic leave system for employees above primary titles to encourage employees to make good use of their annual leave by writing academic papers, works and summaries. In 2016, we organised a total of 1,122 trainings of various types, among which 112 were functional management trainings and 953 were professional skill trainings, with up to 4,490 training hours.

Training at corporate level	Trainings on general knowledge, innovation and expansion as well as management quality for employees of all units of the Company to enhance the comprehensive capability and overall quality of employees.
Professional training	Trainings on various professional techniques and skills for specific positions mainly grouped by departments and institutes by various units to enhance job competence of internal employees, to satisfy actual working requirements and to improve quality and efficiency of works.

Contents for Training

Assessment for training at unit level	Assessment on the completion rate of annual plan on training at various levels, the rate of required attendance hours and participation rate of employees mainly based on work plans on training, and the assessment results are recorded in the annual performance of each training unit.
Training assessment for employees	Based on work plans on training, assess the completion status of training hours of employees for compulsory training programs during a year, including at least 72 training hours for in-service technical staff, at least 48 training hours for in-service management staff, and at least 36 training hours for new employees within one year from the date of employment, and the assessment results correlate with the evaluation on promotion of employees.

Assessment after Training

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

Figure: Management Procedure for Training

Case Study: Trainings for New Employees

In July 2016, the 2016 New Employees Training organised by the human resource department of the Company was completed successfully with the on-site participation of around 160 people.

New employees had a general understanding in and systematic training on the organisational structure, business scope, regulations and rules, corporate culture, scientific research innovation, quality management, career development and cultivation plan of the Company after four days of concentrated training internally. The Company also arranged two days of internal training on outdoor training, business etiquette and career planning to provide necessary guidance and help for new employees in changing their roles as our employees as soon as possible in order to develop career competence, identify career direction and enhance the sense of belonging and accountability with a team.

Case Study: Trainings for Intermediate and Senior Management

The Company invited internal and external experts and consultants to provide trainings for intermediate and senior management to satisfy the strategic needs for corporate development, enhance corporate identity and sense of belonging of the management, improve the management ability of intermediate and senior management and procure the balance between reinforcement of capability of intermediate and senior management and the requirements for corporate development. Among all leaders of the Company and intermediate and senior management members of various units, around 100 people had participated in the training.

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

We select and show recognition to employees with outstanding achievements and performances every year. In 2016, we granted the Dean's Reward Fund for the Year to 10 selected employees with outstanding achievements, and commended 64 employees and entitled them "2016 Excellent Employees".

Case Study: National Master of Prospective Design

In December 2016, the Ministry of Housing and Urban-Rural Development of China promulgated the Public Notice on Publishing the 8th Name List of National Award for Science and Technology, with 69 people being conferred the honorary title of "National Master of Science and Technology", including Yang Xiuren, Chief Engineer of UCD. Known as an honorary title at the national level, the title of "National Master of Science and Technology" is aimed at arousing the sense of responsibility and the sense of honour among the rank and file prospective design workers, and guiding and motivating them to make innovations and explorations proactively to bring positive results, paired with economic effectiveness, social and environmental benefit, to the society.

2.3 Protection of Employees' Health

We attach great importance to occupational safety and health of our employees, strictly comply with laws and regulations of China and code of conduct and strengthen occupational health and safety management, training and occupational disease prevention of employee.

We comply with the requirements of GB/T28001-2011 in establishing occupational health and safety management system (OHSMS) and formulating and implementing Manual for Integrated Management of Quality, Environment, Occupational Health and Safe (《質量、環境、職業健康安全一體化管理手冊》) with continuous improvement in order to ensure the effectiveness of the system. By adopting modernised management mode, we achieved scientific, standardised and institutionalised production and operation activities, including production safety management to prevent occupational diseases, safeguard the health of labours, and raise employee's awareness of safety production to ensure production safety. In 2016, there was no accident in relation to safety production.

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

2.3.1 Safeguarding Occupational Health

We formulated and implemented Measures Governing Occupational Health of Employee and Labour Protection (《員工職業健康及勞動保護管理辦法》), guaranteeing the health and safety of employees at work. The organisation of education and training on knowledge of occupational health and safety on a regular basis enhances the consciousness of occupational health and safety within the scope of duties. In accordance with the requirements of the law on the Prevention and Control of Occupational Disease, we created health profiles for employees and initiated check-up for employees on an annual basis. The survey institute formulated and implemented Control Program of Environmental and Occupational Health and Safety for Related Parties (《相關方環境和職業健康安全控制程序》), targeting on related parties including government departments, financial institutions, landlords, suppliers, temporary staff and visitors, neighbour-hood residents, which effectively lessened the potential impact on occupational health and safety.

We also place great emphasis on employee's mental health. We held psychological debriefing for employees on an irregular basis, and relieve their stress by means of QQ, Wechat, telephone, face-to-face meeting, etc. We care for female staff by adopting measures through providing female staff with special benefits for check-up, purchasing insurance of special diseases, and purchasing anti-radiation clothing for pregnant women.

2.3.2 Strengthening Safety Production

We developed an inspection system of safety production to strengthen the administration and management of safety production, and achieved standardisation and institutionalisation of inspection on safety production. Special events such as "Month for Safety in the Metro", "Month for Safety Production", and "Green and Safe Construction for Hundred Days" were launched in 2016, achieving remarkable results.

We formulated and implemented Plan for Emergency Response to Significant and Integrated Safety Incidents of the Company (《公司重大綜合安全事故應急響應及救援預案》) to carry out emergency rescue for significant and integrated incidents in a prompt and effective manner, and minimise or reduce losses of the Company and employees arising from safety incidents. Emergency response command for significant and integrated safety incidents was established to take charge of commanding and coordination of emergency response to significant safety incidents, and formulate emergency response and rescue plan for specific incidents. Focusing on potential hazardous source of occupational health and safety relating to corporate activities of the Company, we formulated and implemented Hazard Source Identification, Risk Evaluation and Control Procedures (《危險源辨識和風險評價及控制程序》), systematically identifying and evaluating systematically the risks encountered by employees and external related parties, adopting and implementing effective control measures based on resource allocation to eliminate or minimise the risks.

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

Case Study: Experiential Safety Education and Training

In April 2016, the Company launched experiential safety education and training, in which 51 people participated. Experiential safety education and training advanced the tradition training with education contents such as simulation, experiencing, virtual reality, practices, video and cases, upon which concrete results of safety education were achieved and safety production incidents were reduced. According to the analysis based on performance results and on-site examination, upon implementation of experiential safety education, violation of construction of project department was effectively reduced, proper use of protective garments was increased substantially, mastery of safety skills was increased to 70%, and frequency on hidden safety hazards was obviously decreased.

Case Study: Flood Prevention Emergency Drill for Rail Transportation Projects

With a view to properly proceeding with the construction of the rail transportation projects in Beijing in real earnest and ensuring the life and property safety of the constructors, the flood prevention emergency drill for rail transportation projects was conducted in June in Beijing at section 13 Project Department of the third phase of Subway Line 8 of UCD. More than 100 people participated in the event. With a simulated leakage of water at the foundation pit construction site of Section 13 of the third phase Subway Line 8, the emergency plan was put into effect. The emergency drill for more than 40 minutes has been an effective test of the scientificity, feasibility and practicability of the emergency plan for Section 13 of the third phase of Subway Line 8. Those involved in the drill were able to react rapidly and respond timely on the lines of the emergency plan and took effective measures in dealing with the emergencies, thereby making positive preparations for facilitating the rail traffic construction in Beijing in a sound and rapid way.

2. PROMOTION OF EMPLOYEES' GROWTH (CONTINUED)

Table: List of Awards Received by Safe Construction Site of UCD

Projects	Awards
Yuyuantan Township 16# Office Building and Public Transportation Transit Building Project	"Green and Safe Construction Site" acknowledged by Beijing Municipal Commission of Housing and Urban-Rural Development
Project 308	"Green and Civilised Demonstrative Construction Site" Gold Medal awarded by Beijing MTR Construction Administration Corporation
Project of section 14 of Urumqi Subway Line 1	"Safe Production and Civilised Construction Site" of both Urumqi and Xinjiang Uyghur Autonomous Region
Anqing North Outer Ring Road Project	"Safe and Quality Standardised Demonstrative Construction Site in Anqing City" and "Safe and Quality Standardised Demonstrative Construction Site in Anhui Province"; currently reporting to create "AAA Level Safe, Civilised and Standardised Construction Site of Integrity" by China Construction Industry Association.

2.3.3 Organizing Recreational Activities

We actively organise our employees in delivering various recreational activities, such as forming sports teams for various sports including football, basketball, badminton, tennis, and dance, etc.. This relieves the working pressure of employees, enrich their leisure time, foster friendship among employees and balance their work life.

3. IMPLEMENTATION OF GREEN OPERATION

UCD adheres to the principle of "energy conservation and environmental protection", actively committing ourselves to build the urban public transport network, advocates the tenet of green commuting, reduces waste emission, lowers resources consumption, protects ecological environment, and promotes harmonious and sustainable development among people, city and the environment.

Environmental Targets of UCD

- No significant environmental incident
- The emissions and noise control of waste water, waste gas and air pollutants should be in compliance with the local requirements
- Classification and recycling of solid waste
- 100% legitimate processing ratios for harmful wastes

Environmental Management Documents and Management Regulations of UCD

- Integrated Management Handbook of Quality, Occupational Health, Safety and Environment
- Procedure Documents of Quality, Occupational Health and Safety and Environment
- Assessment Form for Environmental Factors and List of Key Environmental Factors
- Administrative measures for Solid Waste and Garbage Classification
- Administrative measures for Energy and Resources Saving

3.1 Emissions Management

We formulated and implemented "Administrative measures for Solid Waste and Garbage Classification" in order to realise source classification, disposal classification, transportation classification in terms of garbage classification. The headquarter set up leader groups for garbage classification, which is responsible for the promoting education and supervising inspection for garbage classification of the entire institute, implementing the system of three inspections and two reviews, timely discovering and rectifying the problems concerning garbage classification. In 2016, the Company produced and disposed of 47,652 solid wastes in total, such as ink cartridge, cartridge and lamp. The Exploration & Surveying Institute and Rail Company produced and disposed of 1.62 tonnes office garbage in total.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

Inspection System for Garbage Classification

- **"Three Inspections"**
  Daily Inspection: to conduct inspection led by Procter & Gamble and the property management company

  Weekly Inspection: to conduct inspection by Procter & Gamble and the project manager of the property management company

  Quarterly Inspection: to arrange inspection by the leader groups for garbage classification of the Company

- **"Two Reviews"**
  To conduct irregular review by the leader groups for garbage classification of the Company

  To conduct irregular review by Procter & Gamble and the property management company

Container Setup of Classification Collection

- **Source Classification**
  To arrange one recyclable trash bin for every person, and one non-recyclable trash bin for every office

- **Secondary Classification**
  To set up one recyclable and one non-recyclable trash bin respectively with pedal of 60 litre for the two toilets on every floor

- **Transportation Classification**
  To set up one recyclable and one non-recyclable trash bin of 240 litre in the institute

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

Table: Definition of Terms and Methods of Disposition for UCD Garbage Classification

Terms	Explanation and Example	Methods of Disposition
Recyclable	Garbage suitable for using as resources, including paper, rubber, glasses, metal, fabric and packages	Books, newspaper, cartons and cans will be delivered to scrap yards for recycling
		Glasses, plastic products, disposable meal boxes and foaming packages will be first delivered to the recyclable trash bins of the institute, and will be delivered to Xicheng District useful material recycling centre for clearance and delivery
Kitchen Waste	Biological wastes including leftovers, peels and shells, suitable for biochemical treatment or composting	Collection and delivery on daily basis by Yuyuanda cleaning service centre of Xicheng District environmental and health service centre
Battery	Including cylindrical and buckle batteries	Placing the battery box in the hall first, and the batteries will then be delivered to Xicheng District useful material recycling centre for clearance and delivery when reaching 30 kg
Other Garbage	Garbage other than recyclable and harmful garbage, such as dust, cigarette butts, toilet waste paper and potteries etc.	Delivered to other trash bins in the institute first, and then delivered to garbage station twice per day by tricycles

Major non-poisonous and non-harmful waste of design, inspection and consultancy sectors include recyclable office waste paper, invalid drafts, old newspaper, unrecyclable household garbage, construction waste and test waste residue. Poisonous and harmful waste includes waste fire extinguisher tanks, waste fluorescent lights, waste batteries and waste chemicals.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

The Exploration & Surveying Institute formulated and implemented the "Control Procedures for Solid Waste" (《固體廢棄物控制程序》), complying with prevention principles of implementing volume reduction, resources and harmlessness to solid wastes to regulate the solid wastes generated from production, activities and services. Targeting hazardous solid wastes, the Exploration & Surveying Institute recorded the number of collection and disposition, entered into "Harmless Disposal Technology Service for Hazardous Wastes" (《危險廢物無害化處置技術服務》) contract with qualified third party companies to transport and dispose of fuel and paint waste (including cartridge). Targeting household garbage and kitchen wastes, the Exploration & Surveying Institute and Beijing Environmental Sanitation Engineering Group entered into "Road Goods Transportation Contract" (《道路貨物運輸合同》) to collectively clear and transport household garbage and kitchen waste collectively. At the same time, the Exploration & Surveying Institute formulated "Sewage Discharge Control Procedures" (《污水排放控制程序》). Different disposal measures are adopted according to the source of sewage. The discharge of sewage will be implemented the sewage discharge standard as set out in the places of construction and will be discharged into the municipal sewage pipes according to relevant requirements after reaching the standard.

Targeting dust easily produced in contracting projects, the Rail Company formulated and implemented the "Work Plan for Special Treatment of Dust" (《揚塵專項治理工作方案》), and set up a leader group for special treatment of dust led by the project managers. Offices are set up in safety management department under the leader group, which is responsible for daily management and coordination work. Through adopting measures such as selecting qualified muck transportation units, setting up car wash tanks and special washing equipment and facilities at the entrance of the operation site, hardening the road in the construction site by 100% and 100% water spray and dust press in the construction site of demolishing housing estates, the dust and road residue were under strict controlled. Targeting noise produced by sewage, waste gas, dust and solid wastes generated from construction sites, living area and office area, the Rail Company formulated "Waste Disposal Control Procedures" (《污染物排放控制程序》). The safety management department of headquarter is responsible for organising, implementing, supervising and inspecting the management of emissions. The project manager of the Rail Company is responsible for controlling emissions, while professional construction contracting projects are responsible for the construction, allocation and management of environmental protection equipment and facilities within the scope of contracting in order to ensure that the pollutants are properly emitted according to the standard. In 2016, the construction wastes produced by the Rail Company amounted to 704 tonnes while the disposed construction wastes amounted to 704 tonnes.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

3.2 Energy Saving

In order to further strengthen the management work of energy saving, effectively reduce the Company's energy consumption, and ensure that the Company uses unified management, quantitative indicators and dynamic settlement realise the organised management of water and electricity utilisation, quantitative energy consumption of energy, and excellent operation environment for fees settlement, we formulated and implemented "Administrative Measures for Energy and Resources Saving" (《能源資源節約管理辦法》). The administrative management department under the headquarter is responsible for the management of usage for energy and resources in office area, monitoring the use of water, electricity, gas and consumables of each of the departments, and promoting knowledge, technology, measures and methods of resources and energy saving to the employees. All related units and departments are responsible for the management of usage and consumption reduction of energy and resources in each of the office area. The property company is responsible for the use management of usage of energy and resources in public area, for common equipment and facilities.

In 2016, the headquarter of UCD, located in Wuhua Building Office area, Nanlishi Road, Chegongzhuang, changed approximately 45,000 incandescent tubes into LED energy saving lights. According to the preliminary estimation, the power consumption lighting can be saved by 65%.

Table: Resources saving measures adopted by UCD

Types of Resources	Measures
Electricity	• All the lights shall be turned off after everyone left the office. Electrical appliances such as computers, printers and air conditioners, etc. shall be turned off in a timely manner. • Personnel of each department shall use standardised installed office equipment facilities such as computers, phones, air conditioners and water dispensers, while non-standardised installed equipment and facilities such as microwave ovens, refrigerators, electric stoves, electric kettles and quick heaters are prohibited.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

Table: Resources saving measures adopted by UCD	
Types of Resources	**Measures**
	• Each of the office shall strictly control the temperature setting of air conditioners (except for those in the important core machine rooms). Corresponding office departments shall be in charge of the air conditioners of the office building, and shall turn off the air conditioners after work. Inspectors on duty will carry out checking and supervision. • The signal light boxes, landscape lights, road lights and lawn lights within the office area shall be turned on and off according to the relevant requirements.
Water	• The favourable turn-off function of pipes and taps shall be maintained, while no leaking shall be ensured. Warm-keeping and prevention of cracking of pipes in open area in winter shall be prepared. • Quantitative management and conservation of usage principles shall be implemented in non-production water usage. Scope of water usage and area of water supply shall be stringently controlled, while the damaged facilities of water system shall be fixed in a timely manner. • "Water wasting" shall be prohibited in all area of the head institute.
Paper	• Use of electronic documents and computers to deliver documents through internet (such as email, internal network of the unit, etc.) is encouraged in order to reduce the use of paper. • Documents and materials for internal circulation shall be delivered through electronic version in order to reduce the use of number of paper. • For printing and copying non-official documents and materials, two-sided printing is advocated, and the reuse of paper shall be aware of. • Waste paper that is not fully used nor does it contain any confidential or important information of the unit shall be reused or bound as books to use as note pads.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

The Exploration & Surveying Institute formulated "Management Procedures for Resources and Energy" (《資源、能源管理程序》), pursuant to which annual resources and energy consumption indicators is set at the beginning of every year. Statistics of use of paper, fuel, water and electricity in the office are carried out half a year and are registered in the "Statistic Table of Resources and Energy Consumption" (《資源、能源消耗統計表》), and the a comparison of consumption at the end of each year and the annual plan will be conducted in order to improve the level of reasonable use of energy and reduce energy consumption.

The Rail Company prepared the "Notice Concerning Printing and Distribution of Measures of Energy Saving and Emission Reduction in Office Area" (《關於印發辦公區節能減排措施的通知》) so as to provide a variety of specific measures to instruct the subordinate units it to save water, electricity, fuel, and office consumables in order to gather statistics and analyse the consumption of resources and energy, timely discover the reasons of abnormal year-on-year increase in the use of resources and resolve the problem.

Table: Use of resources of UCD for the year 2016

Types	Unit	Headquarter	Rail Company	Exploration & Surveying Institute
Gasoline	Litre	56.4	4,317	314,698
Diesel	Litre	0	0	100,200
Electricity	Kilowatt	664,571	986,641	453,135
Gas	Cubic metre	23,010	0	0
LPG	Cubic metre	0	17,915	11.22
Water	Ton	44,361	28,972	5,697

3.3 Protection of Ecology

As an important service provider of urban rail design, engineering, surveying and other related services, we actively prevented and recovered from impacts on ecological environment caused by activities, production and services, formulated and implemented "Identification, Evaluation and Control Procedure of Environmental Factors" (《環境因素識別和評價控制程序》) to identify, evaluate and update the environmental factors involved when the Company conducted activities or provided products and services, confirm and rectify key environmental factors annually to ensure the influence on the environment of effective control.

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

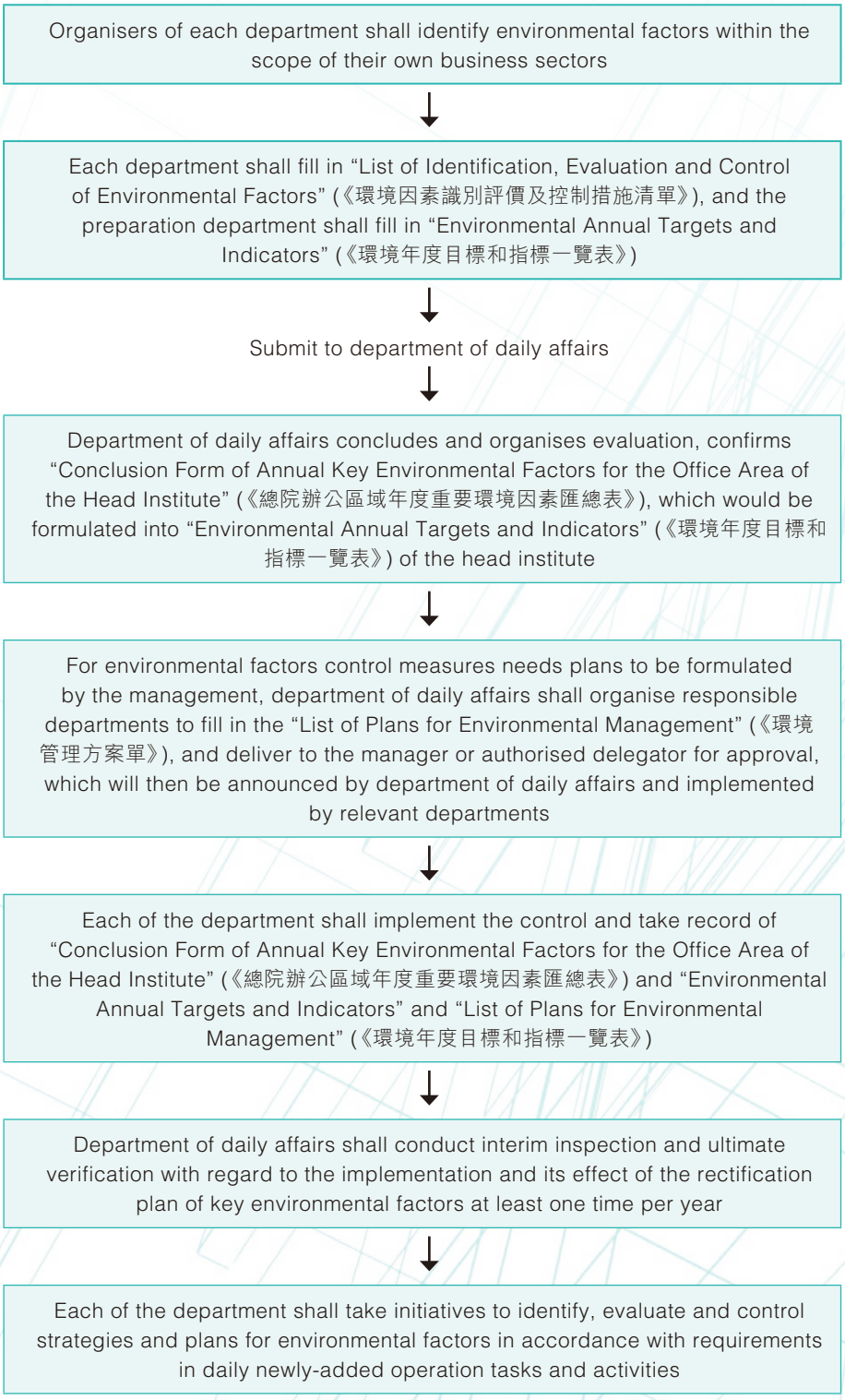


Figure: Environmental factors identification, evaluation and control process

3. IMPLEMENTATION OF GREEN OPERATION (CONTINUED)

The Exploration & Surveying Institute formulated "Identification, Evaluation and Control Procedures of Environmental Factors and Hazardous Sources" (《環境因素和危險源辨識與評價控制程序》), prepared "Inspection and Evaluation List of Environmental Factors" (《環境因素調查、評價清單》), "Inspection and Evaluation List of Key Environmental Factors" (《重要環境因素調查、評價清單》) and "Inspection and Evaluation List of Unacceptable Risks" (《不可接受風險調查、評價清單》), analysed the possible environmental influence caused by each of the production and service process/activities, formulated corresponding control methods such as management targets or methods, formulated management procedures, methods, operational process, and formulated emergency plans in order to ensure that key environmental factors and unacceptable risks are under effective control. At the same time, UCD formulated "On-site Green Operation Management Procedures" (《現場綠色施工管理程序》). Prior to the operation, survey for soil quality assessment was performed, while scientific protection or recovery measures were formulated in order to prevent soil erosion and degeneration during the process of construction, as well as reduce soil damage and pollution caused by construction activities. For vegetation and bare soil caused by construction, coverage of sandstone and planting of fast-growing grass were adopted to avoid soil erosion or loss. Upon completion of the construction, recovery or appropriate afforestation shall be conducted on the damaged vegetation.

The Rail Company formulated "Identification and Evaluation Procedures of Environmental Factors" (《環境因素識別與評價程序》), pursuant to which the head safety management department is responsible for organising the identification, evaluation and control of environmental factors of the unit. The project manager is responsible for the identification, evaluation and control of the projects. Professional construction contracting project manager department is responsible for the identification, evaluation and control of the environmental factors within the project area. With regard to the identified environmental factors included in the "List of Key Environmental Factors" (《重要環境因素清單》), including the remaining environmental problems, environmental problems currently occurs and will continue in the future, and problems that may occur and cause huge influence in the future, the project management department prepared "Environmental Management Plan" (《環境管理方案》) and conducted inspection on the implementation of "Environmental Management Plan" by professional construction contracting project manager department every month. With regard to the identified environmental factors yet to be listed in the "List of Key Environmental Factors", each of the project departments shall propose relevant requirements and perform control by individuals and operation classes through education.

4. CONTRIBUTION TO SOCIAL DEVELOPMENT

UCD has long been committed to the development of urban rail transit, and actively promoting harmonious communion and synergetic development between rail transit and the city, which would be beneficial to public safety, convenience and green travelling. With providing help on the Belt and Road Initiative strategy promoted by the PRC and carrying out International production capacity cooperation, the Company found corporate development opportunities to facilitate regional economic development. The Company also advocates its staff to carry out volunteer activities by participating in public welfare campaigns.

4.1 Upgrading Urban Transportation System

China is under greater transportation pressure in the course of rapid urbanisation and mechanisation. To solve such problems and propel and maintain the sustainable development of urbanisation, it is preferred to direct the urban transportation development mode in China towards developing urban public transportation system. As of 31 December 2016, there are 128 urban rail transit lines in 29 cities in mainland China, with an aggregate operating rail transit distance of 3,832 km, contributing to the convenience of local public travelling as well as advocating green travel.

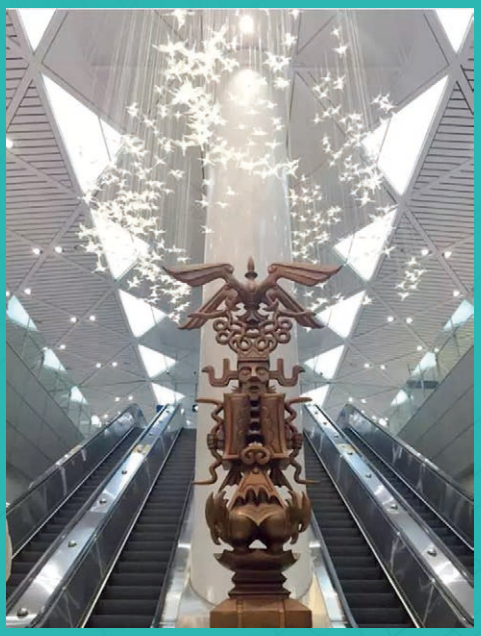
Case Study: Phase-One Project of Zhengzhou Suburban Railway

At the end of 2016, the Phase-One Project of Zhengzhou Suburban Railway, which extends from the South Fourth Ring to Zhengzhou South Railway Station, and UCD assumes the general contracting of design, completed all preparation work before being placed into operation. This project is the first railway line adopting the model of general contracting of design in the Central Plain region. It realises the direct connection between central urban area and airport area, promoting the fast development of airport area and clusters along the railway line, and meanwhile, connecting Xinzheng International Airport and South High-Speed Railway Station, realising airway-railway combined transport, and providing fast and convenient public transit travel method for residents' travel.

4. CONTRIBUTION TO SOCIAL DEVELOPMENT (CONTINUED)

Case Study: Airport Line of the Wuhan Rail Traffic Puts into Operation with the Tianhe Airport Station

In December 2016, the line of rail track at Wuhan's Tianhe Airport was open to traffic. Constructed and decorated by UCD, the airport line, an extended part of Line 2, gives prominence to the design philosophy for Line 2 featured by the buzzword of "Onboard the Train to Feel the Culture of Wuhan". There are 7 stations along the line, decorated in simple and lavish style. With the line in plum red for the most part, the colour is aimed at displaying features of the nature and humanity of neighbouring areas along all stations. The Tianhe Airport Station and the Dragon Road Station, two major stations, give prominence to the features of regional culture to endeavour to foster the image of the rail traffic as window of the city to the outside world.



Case Study: Line 3, First Subway of Shandong Province, Opens to Traffic in Qingdao

In December 2016, Line 3 of the Qingdao subway, the first subway line of Shandong Province designed and constructed by UCD as a general contract project, saw its officially open to traffic, marking the entry of the city into the "subway" era. With 24.8 kilometres long, Line 3 of the Qingdao subway extends from Qingdao Railway Station to Qingdao North Railway Station, by way of South Qingdao District, North Qingdao District and Licang District. A number of "firsts" have been created for Subway Line 3: the first open-cut column-free arch station; the first largest same-floor subway transfer station; the first subway line operated under the 35kV diversified power supply system; the first least heavy carriage, etc.

4. CONTRIBUTION TO SOCIAL DEVELOPMENT (CONTINUED)

Case Study: Joining of the Main Spans of the Flyover at East Joining Line of Xin'anjiang Road

In November 2016, the joining of the main spans of the flyover at east joining line of Xin'anjiang highway (formerly known as Fengxin Expressway) in Zunyi was completed, in spite of numerous difficulties, marking a phasic victory and a successful entry upon a new phase in the construction of the second PPP project undertaken by UCD. Situated in the middle and western part of the central urban area of Zunyi, the Xin'anjiang highway starts from the bus company of Zunyi at the foot of the Fenghuang Mountain in the west, to the Liyi New Town in the east. The upper part of the main line, which has been built into a two-way, 6-lane arterial road for transportation purpose, is 1.8 kilometres in length and is a fast passageway between urban agglomerations, forming a dot-to-dot easy approach amongst them. Serving as a two-way, 6-lane arterial road for everyday life, the lower part of the main line stretches 2.131 kilometres long for the residents and neighbouring areas alongside the line and in a bid to ease the pressure of traffic congestion that ails the urban areas.

4.2 Supporting "the Belt and Road Initiative"

The Belt and Road Initiative advocates enterprises in the PRC to "Go Global", thereby bringing along unprecedented development opportunities. In 2016, focusing on the infrastructure construction under the Belt and Road Initiative, we took initiatives to make use of our advantages in the industry and technology, actively participating in the communication and cooperation of related matters. Directing to the world through increasing overseas projects, we have blended into the local society and culture with an open-mind and inclusive manner to facilitate the regional economic prosperity.

Case Study: Launching of Light Rail Project in the Republic of Kazakhstan Constructed by the PRC

In June 2016, the mobilisation meeting and cooperation signing ceremony with participants in the first-stage construction of the Astana Light Rail in the Republic of Kazakhstan was held at Bird's Nest Culture & Creative Centre. The Republic of Kazakhstan is an important partner of the national strategy of the Belt and Road Initiative of China. It is reported that the project of Astana Light Rail is the first urban light railway line in the Republic of Kazakhstan. The railway line is entirely constructed with adoption of the standards and design of the PRC, and the Company will participate in this project construction. The Astana Light Railway Line will be 22.4 kilometres in length with a total of 18 stations, one metro depot and a design speed of 80km/h. The project, after being constructed, will become the most iconic urban transit project for the Republic of Kazakhstan or even the Central Asia region.

4. CONTRIBUTION TO SOCIAL DEVELOPMENT (CONTINUED)

4.3 Carrying Out Volunteer Activities

Over the years, in the face of major natural disasters, we have been stepping forward and taking on substantial responsibilities bravely. Actively participating in disaster relief actions as well as practising the responsibility of state-owned enterprises, we have received recognition from all levels of government and sectors of the society. In 2016, certain areas of southern China suffered from flooding, which we have not encountered for years, and Anqing project as well as Wuhan, Nanjing, Hefei and other branches of UCD contributed the strength against the disaster of flooding in their local regions.

Case Study: UCD standing by Anqing's Citizens to Fight Against Disaster of Flooding

In June 2016, several rounds of pouring rain in Anqing city caused significant disaster of flooding. Medium-sized or above reservoirs in the city were all in full capacity, leading to critical dangerous condition in certain areas, and some areas even experienced traffic disruption. The Anqing project company of the Company immediately set up a flooding control leading group. The general manager of the project company was the leader, and the engineering department was responsible for organisation and implementation. The team also organised a rescue commando of 40 with rescue equipment and materials to carry out disaster relief actions in order to protect human lives and properties in the disaster area.

We have set up a number of volunteer service teams. Through adequately leveraging the enthusiasm of staff, we carried out caring for left-behind children, condolences to the elderly, convenient-to-citizen community services and other activities, and organised activities including clothes donation in poverty areas to dedicate our love to the society. We vigorously carried forward respecting and loving old ages, one of our superior tradition, and showed concern with and cared for staff encountering tough lives so as to pass down the construction of spiritual civilization of the enterprise.

APPENDIX

Hong Kong Stock Exchange ESG Guidance Table		
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	A1.1 The types of emissions and respective emissions data.	under calculation
	A1.2 Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	under calculation
	A1.3 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	under calculation
	A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	under calculation
	A1.5 Description of measures to mitigate emissions and results achieved.	37
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	A2.5 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	no backage was used
A3 The Environment and Natural Resources	General Disclosure	41
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APPENDIX (CONTINUED)

Hong Kong Stock Exchange ESG Guidance Table		
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B7 Anti-corruption	General Disclosure	6
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Feedback Form for Readers

Dear Readers,

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Address: No. 5 Fuchengmen North Street, Xicheng District, Beijing

Telephone: 8610-8833 6868
Fax: 8610-8833 6763

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☐ Community ☐ Bank ☐ Academic institution ☐ Other (please specify)

2. Did you read a paper version or an electronic version?

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3. What is your overall evaluation for the Environmental, Society and Governance Report for 2016?

Readability (i.e. easy to understand, beautiful design, compelling content, and easy to find out the required information)

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