

2018

CRRC Corporation Limited (CRRC)  
**Social Responsibility Report**

# Preparation Instructions

● Reporting period

From January 1, 2018 to December 31, 2018, some of the contents may be beyond the above period.

● Release Cycle

As the fourth annual Social Responsibility Report released since the establishment of CRRC, this Report accurately reflects the Company's economic, social and environmental responsibilities aiming to achieve comprehensive, coordinated and sustainable development.

● Reporting Scope

This Report covers corporate headquarters and its subordinate enterprises. Please refer to the Annual Report of CRRC for more details of the Company.

● Basis for Report

The Report has been prepared under the *Guidelines for Central Enterprises to Fulfill Social Responsibilities* and *Guidance for the State-owned Enterprises to Better Fulfill the Social Responsibilities* issued by SASAC, the *Environmental, Social and Governance Reporting Guide* issued by the Hong Kong Stock Exchange, the *Environmental Information Disclosure of Listed Companies* and the *Guidelines for Compiling Corporate Social Responsibility Reports* issued by the Shanghai Stock Exchange, the *Preparation Guidelines for China Corporate Social Responsibility Reports* (CASSCSR4.0) issued by the Chinese Academy of Social Sciences, the *Sustainability Reporting Guidelines* issued by Global Reporting Initiative (GRI), and the *Guidance on Social Responsibility* (ISO 26000) issued by the International Organization for Standardization.

● Access to Report

You may find the Report in PDF and dynamic information pertaining to corporate social responsibilities on the "Social Responsibility" page of the CRRC Portal (Website: <http://www.crrcgc.cc>).

● Name Description

For the convenience of presentation and readability, the CRRC Corporation Limited is referred to as "China CRRC", "CRRC", "the Company" and "We" in the Report.

● Source

All information data hereunder has been sourced from the Company's official documents, statistical reports and financial reports, as well as the social responsibility information organized, summarized and reviewed by the Company. All information pertaining to the social responsibilities of CRRC shall subject to this Report, and the financial data shall subject to the annual report of CRRC.

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The year of 2018 was the first year to implement the spirit of the 19th National Congress of the Communist Party of China, and it was a crucial year to achieve the establishment of a moderately prosperous society in all respects and resolutely carry out the three major tasks. It was also an extraordinary year for CRRC that we should cherish and remember. We were greatly encouraged and motivated by the inspection made by General Secretary Xi Jinping. General Secretary Xi Jinping has inspected CRRC three times since the establishment of the new CRRC, which fully demonstrated the warm care and urgent expectations of the CPC Central Committee and the State Council. We shall always abide by the instructions by General Secretary Xi Jinping. We shall stay true to our mission and keep a foothold in a real economy, serving as an important pillar of our great nation. We are committed to making the Company stronger, bigger and better, continuing our practice of “internal strength” as well as staying on the path to reform and innovation. We shall continue implementing our independent innovations thus promoting the high-quality development of CRRC.

The year two thousand and eighteen was also the 40th anniversary of China's reform and opening-up. Over the past 40 years, CRRC has always made it our mission to build a powerful country utilizing equipment to serve the country and strengthen its industrial potential. We have decidedly embarked on reforming out state-owned enterprises applying the correct approaches, and have deployed reforms bravely and always explored new models and paths for the reform of state-owned enterprises. Over the past 40 years, CRRC has always been adhering to the spirit of hard-work and forging ahead with determination achieving a major transformation from small to big, from weak to strong and ranked the top 500 international enterprises and top 100 Chinese enterprises elected by Fortune. Over the past 40 years, CRRC has always been guided by innovation, transforming the motto of Made in China to Create in China, and built a world-leading technological system, the manufacturing system and standards system for rail transit equipment, which was a splendid chapter in the innovation and development of the rail transit equipment industry in China. Over the past 40 years, CRRC has always been adhering to the strategy of integration into the global development and “Going Abroad.” It transformed the export model from a single product to include five components, namely “product + technology + service + capital + management,” our products being exported to more than 100 countries and regions all over the world.

The year of 2018 was a crucial year for CRRC to forge ahead and to rise abruptly based on our accumulated strength. This year, we focused on the establishment and strengthening of partnerships with the world, implemented co-construction and sharing projects and endeavored to create six transportation systems.

These systems include green transportation, safe transportation, intelligent transportation, convenient transportation, tourist transportation and value transportation. We promoted the “Five Localization Modes,” namely localized manufacturing, localized procurement, localized employment, localized maintenance and localized management. This was done so CRRC's products could benefit the people of all countries and boost the regional economic development.

This year, we played the core role in rail transit and promoted the independent innovation, open innovation and collaborative innovation vigorously. We successively put into operation “Fuxinghao” EMUs attaining the speed of 350km/h, 250km/h and 160km/h as well as extra-long “Fuxinghao” EMUs composed of 17 trains. All these projects were implemented in succession, gradually making up a series that ensured the railroad transportation in China is faster.

This year, we spared no effort to create intelligent and digitalized high-end products and created “CRRC Quality” featuring high quality, high standard and high requirements, which gained market recognition. We practiced the concept of sustainable operation, upheld the principle of integrity management, adhered to the law and compliance and strengthened the integrity and self-discipline to build a community of common destiny for CRRC. We adhered to the people-oriented philosophy, so as to make employees have a sense of happiness, have a sense of gain and a sense of security.

This year, we made great efforts to promote energy conservation and emission reduction, carry out pollution prevention and control, and build a green CRRC to protect clear water resources and green mountains. We scaled up the research and development of green and low-carbon products, improved the energy efficiency in order to respond effectively to climate change. We continued carrying out poverty alleviation, focused on the word “targeted,” boosted out assistance and support efforts, continuously increased investment, established a long-term mechanism, and actively became a model of poverty alleviation.

Our mission calls for responsibility and hard work makes dreams come true. Looking forward to the future, CRRC will always follow the principle of Socialism with Chinese characteristics for a new era established by Xi Jinping as a guidance. We shall practice the strategy of “Double Creation and One Cultivation”<sup>1</sup> with a high sense of responsibility and mission, so as to help CRRC achieve higher quality development and create more outstanding achievements as well as write a new chapter in the new era.

**Liu Hualong**  
Chairman of the Board, CRRC Corporation Limited (CRRC)  
March 2019

<sup>1</sup> “Double Creation and One Cultivation” refers to creating a respectable international company, creating the CRRC party-building iconic brand, and cultivating a world-leading corporate with global competitiveness.

# About Us

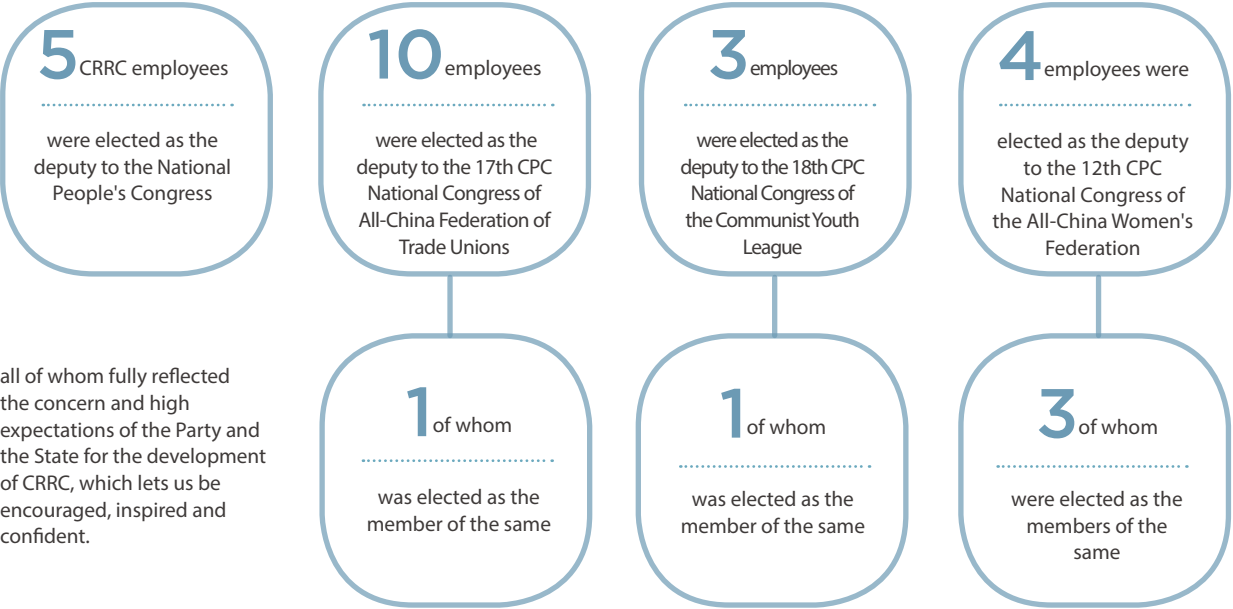
With the consent of the State Council and approval of the SASAC, former China CNR Corporation Limited and former CSR Corporation Limited merged into CRRC Corporation Limited under the equivalence principle, as an A+H share company. Approved by the China Securities Regulatory Commission (CSRC), CRRC was successfully listed on the Shanghai Stock Exchange and the Hong Kong Stock Exchange on June 8, 2015.

On September 26, 2018, Xi Jinping, General Secretary of CPC Central Committee, came to CRRC Qiqihar Group, inspected the wagon experiment and research center and watched the ongoing fatigue and vibration test of the wagon. It was the third inspection made by General Secretary Xi Jinping to CRRC since its establishment, which reflected the ardent hope he has placed on CRRC and even China's high-end equipment manufacturing industry.

CRRC will never forget its mission and entrustment, practice the strategy of building China's strength in transportation and supporting China with equipment, improve the technological innovation ability constantly, strive to build a respected international company, and make all efforts to cultivate a world-class enterprise with global competitiveness. In 2018, CRRC ranked No. 8 on the List of the "Most Admirable Chinese Companies" elected by the magazine of *Fortune*, ranked No. 1 among the central enterprises and in the China's manufacturing sector. CRRC has also become a gorgeous iconic brand of China, and was selected as "Top 10 Central Enterprise in Brand Communication" jointly by the News Center of SASAC and Tsinghua University, and ranked the first place among the central enterprises in terms of accountability and image building, publicity, reputation, and release of positive information, etc.



## 2018 CRRC



## General Secretary Xi Jinping Inspected CRRC

General Secretary Xi Jinping pointed out that, equipment manufacturing is a pillar of the nation as well as a significant component of the real economy, so we should grasp the advantages and take the opportunities to make it stronger, better and larger. At present, our nation was promoting high-quality development and building the "Belt and Road", which were promising opportunities for equipment manufacturing industry; therefore, we should continue to practice our "internal strength", carry on reform and innovation, and maintain an invincible position and take the initiative in hands all the time.





# Major Businesses of the Company

At present, CRRC's products have been exported to more than one hundred countries and regions in the world, and changed gradually from the product export to the technology export, capital export and globalized operations; CRRC has built the world's leading technology platform and manufacturing base for rail transit equipment and products, and series of products represented by high-speed EMU, the high-power locomotives, wagons and urban rail vehicle have reached the world advanced standards. The main scope of business includes: research and development, design, manufacturing, refurbishment, sales, leasing and technical services of railway locomotives, rolling stocks, EMUs/DMUs, urban rail transit vehicles, engineering machinery, various electromechanical equipment, electronic equipment and components, as well as electronic devices and environmental protection equipment; information consultation; industry investment and management; asset management; import and export business.



## Railway Equipment Business

- Locomotive business
- EMU and passenger carriage business
- Freight wagon business
- Track engineering machinery business



## Urban Rail Transit and Urban Infrastructure Business

- Urban rail transit vehicles
- General contracting of urban rail transit vehicles projects
- General contracting of other projects



## New Industry Business

- General Electro-mechanical business
- Emerging industry business



## Modern Service Business

- Financial business
- Logistics and trading business
- Other business



## International Business

- Implement the internationalization strategy
- Promote the combined output of "product + technology + service + capital + management"

# Social Responsibility Management

## Social Responsibility Concept

We will continue to strengthen our capacity for sustainable operations, adhere to the mission of "Connecting the World Through Better Mobility", and contribute to the advancement of social development and progress.

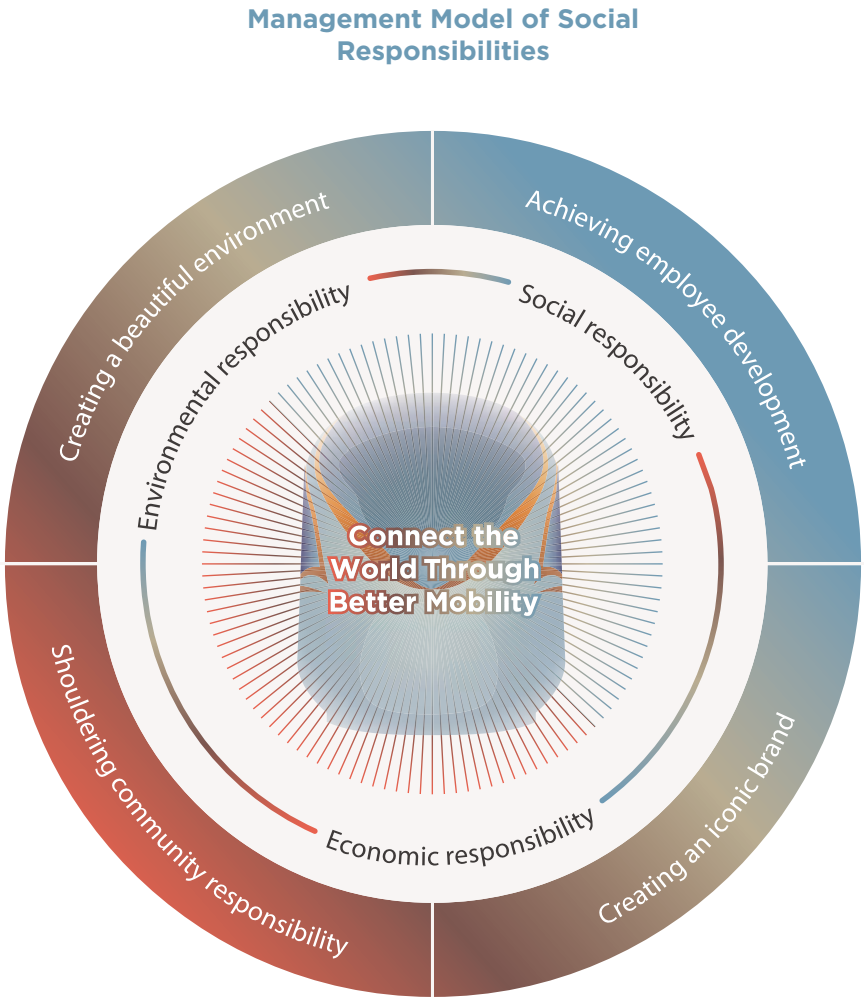
Considering the environmental and social impacts, we are committed to providing the public with green and more excellent products and services, and satisfying people's hope for a better life.

We will integrate all forces to build a community of common destiny for CRRC, so as to achieve win-win results, and share development achievements with all parties.

We will also actively shape a full range of high-end images to ensure that our iconic brand will never fade, and do our best to make CRRC a respected international company.



Actively fulfilling social responsibilities is an inevitable choice for CRRC to deepen the corporate reform and improve the core competitiveness, and CRRC will promote and integrate the philosophy of social responsibilities into all aspects of corporate production and management.





# Communications with Stakeholders

When making materiality analysis in the Social Responsibility Report, we make extensive communications with stakeholders, and interact with the internal and external stakeholders like clients, governments, partners, employees, regulators, etc. through promotion, open day, road show, online and offline activities, incorporate their concerns and demands into corporate issues of social responsibilities development, and respond through a series of social responsibility practice.



## Government and regulators

- To comply with laws and regulations
- To ensure the product quality
- To carry out energy saving and emission reduction
- To maintain and appreciate the state-owned assets
- To promote the technological progress
- To benefit the country and its people



## Investors

- Steady growth in return on investment
- Stable operation
- Information disclosure and transparency



## Clients

- To provide high-quality products and services
- To satisfy the diversified requirements of clients
- To create value for clients



## The general public

- To offer safe and reliable services
- To promote operational transparency



## Employees

- Protecting employees' rights and interests
- Ensuring occupational health
- Promoting occupational capacity
- Improving career paths
- Work life balance



## Suppliers and partners

- Open, fair and equitable procurement
- Abiding by relevant agreements
- Mutual benefit and long-term development



## Peers and industry organizations

- Fair operation
- Win-win cooperation
- Boosting industrial development



## Community

- Conducting designated-locality poverty alleviation
- Participating in community development
- Supporting philanthropy
- Protecting the environment

## Liu Hualong Attended the World Economic Forum and Boao Forum for Asia Annual Meeting 2018

In January 2018, the 48th World Economic Forum Annual Meeting 2018 was held in Davos, Switzerland. Liu Hualong, Secretary of the Party Committee and Chairman of CRRC was invited to attend this forum, and took part in several events, including the opening ceremony of the annual meeting, China's economic policy, China's opportunities in the new era, luncheon for Chinese and foreign entrepreneurs, the signing ceremony of memorandum of cooperation between SASAC and the World Economic Forum, etc.

In April 2018, Liu Hualong attended Boao Forum for Asia, and shared CRRC's thoughts on the future development and innovation of transportation technologies with the stakeholders on the sub-forum of "Future Transportation".

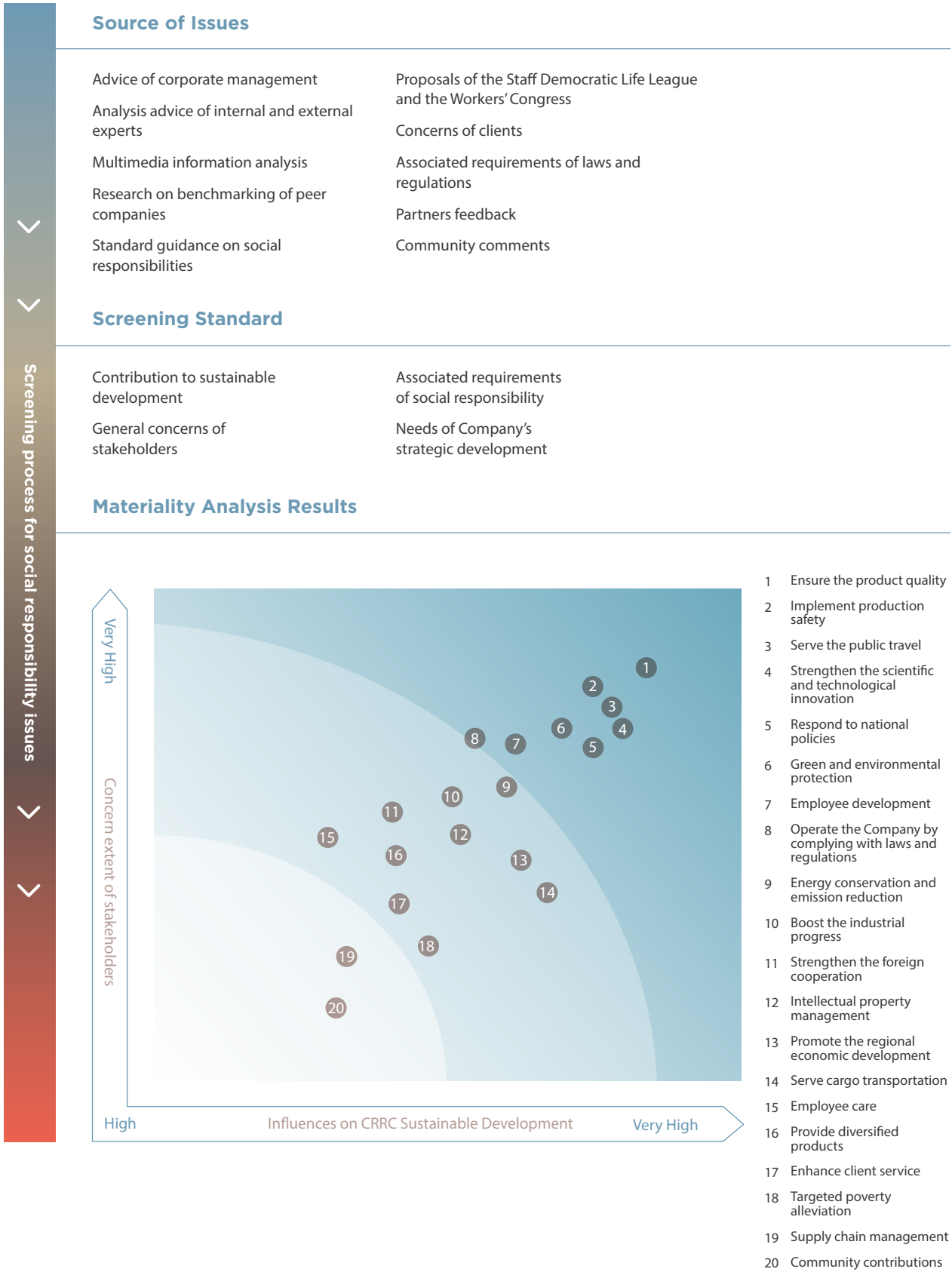


CRRC Attended InnoTrans 2018 in Berlin, Germany



# Materiality Analysis

In accordance with the *Environmental, Social and Governance Reporting Guide* of the Hong Kong Stock Exchange, the *Sustainability Reporting Guidelines* issued by Global Reporting Initiative (GRI) and other guidance on social responsibility, we solicit the views of the internal and external stakeholders of the Company, and further refine the process of defining report contents based on the ESG information disclosures of international advanced enterprises, and identify and determine the importance of issues of interest to stakeholders, thus ultimately determining the degree and boundaries of disclosures, and ensuring more accurate and comprehensive disclosure of information on operation and management.





# Becoming a Great Power and an Iconic Brand



CRRC aligns itself effectively with national strategies, makes every effort to become a pillar of our nation, carries out its mission of connecting the world through better mobility, so as to build a community of common destiny for CRRC and create an iconic brand of serving the world.



# Create New Time and Space for Life

Looking back at the 40 years of reform and opening up, the operating mileage of China's rail has increased from 51,700km to 127,000km, and the high-speed railway has jumped to 25,000km from zero; from the normal speed train to "Fuxinghao" EMUs, which is now running at 350km/h, the distance between time and space is shortened wherever the wheel track extends, which led to great changes in people's lifestyle.

General Secretary Xi Jinping pointed out at the Academician Conference of the Chinese Academy of Science and the Chinese Academy of Engineering that, "'Fuxinghao' took a crucial step from a pursuer to a leader."

## Demeanor of Reform Pioneer

Sun Yongcai, President of CRRC, who presided over the development of "Fuxinghao" EMUs was awarded the title of Reform Pioneer by the CPC Central Committee and the State Council.



Publicity Department of the Communist Party of China, Ministry of Education and the Central Committee of the Communist Young League Jointly Launched the Activities of "Reform Pioneer Walking into Campus". Sun Yongcai gave a lecture at Tsinghua University titled "Develop China into a Powerful Country with Equipment, Serve the Country Through Industry, Become the 'Locomotive' for Realizing the Dream of the Great Rejuvenation of the Chinese Nation"

"Fuxinghao" EMUs in a long formation at the speed of 350km/h, 250km/h and 160km/h, and extra-long "Fuxinghao" EMUs with a longer composition of 17 trains were put into operation in succession, which refreshed the rail speed in China. In 2018, CRRC provided the society with a total of 380 "Fuxinghao" EMUs, allowing more passengers to experience the changes brought by high-speed trains.

In 2018, CRRC provided the society with a total of **380** "Fuxinghao" EMUs

## "Fuxinghao" EMUs Was Presented with the Fifth Industry Awards of China

"Fuxinghao" EMUs was presented with the Fifth Industry Awards of China. The Industry Awards of China are the highest awards in China's industry sector. "Fuxinghao" EMUs has achieved an important breakthrough in key technologies of China's high-speed railway, and has outstanding quality in safety, economic performance, comfort, energy conservation and environmental protection, etc., making it an iconic brand of contemporary China.





**Vibrant Express Serves on Guangzhou-Shenzhen-Hong Kong High-speed Railway**

On September 23, 2018, the first G5711 train from Shenzhen North Railway Station to Hong Kong West Kowloon Railway Station ran from opposite directions with G5736 Vibrant Express from Hong Kong West Kowloon Railway Station to Shenzhen North Railway Station, marking the operation of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. Hong Kong is officially connected to the national high-speed rail network, ushering in the era of high-speed rail.

**“Fuxinghao” EMUs in a long formation Has Been Put in Operations Officially**

On July 1, 2018, “Fuxinghao” EMUs in a long formation of 16 trains developed by CRRC was put into official operation on Beijing-Shanghai Express Railway. The number of total passengers that such “Fuxinghao” EMUs could carry reached 1,193, which effectively improved the comprehensive capacity of existing trains, so that “Fuxinghao” EMUs can better serve the transport demand of busy lines and busy periods such as Spring Festival and summer holidays.



**Multiple Models of “Fuxinghao” EMUs Made a Stage Pose on China Railway Science and Technology Innovation Achievements Exhibition**

On December 22, 2018, China Railway Science and Technology Innovation Achievements Exhibition was held in National Railway Track Test Center, the extra-long “Fuxinghao” EMUs in a long formation of 17 trains travelling up to 350km/h and 160km/h was showcased on the exhibition.

The extra-long “Fuxinghao” EMUs consisting of 17 trains has a seating capacity of 1,283 passengers, which is 7.5% higher than that of 16 trains. After putting into operation, such model will further enhance the transport capacity of busy trunk lines such as Beijing-Shanghai Express Railway.

The centralized power EMUs with a speed of 160km/h were optimized with reference to the distributed power ones. Compared with the conventional locomotive-driven passenger train, such model of train makes the driver more convenient and fast to operate and passengers feel safer and more comfortable, and will promote to upgrade the speed of some general speed lines.





In 2018, the subway, light-rail train, modern tram, maglev and other urban rail products of various standards will be put into operation successively, making it faster and more convenient for urban residents to travel.

By the end of 2018, CRRC had provided more than

**40,000** urban  
rail vehicles of various standards to  
**37** cities in China cumulatively

### Beijing S1 Maglev Made by CRRC Achieved Speed Acceleration

On December 30, 2017, 10 medium- and low-speed maglevs developed by CRRC Tangshan for Beijing S1 maglev communication line was put into trial operation. On November 6, 2018, S1 maglev was accelerated to a speed of 100km/h, and it only took 16 minutes to run from Shimenyi to Jinanqiao, which was 30% shorter than that before acceleration, and its transport efficiency was greatly improved accordingly.

S1 maglev communication line is the first medium- and low-speed maglev demonstration line in Beijing. Compared with traditional trains, maglev trains are free from impact, vibration and friction between wheels and tracks, and the trains can "fly close to the ground", with low noise, small vibration and low mechanical loss.

### A New Type of Hybrid Energy-storage Tram Travelled to the Qinghai-Tibet Plateau

On May 9, 2018, the first train of the Delingha modern tram project rolled off the production line at CRRC Sifang. Using a hybrid energy-storage technology of supercapacitors and lithium titanite batteries, it became the first modern tram to be driven into the Qinghai-Tibetan Plateau.

As the first tram on the Qinghai-Tibetan Plateau, Delingha modern tram project is the highest tram line in the world. After the tram was opened to traffic, it would not only become an important urban transportation tool for Delingha City, but also become a mobile sightseeing platform in Delhi, which provided green, carbon-free, high-quality and efficient means of transportation for citizens, and created a brilliant iconic view for Delingha's urban construction.

### CRRC Completed Its First Metro Project of BT Mode

On May 18, 2018, the "Three-right Transfer" Ceremony for Phase-I projects of Chongqing Rail Transit Line 4 was held, during which CRRC transferred the territorial management rights, dispatching and command rights and rights to use equipment of the project to Chongqing Rail Transit (Group) Co., Ltd. It marked the project changing from the construction phase into the preparatory phase of operation officially.

Chongqing Rail Transit Line 4 is CRRC's first urban rail transit and metro project implemented by the mode of BT (Build-Transfer). After the completion of the project, residents in Yubei District and Jiangbei District, Chongqing will enjoy more convenient metro services.

### Energy-storage Light-rail Vehicle in Songshan Lake

In May 2018, Huawei-Songshan Lake energy-storage light-rail vehicle built by CRRC Zhuzhou was officially delivered. It was an supercapacitor energy-storage light rail vehicle customized for the classic buildings and green ecological high-tech industrial park. CRRC is committed to providing transportation solutions that are in harmony with the environment by its new products featuring high reliability, stability, comfort, energy saving and environmental protection.



# Promote the Interconnection of the World

In 2018, CRRC responded positively to the "Belt and Road" Initiative, practiced international strategies, integrated into the global development, promoted its interconnection of the world, and strove to transform the export products from low end to high end of the value chain, from the traditional export markets of Asia, Africa and Latin America to Europe, the United States and Australia, and from export of single product to export of five elements including "product + technology + service + capital + management". By the end of 2018, the products provided by CRRC have served more than 100 countries and regions in the world, and the recognition and reputation of "Made by CRRC" have been constantly enhanced.

## CRRC Zhuzhou Obtained the Turkey's Light Rail Vehicle Order of USD 500 Million

On October 29, 2018, CRRC Zhuzhou signed a contract with the Government of Istanbul, Turkey for articulated light rail vehicle to be operated in Istanbul Airport Line, with the purpose of providing local people with better travel experience.

The vehicles manufactured by CRRC have been operated on four railway lines in urban Ankara, Turkey, which have greatly improved the travel environment of local people, and its high-tech configuration and humanized design were highly appraised by all sides in Turkey. As a long-term partner of Turkey, CRRC integrates itself actively into the social and economic development of Turkey, and supports the development of local rail transit.

## The First Melbourne Metro Vehicle "Made by CRRC" Rolled Off the Production Line in the Southern Hemisphere

On October 30, 2018, the first experimental Melbourne metro vehicle designed and manufactured by CRRC Changchun rolled off the production line at the Newport, Melbourne, Australia, in the Southern Hemisphere.

Melbourne metro project is an important part of the Victoria State Government's vision for a world-class public transit system. This project includes 65 sets of Type A stainless steel metro cars, and is the first overseas PPP project undertaken by CRRC. In the future, CRRC will make every effort to provide trains with more capacity, higher safety and more convenience for the passengers on Melbourne's busiest railway.

## "Made by CRRC" Landed in Costa Rica for the First Time

On December 6, 2018, Costa Rica Railway Administration announced to award CRRC Sifang with a purchase order of eight diesel-multiple units (DMU), which were used on commuter rail in the metropolitan area of SAN Jose. These DMUs were characterized by low noise, low energy consumption, low pollution and long service life. It was the first time for "Made by CRRC" to land in Costa Rica.

Costa Rica is a country in Central America with relatively developed economy and tourism, and also an active participant in the "Belt and Road" Initiative. CRRC has been providing diversified track equipment to the world, and the cooperation with Costa Rica was not only the brand effect of "Made by CRRC", but also a new achievement of the "Belt and Road" Initiative.

## The First Boston Metro Car "Made by CRRC" Rolled Off the Production Line in America

On December 18, 2018, the first Boston metro car rolled off the production line in CRRC's Springfield Plant, Massachusetts. The first four metro cars were made of stainless steel, with an operating speed of 102km/h, and a service life of 30 years.

Boston metro car made by CRRC and CRRC Springfield Plant were widely recognized for their localized practices. On the Chinese Enterprise Global Image Summit 2018, CRRC's propagation case of Boston metro project won first prize of "Excellent Case for Overseas Image Construction of State-owned Enterprises".



## China's EMU Was Made onto the Stamp of Malaysia for the First Time

On March 20, 2018, Pos Malaysia released a set of stamp featuring the theme of rail transit, which was based on the SCS intercity EMU exported by CRRC Zhuzhou and took Malaysian ETS EMU that run the highest speed of meter-gage railway in the world as prototype. This was the first time for the rail transit products made by China to be released onto the stamp of Malaysia.

Thanks to the "Belt and Road" Initiative, CRRC Zhuzhou has steadily advanced its overseas cooperation. In recent years, CRRC Zhuzhou has provided more than 80% of the products and services for the rail transit equipment market in Malaysia, and ETS meter-gage EMU developed and manufactured independently by CRRC has been operating safely for over 10 million kilometers in Malaysia. CRRC Zhuzhou, by virtue of its professional attitude, advanced "Five Localizations" business model and rail transit system solutions, has become a veritable "Iconic Brand" of China in Malaysia.





# Integrate into Global Sharing and Joint Development

In 2018, CRRC accelerated its process of international operation, committed itself to building a respected international company, participated actively in international production capacity cooperation, strove to achieve joint consultation, joint development, sharing and win-win results with all stakeholders in more fields, and contributed to the global development of CRRC wisdom and CRRC solutions.

By the end of 2018, CRRC has established localized manufacturing bases in countries such as USA, Australia, South Africa, Malaysia, India, Turkey and other countries, and set up 15 overseas research and development centers at the same time to help these countries where the projects were located create jobs and tax revenues, and improve their development in the rail transit industry chain and boost the global economic development by "Five-Localization Modes", namely localized manufacturing, localized procurement, localized employment, localized maintenance and repair and localized management.

## CRRC Presented the First China International Import Expo

In November 2018, the first China International Import Expo was held in Shanghai. CRRC communicated with international enterprises actively and hoped to develop long-term, complementary and win-win cooperation with the world's excellent enterprises. During the Import Expo, CRRC signed 41 procurement agreements with 32 overseas partners for promoting the win-win cooperation with international partners.



CRRC Presented the First China International Import Expo

## Premier Li Keqiang Witnessed the CRRC's Signing of Cooperation Agreement

On July 10, 2018, during the Ninth China-Germany Economic and Technological Cooperation Forum, CRRC signed a cooperative agreement with Germany VOITH Group under the witness of Li Keqiang, Premier of the People's Republic of China and German chancellor Angela Merkel. CRRC and VOITH, as two models of innovative high-end equipment manufacturing industry between China and Germany, have been highly valued by the two prime ministers for their long-term cooperation. CRRC also signed a Memorandum of Understanding with ThyssenKrupp Group, under which both parties would develop research and development cooperation on technological applications in intelligent transportation, electromagnetic technology, environmental protection and clean energy.



Chairman of the SASAC of the State Council Xiao Yaqing Visited CRRC South Africa for Inspection and Guidance

## Xiao Yaqing Inspected the Practices of CRRC Africa

In October 2018, Xiao Yaqing, Chairman of the SASAC of the State Council paid visits to South Africa and Ethiopia in succession. During his visit to South Africa, Xiao Yaqing visited CRRC's joint venture in Pretoria, South Africa to learn about its international business, and recognized the achievements made by CRRC in overseas markets, and Chairman of CRRC Liu Hualong accompanied to participate in relevant activities. During his visit to Ethiopia, Xiao Yaqing took a trial ride on the vehicle manufactured by CRRC Changchun for Addis Ababa-Djibouti Railway and light rail in Ethiopia, and affirmed CRRC's efforts in Ethiopia project, and encouraged CRRC to continue to escort the iconic brand of China.

## Establish Joint Research and Development Centers in South Africa and Turkey

In 2018, CRRC Zhuzhou established joint research and development centers for rail transit technology respectively in Johannesburg, South Africa and Ankara, Turkey. The joint research and development centers will focus on the development of rail transit equipment and technologies, technological support and technical transformation by taking scientific research project as the main carrier and cooperating with local scientific research colleges and universities according to the needs for the innovation and development of rail transit equipment, while taking the introduction and training of international talents into consideration, organizing international technical cooperation and exchanges, and deepening the cooperation between China and the host countries in the field of rail transit.



# Innovating for the Industry

CRRC implements the innovation-driven development strategy,accelerates technological innovation and product innovation, responds to the challenges of new technologies, new industries, new business pattern and new mode actively, makes every effort to build the six major transportation systems, namely green transportation, safe transportation, intelligent transportation, convenient transportation, tourist transportation and value transportation, so as to lead innovation and development of the industry.



# Technological System

CRRC spares no effort to build a scientific and technological innovation system featuring “openness, collaboration, integration and worldwide footprint” actively, and establishes a “three-tier product and technology platform” by relying on national research and development institutions and technical center of enterprise, so as to “produce this generation of products while developing the next generation, pre-research on this generation of products while exploring the next generation”, and lead innovation and development of the industry.

Awards Obtained by CRRC in Science and Technology Innovation in 2018

Second Prize of National Technology Progress Award: **2**

Second Prize of National Technological Invention Award: **1**

20th China Patent Award: **1** Gold Award, **4** Silver Awards and **10** Outstanding Awards

## “High-Speed Rail Craftsman” won National Technology Progress Award

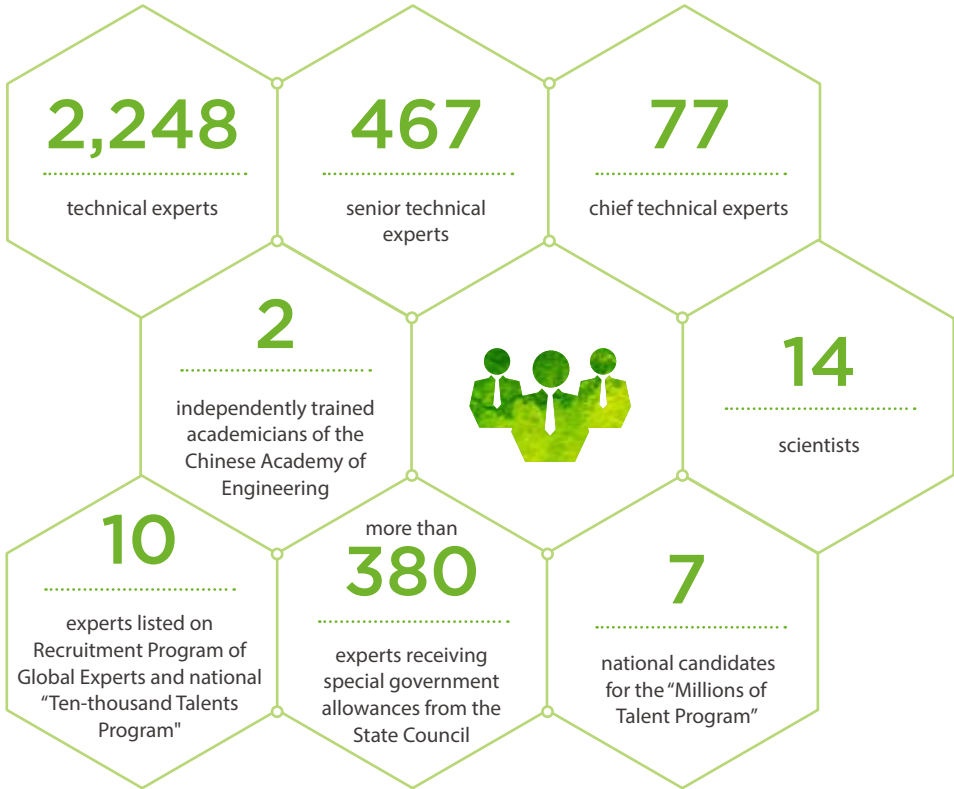
On the Science and Technology Awarding Conference of the People's Republic of China in 2018, "Simulation Technique and Application of Entire Debugging Environment for High-speed Car", which was created by a front-line worker Luo Zhaoqiang from CRRC Changchun, won the “Second Prize of National Technology Progress Award”. It was the first time for the "High-Speed Rail Craftsman" to be presented with National Technology Progress Award.

"Simulation Technique and Application of Entire Debugging Environment for High-speed Car" is used to make comprehensive debugging for the cars, and it is also the last key procedure to guarantee the safety and quality of high-speed EMUs. Currently, such achievement has been widely used by China Railway, CRRC and more than 20 vocational colleges.

CRRC has built an open and diversified innovation environment and win-win mechanism, and adhered to integrate independent, open and collaborative innovation together to build a complete, flexible and efficient technological innovation system. By the end of 2018, CRRC has established 13 national level R&D institutions and 15 overseas research and development centers, which effectively supported CRRC's demands for the research and development of high-end rail transit equipment and technologies.



The essence of innovation is talents. CRRC has a team of more than **30,000** scientific and technological talents

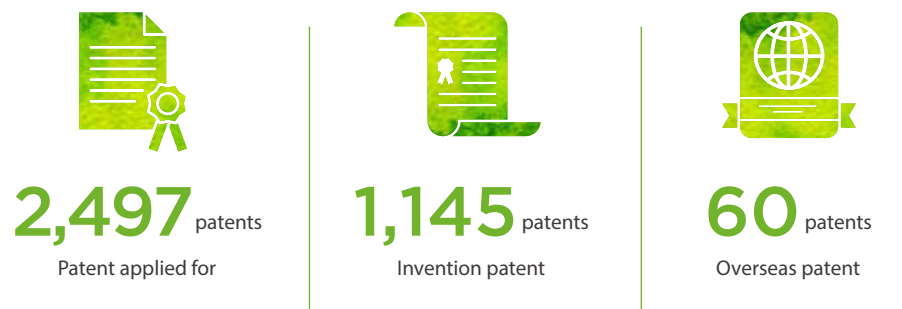


In 2018, CRRC invested RMB **11.71** billion into research and development accounting for **5.1%** of its operating revenue



# Innovation Achievements

Adhering to the technological innovation as its main line, CRRC has achieved fruitful results in the research and development of major products, thus improving its independent innovation capacity constantly. CRRC was granted a total of 2,497 patents throughout the year, including 1,145 invention patents and 60 overseas patents.



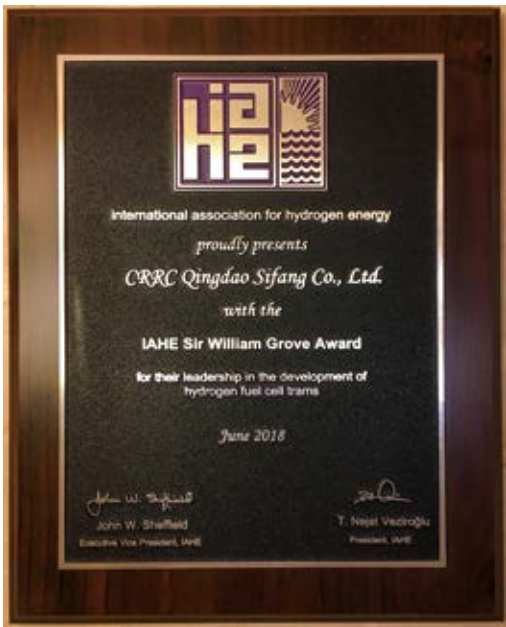
## Autonomous Rail Rapid Transit Independently Researched and Developed by CRRC ZELRI Won First Prize in the First China Innovation Methods Competition

On November 23, 2018, the country's first autonomous rail rapid transit (ART) system independently researched and developed by CRRC ZELRI won first prize in the First China Innovation Methods Competition hosted by China Association for Science and Technology, Ministry of Science and Technology and the People's Government of Hunan Province. Compared with the tram, it is not required to lay proprietary physical track for ART, but adopt globally unique trajectory tracking control technology and specific signal control technology, which was independently developed by CRRC, to constrain the car when it is running on the virtual track. It greatly improves its safety and reliability, and provides a new generation of solutions to urban traffic.

## CRRC Sifang Was the First Rail Transit Equipment Enterprise in the World Winning the Award from the International Association for Hydrogen Energy

On June 20, 2018, CRRC Sifang was awarded with IAHE Sir William Grove Award by International Association for Hydrogen Energy on the 22nd World Hydrogen Energy Conference. The award is specially awarded to organizations and individuals who have made outstanding contributions to the research and utilization of hydrogen energy in the field of electrochemistry. It was the first rail transit equipment enterprise in the World to win the award from the International Association for Hydrogen Energy.

The hydrogen energy has been successfully applied in the world's first hydrogen-powered tram developed by CRRC Sifang. The hydrogen-powered tram adopts hydrogen cell as its traction power, with a long range, which provides a new green solution to urban traffic.



CRRC Qingdao Sifang Co., Ltd is Presented with the Award of "Sir William Grove" by the International Association for Hydrogen Energy

## A New Generation of Carbon Fiber Metro Car CETROVO Was Released in Berlin

CRRC released a new generation of carbon fiber metro car "CETROVO" officially at InnoTrans 2018 held in Germany on September 18, 2018.

The new generation of carbon fiber metro cars researched and developed by CRRC Sifang is made of advanced carbon fiber technology, and the successful breakthroughs on key technologies such as the structural design and the manufacturing & molding of large complicated parts of carbon fiber have been made successfully, and the comprehensive application of carbon fiber composite materials in the main bearing structure of cars such as the car body, the bogie frame and the cab has been realized. The new generation of metro cars is equipped with a new high-efficiency and energy-saving traction system, which greatly improves the traction efficiency and saves energy by more than 15% on the whole. "CETROVO" adopts the fully active suspension technology for the first time, which makes the suspension system under the optimal damping status at all times. Meanwhile, it adopts an optimized noise reduction design, and when trains are running, the noise in passenger compartments is only 68dB, reducing by over 3dB compared to that of traditional metro.

The metro compartments of the new generation enter the era of "touch control". Windows becomes a touch control screen, and passengers only need to touch the window with a finger to read the news, browse the webpage, buy tickets, watch videos and live television and obtain various services conveniently.

The new generation of metro cars is fully upgraded in energy conservation, environmental protection, comfort and intelligence compared to the traditional ones, and they are the latest technological achievements in Chinese metro field and represent the technical trend of future metro trains.



New Generation of Carbon Fiber Metro Car Made by CRRC



# Diversified Industry

CRRC implements a high-end industrial strategy including high-end technologies, brand and services, innovates and develops diversified products by its technological superiority in rail transit equipment, and strives to make breakthroughs in wind-powered equipment, industrial digitalization, environmental protection industry, engineering machinery, mining machinery, new energy cars, vessels and marine engineering equipment, PV and other emerging business units.

## Wind Power Industry

CRRC has a complete wind power industry chain, research and development and production capacity. In 2018, CRRC has researched, developed and applied multiple new technologies in wind-powered complete machine, motor and blade, etc.

### The Offshore Semi-direct Drive Permanent Magnet Synchronous Wind Generator with the Maximum Power in China Rolled off the Production Line Successfully

On June 17, 2018, the 7.6MW offshore semi-direct drive permanent magnet synchronous wind generator independently developed by CRRC Yonge rolled off the production line successfully, and by now, it is the largest offshore semi-direct drive permanent magnet synchronous wind generator in terms of its power in China. Such wind generator is characterized by such advantages as high integration, high efficiency, high reliability, high maintainability, and low current harmonic content, low voltage distortion rate, low vibration, low noise, which are of great significance to further improve China's offshore wind power equipment capacity and enhance the ability to develop marine resources.

## Industrial Digitization

CRRC has been continuously exploring and developing the emerging industries such as intelligent equipment, intelligent logistics and information software, and strives to export comprehensive industrial digital solutions to domestic and foreign manufacturers through the mode of "platform + product + service".

### "Lean Manufacturing MES System", Providing Solutions for Intelligent Manufacturing

The "Lean Manufacturing MES System" independently developed by CRRC Puzhen comprehensive analyzes people, machines, materials, methods, environment, measurement and other production factors, uses all-digital means to carry out product design and process design, intelligently develops production plans, guides the production processes, and achieves structured, digitized process output, through real-time perception of resource dynamics, combined with big data and cloud platform, the system collaboratively controls each production link, efficiently drives on-site execution, provides solutions for the next generation of intelligent manufacturing, drives enterprises to continuously improve production methods, and ultimately achieves the transformation and upgrading of the traditional manufacturing industry.



Unmanned Remotely-operated Submersible Vehicle (ROV) with the Largest Horsepower in China

## Environmental Protection Industry

In terms of environmental protection, the vacuum drainage technology independently developed by CRRC and the purification tank re-innovated after introduction have been successfully applied in passenger trains, buses, vessels, aviation, municipal administration and other fields, leading a new trend of environmental protection.

### The First Domestic Purification Tank, an Environmental Protection "Artifact" Safeguarding the Clear Waters and Green Mountains, Rolled off the Production Line Successfully

The first domestic purification tank developed by CRRC Shandong was successfully rolled off the production line on October 24, 2018. The domestic purification tank is a series products made by CRRC aiming at the sewage treatment problems in Chinese villages and towns. CRRC Shandong has built more than 9,700 purification tanks in the rural area of Changshu, and formed a closed-loop solution to sewage "collection - treatment - recycling" by combining advanced technologies such as "Internet +" remote monitoring and vacuum drainage, etc. After treatment, the main effluent index can reach the standard of IB specified in the *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant*, which means that the domestic sewage in rural areas can be directly discharged into the rice field for irrigation after treatment.

## Vessels and Marine Engineering Equipment

CRRC has the capability of research and development, production and service for marine engineering equipment, and has established a deep-sea robot and deep-sea mining engineering center. In 2018, CRRC developed its own underwater equipment industry, and expanded its business into the deep-sea equipment manufacturing industry.

### CRRC Created the Deep-sea "Instrument of Unusual Strength"

The unmanned remotely-operated submersible vehicle (ROV) with the largest horsepower in China produced by CRRC ZELRI rolled off the production line on July 17, 2018. The equipment system, with a horsepower of 250, which is the most powerful deep-sea submersible in the world at present, can go to the seabed at 3,000m deep and lift 4 tons easily by virtue of its great power.

The equipment is mainly used for emergency rescue, search and salvage of sunken ships and objects in deep water, and can be applied to auxiliary operation of deep-water engineering.



# Leading Product and Quality



Aiming to become a first-class high-end equipment supplier, China CRRC adheres to the spirit of China's high-speed rail workers with the essence of "serving the country with industry, being brave in innovation, and speeding up the Chinese dream", dares to overcome difficulties, promote quality improvement, and practice safe operations, and practice "Made by CRCC" with the highest quality standards.



## Reliable Management, CRRC Quality

As at national iconic brand, the core gene of high-speed railway is high end and high quality. In 2018, China's high-speed railway has attained the world's advanced level in terms of various indicators, such as speed grade, online quantity, rate of traffic flow, energy consumption in operation, and smoothness and comfort, etc. In the past 11 years since it was put into operation, the average failure rate of China's EMUs has been significantly lower than the global standard of 2 failures per million kilometers; "CRRC Quality" has become the quality benchmark of the industry.

**"Fuxinghao" EMUs Sets the New Standards for Made by CRRC**

**Forging Quality:** "Fuxinghao" EMUs are manufactured to Chinese standards for the first time, with a speed of 350km/h. It took five years from the start of research and development to the final finalization of "Fuxinghao" EMUs, which came into being after 503 simulating calculations, 5,278 ground tests and 2,362 line tests, marking that China took the lead in railway technology and equipment in the world.

**Chinese Standard:** "Fuxinghao" CR400AF/BF EMUs adopted 134 standards or technical documents, among which 101 were Chinese standards, accounting for 75.4%. "Fuxinghao" EMUs functional standards and construction standards of its supporting track are higher than European and Japanese standards, forming China's own standard system.

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In 2018, CRR strictly implemented the *Law of the People's Republic of China on Product Quality* and other laws and regulations, compiled and published the reproducible, transplantable, and assessable "CRR Q" quality management standard with reference to the internationally advanced quality management systems and standards of railway industry. Currently, nine standards have been released, and an "H-type" standard implementation model has been extracted to build a sound enterprise quality assurance mechanism.

In combination with the pace of "Going Abroad" to explore international markets, CRR continued to promote and integrate with the product quality management system of overseas markets, and actively obtained external quality certification from international institutions. The EU certification body SGS issued ISV certificate certified by EU technical specification for interoperability (TSI) for the bogie of "Fuxinghao" EMU, becoming the first domestic product to pass the TSI design certification. The ZK1-K bogie independently developed by CRR has been certified by the Association of American Railroads, and became the first bogie in China approved by the association to operate on the railway lines of the North America, so CRR Quality was further recognized by international markets.



**The Passenger Train "Made by CRR" Has Been Operating on the Most Beautiful Train Line After Being Put into Operation for 50 Years**

The connection between CRR Sifang and Sri Lanka's "most beautiful train line" can be dated back to 1962. At that time, the Company designed and manufactured 134 all-steel passenger trains, with a length of 16.8m, all of which are still serving on the "the most beautiful train line" after more than 50 years of ups and downs.

After the quality of the first products was well recognized, CRR Sifang has successively provided Sri Lanka with four batches of EMUs. Up to now, CRR Sifang has provided 390 DMUs for Sri Lanka.

**The World's First Intelligent Manufacturing Workshop for Rail Transit Bogies Was Put into Operation**

As a special project of intelligent manufacturing sponsored by the Ministry of Industry and Information Technology of the People's Republic of China, the "Intelligent Manufacturing Workshop for Rail Transit Bogies" undertaken by CRR Zhuzhou has been under construction since 2015, and by now, All of the 11 sub-production lines of intelligent manufacturing workshop have been put into operation, covering the whole process of bogies manufacturing, such as processing, assembly, welding, painting and logistics, etc.

Compared with the traditional manual mode, the energy efficiency of the intelligent workshop is improved by more than 5%, the product development cycle is shortened by more than 50%, and the production efficiency of the whole bogie is improved by about 30%. The workshop manufactures the bogie flexibly according to the changes of project, gives consideration to small batch of trial production and mass production, and collects quality data online through intelligent monitoring equipment to realize electronic storage, electronic management and structural traceability, so the workshop is characterized by standardized and efficient whole-process quality management.

CRR Sifang Exported DMUs to Sri Lanka



## Craftsman Spirit, Quality Inheritance

Creating the iconic brand of high-speed rail depends on the unchanging inheritance of craftsman spirit of "dedication and concentration, craftsmanship superiority, inheritance and innovation, responsibility and devotion", by which CRRC conquers new materials, new technologies and new process ceaselessly, and makes every working procedure and every part a competitive product.

### Hao Peng Inspected CRRC Changchun

On October 18, 2018, Hao Peng, Secretary of the Party Committee of the SASAC of the State Council, inspected the production, manufacturing and commissioning sites of CRRC Changchun, and watched the exquisite skills of industrial workers.

During the inspection, Hao Peng pointed out that, in order to make the state-owned enterprises better, stronger and bigger, it was required to pay attention to cultivate the staff team, and pass the craftsman spirit down from generation to generation, and make the work standardized and exquisite.



Secretary of the Party Committee of the SASAC Hao Peng Inspected CRRC Changchun

### CRRC's Employees Were Presented with Chinese Skill Award in 2018

Sun Jingnan is a senior electric welder in CRRC Puzhen. Since she began to work 28 years ago, she had summarized 89 advanced operation methods like welding the groove by weaving based on her position as an electric welder. She led the team to complete more than 30 technological breakthroughs including the "Technological Improvement for Large Beam Cracks on Aluminum Alloy Chassis, with benefits created of more than RMB 7 million. She is well-deserved the title of innovative "Women Welding Master" among China's high-speed rail workers, and has made outstanding contributions to the localization and pedigree of rail transit vehicles in China.

### The "Master of Technological Innovation" Was Awarded the Title of the First "China Quality Craftsman"

Liu Qingyun, is a "Master of Technological Innovation" in CRRC Qishuyan Institute, who has grown from an ordinary repairman of machine tools to a research and development personnel of intelligent equipment, published three papers on national publications, obtained dozens of scientific research achievements and, 2 invention patents, received the title of chief enterprise technician in Jiangsu and many other provincial and municipal honors. "Liu Qingyun Model Worker Innovation Workshop" named after him carried out more than 20 key projects, solved a number of problems restricting product quality and work efficiency, and made great contributions to the company's cost reduction and benefit increase.

In March 2018, Liu Qingyun stood out from thousands of candidates nationwide and won the title of the first "China Quality Craftsman" selected by China Association for Quality and All-China Federation of Trade Union, becoming an excellent representative of CRRC's "Craftsman Spirit".

## Service Guarantee

CRRC is committed to providing products with life-cycle services, and has established a complete service network covering pre-sales, during-sales and after-sales through systematic, information-based and closed-loop after-sales services, thus setting up a sound service system.

In order to respond to China's Spring Festival travel rush, Two Sessions and summer rush, etc., CRRC has established a regular management mechanism for service guarantee, and set up special guarantee teams for field operation, logistics support, technical support and special tracking to ensure the safe and efficient operation of the railway network.

During the 40-day Spring Festival travel rush in 2018, CRRC put an average of 6,000 after-sales service personnel into service every day to ensure safe operation of vehicles, helped to send 381.539 million passengers cumulatively, with a year-on-year increase of 6.8%; an average of 7,817 passenger trains were running, with a year-on-year increase by 448; the on-schedule rate of EMU's departure and arrival reached 99.1 and 96.1% respectively, reaching the highest over the years.

### Remote Operation and Maintenance of Big Data Guarantees the Real-time Safety

CRRC Sifang implemented the first new model project in the field of remote operation and maintenance based on the big data platform, established the early warning model for the key components of high-speed rail, so as to monitor the vehicle status in real time, coordinate operation and maintenance in a remote and visualized manner, etc. Currently, it has monitored 17 models of EMUs in real time, and become an important guarantee for the safety of railway transportation.

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# Production Safety

CRRC has always been adhering to the *Work Safety Law of the People's Republic of China* strictly, established the consciousness of safety red line, revised and improved more than 10 management systems including *Guidelines for Supervision and Administration of Work Safety of Overseas Enterprises (Institutions)*, *Guidelines for Supervision and Administration of Work Safety in Different Places*, *Guidelines for Safety Management of Commuters, etc.*, revised and consolidated into 723 CRRC's operating procedures concerning safety technologies of 20 categories. By the end of 2018, all the manufacturing-type primary subsidiaries were certified by safety management system; 39 enterprises reached Level-1 standard of production safety standardization.

CRRC has set up a work safety committee headed by the chairman to analyze the work safety; to formulate CRRC's production safety policy, objectives, measures and plans; to study, coordinate and solve major problems concerning production safety; set up a Department of Safety Technology and Environmental Protection as an independent production safety management department to take charge of daily safety management.

In 2018, CRRC formulated 12 overall contingency plans including the *Overall Contingency Plans for Emergencies*, etc.; inspected 40 enterprises for work safety; launched a special campaign to improve fire safety in crowded places, hazardous chemicals and other key areas; organized and conducted emergency training and drills for important parts, key positions, major hazard sources, etc., with nearly 70,000 participants.

In 2018, CRRC continued to increase its investment in security assurance, extracted the production safety costs in full according to the management provisions concerning the extraction of work safety costs, which were used to improve safety protection, labor protection, safety training, emergency management and other various security assurances, and enhanced the information-based and intelligent safety management to ensure no major production safety accidents occurred throughout the year.

CRRC creates a safe culture atmosphere actively, organizes and carries out practical education and training on safety, fire control and emergency response regularly, and goes deep into different places to conduct such activities as publicity week concerning Law of the People's Republic of China on Prevention and Control of Occupational Diseases, production safety month to improve employees' awareness of production safety.



# Reliable Supply

CRRC attaches great importance to the driving role of enterprises in the supply chain, adheres to the concept of transmitting responsibility, and strengthens the cooperation with suppliers to create a sustainable and responsible supply chain.

"CRRC Go" is a collaborative e-commerce platform for the supply chain of rail transit industry built by CRRC, which provides collaborative solutions to the whole-process, electronic and intelligent supply chain for upstream and downstream enterprises of CRRC supply chain. "CRRC Go" makes full use of cloud computing, mobile Internet, big data and other information

technologies, integrates high-quality enterprises in the rail transit industry, establishes connection and cooperates with global high-end and high-quality supply chain resources and procurement enterprises. In 2018, "CRRC Go" has signed a platform settlement agreement with 32 CRRC's enterprises, under which CRRC would provide supply chain coordination services for more than 6,000 active suppliers every year. In 2018, "CRRC Go" was awarded with the title of "Top 10 Cutting-edge E-commerce Products 2018" elected by China Central Enterprise E-commerce Alliance, and was ranked as the "Excellent Case for Industrial E-commerce Platform" on "China Conference on Industrial E-commerce 2018".

## Diversified Innovative Procurement Platform "CRRC Go" Creates a Supply Chain Ecosystem

"CRRC Go" is a SaaS supply chain coordination platform, which provides cloud lease for upstream and downstream enterprises on CRRC's supply chain, and covers integrated, intelligent and mobile services, such as procurement bidding, supply chain coordination, supplier management, marketing, logistics and finance, etc. It has built an "open, interconnected, innovative, collaborative and shared" industrial ecosystem for CRRC enterprises and suppliers.



In 2018, CRRC continued to strengthen the dynamic management of suppliers, orderly promoted the key and core supplier to conduct the quality certification for new systems, and strengthened the access and exit mechanism of suppliers.

## CRRC Zhuzhou Promotes Suppliers for Quality System Certification

In 2018, CRRC extended its latest quality management system to supplier management, requiring suppliers to be certified by international railway standards and to comply with the supplier environmental protection capacity improvement program made by CRRC Zhuzhou. By the end of 2018, all 24 Class-I suppliers of CRRC Zhuzhou have be certified.

## CRRC Tangshan Holds Annual Conference and Theme Training for Suppliers

In April 2018, CRRC Tangshan held the Annual Supplier Conference 2018 themed with "Quality Veneration, Lean Supply, In-depth Cooperation and Market Sharing", and 78 suppliers attended this conference. The representatives of suppliers exchanged experience in cooperation, product quality control, collaboration and innovation, inventory management, lean production and other aspects.

In November 2018, CRRC Tangshan organized special quality training for 104 suppliers' technical and quality personnel, and invited expert teams to help suppliers make rectifications, so as to promote suppliers to improve their quality management and meet the needs of enterprise development.





# Taking Responsibility With Stakeholders



With sustainable development as its core, CRRC strives to create economic value and realize its own development while managing the impact of enterprise operation on stakeholders, effectively utilizing resources, protecting the ecological environment, adhering to the people-oriented principle and promoting social harmony.



# Compliance with Laws and Regulations

CRRC has always been operating in accordance with laws and regulations, strengthened integrity and self-discipline, and improved internal control mechanism and comprehensive risk management system so as to ensure orderly and stable operation of the Company.

## Internal Control and Risk Management

CRRC has enhanced its risk control and risk resolution capabilities continuously, strengthened the construction of risk control system and internal control system, formulated scientific risk response plans and took effective measures to guard against risks. In 2018, CRRC issued the risk management guidelines like *Enterprise Risk Management System*, *Trading Risks of Bulk Commodities*, etc., revised the *Regulations on Internal Audit*, etc., strengthened the risk management in advance, improved the risk prevention and control system constantly, focused on the supervision and control of major risks, incorporated the internal control further into the daily risk management, so as to ensure that the internal control and risk control capacity of the Company could match with the development of the Company.

## Anti-corruption Practices

CRRC observes the *Law of the People's Republic of China for Countering Unfair Competition* and other policies and regulations concerning anti-corruption, signs letters of responsibility with subsidiaries for integrity governance construction, and incorporates its implementation into the annual performance appraisal. The company always observe disciplines and rigorously investigate disciplinary violations; CRRC has carried out discipline education activities continuously, held four warning education conferences to raise the integrity awareness in performing duties among the cadres, with 26,000 persons receiving the education; special rectification and supervision were implemented for key areas, exclusive procurement and agent procurement were profoundly invested, "dead accounts" were investigated for discipline implementation, outsourcing procedures of enterprises running "under its production capacity" and the poverty alleviation cause were specially supervise; formalism and bureaucratism were fundamentally eliminated.

### CRRC Advocates Open and Transparent Centralized Procurement

The bidding center of CRRC Logistics establishes a three-level management system, with the measures for administration of bidding and procurement as the first-level comprehensive management system, five management systems like the management of bid evaluation experts, etc. as the second-level special management system and bidding documents, bid evaluation templates and other documents as the standardized operation, thus forming an comprehensive institutional system, with a wide range of coverage and strong binding force. Meanwhile, the bidding center will conduct the whole bid evaluation process electronically, during which the bidder shall bid online, and the bid evaluation expert shall evaluate the bid online, so that the bidding and procurement process can be more open, transparent and traceable.

### CRRC Sifang Institute Signed the Agreement for Joint Assurance of Honest Business with Suppliers

CRRC Sifang Institute signed the *Agreement for Joint Assurance of Honest Business* with hundreds of suppliers at the signing ceremony for the agreement, requiring the leading cadres, employees and suppliers to abide by the requirements specified in the Agreement, and achieve the target of honesty, self-discipline and win-win cooperation.

### CRRC Railway Business Administration Center Signed Convention on Joint Construction of Clean with China Railway

CRRC Railway Business Administration Center signed *Convention on Joint Construction of Clean with China Railway*, ensuring that both parties will abide by the convention in their future cooperation, supervise each other, and fulfill the provisions of the convention consciously and promote the clean construction.

# Environment Protection

CRRC is convinced that lucid waters and lush mountains are invaluable assets, follow the path of ecology first and green development unswervingly, abide by the national laws, regulations and standards concerning ecological and environmental protection strictly, strengthen the ecological protection and pollution prevention and control constantly, make the response to climate change, energy conservation and emission reduction as our own responsibilities, and integrate the green, low-carbon and sustainable concepts into the whole process of corporate operation and management so as to create a green CRRC.

## Energy Conservation

While abiding by the *Environmental Protection Law of the People's Republic of China*, *Law of the People's Republic of China on Energy Conservation* and other national laws and regulations, CRRC also formulates the *Provisions on Energy Management*, *Provisions for the Administration of Environmental Protection*, *Accountability for Environmental Protection*, *Target-oriented Responsibility System for Energy Conservation and Consumption Reduction*, *Contingency Plans for Emergent Environmental Incidents* and other rules and regulations, continues to improve the energy and environmental management, strengthens the emergency management of emergent environmental incidents and establishes an effective management system for energy conservation and emission reduction. All the manufacturing-type enterprises affiliated to the Company have passed the supervision, review and re-examination of ISO14001 environmental management system, and 22 enterprises were certified by ISO50001 energy management system.

The Company has established a sound three-tier management network for energy conservation and emission reduction, set up leading agencies and specialized management agencies, configured professional personnel to decompose and implement the responsibilities level by level, so as to ensure the overall completion of the tasks for energy conservation and emission reduction.

In order to effectively reduce energy consumption and achieve clean production, CRRC has continuously increased its capital investment and technical innovation in energy conservation and emission reduction, promoted the application of new technologies, new processes, new equipment, new materials and new models in energy conservation and emission reduction, and promoted the efficient use of energy.

	Indicator	Unit	2018	2017
Emissions of CO <sub>2</sub> equivalent		ton	2,936,282	2,726,467
Emissions of CO <sub>2</sub> equivalent of RMB 10,000 output value		tons/10,000 yuan	0.12	0.12
Comprehensive energy consumption		tce	776,690	810,678
Fresh water consumption		ton	20,399,830	20,962,594



Photovoltaic Power Stations Help Save Energy and Reduce Emissions

In 2018, CRRC applied photovoltaic energy actively in accordance with the requirements of national and local governments for energy conservation and emission reduction.

CRRC DLOCO constructed a distributed photovoltaic power station on the roof of 180,000 square meters within its new plant in Lvshun. By the end of 2018, the power station had generated 7.49 million KWH, saving more than RMB 700,000 in power costs.

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Photovoltaic Power Station in the New Plant of Lvshun, Dalian

Recycling of Water Resources

CRRC Zhuzhou has made technical renovation for the spraying rack, improved the spraying technologies within the Locomotive Business Division, and used reclaimed water from the sewage treatment station to replace the fresh water for spraying test. After renovation, about 19,000 tons of fresh water can be saved every year.

CRRC Shijiazhuang applied the standard water from the sewage treatment station to the greening and primary flushing operations, saving a total of 4,932 tons of fresh water in 2018.

CRRC Changchun used the standard water after treatment to replace part of the fresh water for cleaning, flushing, boiler de-dusting, process cooling water and other domestic and production activities. In 2018, about 125,000 tons of reclaimed water was used, which not only turned the sewage into resources, but also reduced the demand for fresh water.

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Pollution Prevention and Control

CRRC attaches great importance to the observation of the *Environmental Protection Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste* and other laws and regulations made by China and relevant states and regions strictly during the whole process in daily production and management, pays the environmental protection tax and sewage discharge on time, and the manufacturing-type subsidiaries shall apply for new sewage discharge permission in accordance with the laws.

The Company conducts environmental feasibility studies and environmental impact assessments for all construction projects, and ensures that pollution prevention and control facilities are designed, constructed, and put into operation simultaneously with the main work in accordance with the *Environmental Impact Assessment Law* and the requirement of "Three Meantimes" for environmental protection. Meanwhile, each manufacturing-type subsidiary of CRRC shall develop its own monitoring program;

the monitoring mode includes online automatic monitoring and regular manual sampling monitoring; the monitoring content includes monitoring indicators and all relevant information.

In addition, in order to effectively govern the pollutants, the Company has constructed sewage treatment stations, and adopted different treatment processes according to different sewage and discharge requirements; the coal-fired boiler has been desulphurized, dust removed and purified; turned coal into gas or turned coal into electricity; some enterprises even eliminated coal-fired boilers in favor of outsourced steam or social heating; the hazardous waste shall be stored and managed in strict accordance with provisions, and eligible units shall be entrusted to carry out harmless and safe disposal according to law, so that the emissions could meet the national or local discharge standards.

Three-Year Action Plan of CRRC on Tough Tasks of Ecological Protection and Pollution Prevention and Control

In order to fully implement the overall requirements of the national ecological civilization construction, fight the battle of pollution prevention and control firmly, and win the battle for the protection of blue sky, clear water and pure land, CRRC has formulated a three-year action plan, and put forward the objectives for ecological protection and pollution prevention and control in the next three years:

- Prevent the occurrence of major environmental emergencies or above.
- Greatly reduce the emissions of pollutants.
- Construct green plants in an all-round manner to realize the "intensive plants, harmless raw materials, clean production, waste reclamation and low-carbon energy".
- Improve the environmental protection of the enterprise significantly.

	Indicator	Unit	2018	2017
SO <sub>2</sub>		ton	556	1,764
Chemical oxygen demand		ton	927	1,017
Total disposal of hazardous wastes		ton	16,317	16,176
Total amount of general industrial solid wastes		ton	333,775	358,773



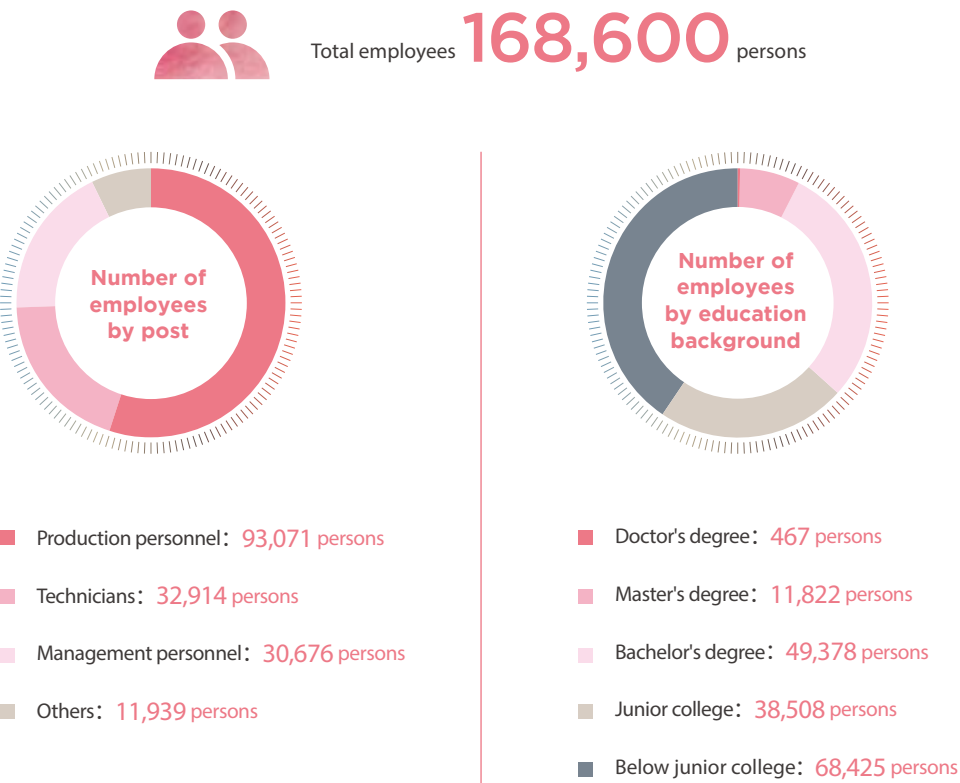
# Talents Cultivation

CRRC adheres to the talent concept of "CRRC's mobility, driven by talents, innovation and development, talent orientation, value distribution and talent first", strives to build a three-dimensional, digital, network-based and globally integrated human and capital management system while improving the fair and legal employment environment constantly, mobilizes the enthusiasm and creativity of talents fully to promote the continuous development of CRRC with high-quality first-class talent work.

## Employees Rights and Interests

CRRC abides by the *Labor Law of the People's Republic of China*, the *Law of the People's Republic of China on Employment Contract*, the *Law of the People's Republic of China on the Guarantee of the Rights and Interests of Women* and other relevant laws and regulations strictly, and formulates the *Interim Measures of CRRC for the Administration of Labor Employment*, *Guidelines for Employee Management* and other rules and regulations, pursues the employment principle of fairness, equity, and non-discrimination, holds no discrimination in recruitment, compensation, training, promotion and others caused due to gender, region, ethnics, religion, age, political positions and other factors, eliminates child labor and forced labor, respect and safeguard the legitimate rights and interests of all employees.

Employee Structure Category 2018



# Talent Development

Through scientifically designed talent career development channel, CRRC establishes a multidimensional career development path for management talents, skilled personnel and technical personnel, and builds a performance management system which can elevate both "capability and performance" of employees, so that each employee could better realize their own value.

According to the Talent Training and Development Plan of Company during the "13th Five-Year", the Company formulated the 2018 Main Points of Training of CRRC to coordinate our annual talent training and development. In respect of the target for the establishment of talent teams and key tasks for annual talent training, the Company continued to optimize its training management system, training course system, trainer system and internet academy platform, enhanced the innovativeness, perspectiveness, pertinence and effectiveness of talent cultivation, sped up the development of professional managers, international talent and core management (technology, skill) talent teams. In light of actual operation and management needs, the Company leveraged on high quality domestic and foreign training resources, systematically design specific training items, well planned plans and created elaborate training programs.

In 2018, the Company organized a total of 82 company-level trainings with over 3,400 participants and focused on organizing and implementing key training programs, such as training in rotation of the spirits of the 19th national congress of the CPC, excellent leadership, internationalized talents, core technical talent, core management talent and core skilled talent. In 2018, there were 471,000 employees who participated in subsidiary-level and workshop-level trainings, of which approximately 69,000 participants were management personnel, approximately 67,000 participants were professional technicians and 335,000 participants were technical personnel.

A total of **82** company-level training programs

training more than **3,400** people

## Advanced Project for International Talent Cultivation "631 Program" Came to a Successful Ending



CRRC continues to promote the "631 Program" for international talent cultivation, which is to train 6,000 international junior talents, 3,000 intermediate talents and 1,000 senior talents. The program is conducted in an all-English manner and closed teaching mode, and divided into three stages: domestic centralized training, overseas on-the-job training and improvement of project subject. In 2018, it cultivated 350 senior talents for international projects successfully, which effectively boosted the implementation of the internationalization strategy of CRRC.





## Employees Care

CRRC adheres to the "people-oriented" principle, implements the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* and other laws and regulations, improves the occupational health and safety management system continuously, expands its scope of management, and focuses on task saturation and individual psychological state of employees; enriches management means, carries out targeted education and training timely, conducts benign guidance for employees' emotions and mentality, arranges labor intensity reasonably, so as to prevent new occupational diseases at present position all year round.

By diversified cultural activities and assistance for employees, CRRC has created a positive corporate culture, enhanced their sense of belonging, gain and happiness continuously.

### CRRC Changchun Organized the Group Wedding for Employees - Heading Towards Happiness

Since 2012, CRRC Changchun has built the group wedding into a brand culture activity with Company's characteristics. In 2018, the youth group wedding of CRRC Changchun was held in the high-speed EMU manufacturing base, during which 106 couples joined hands and walked into the warm wedding scene together.



### CRRC Chengdu Develops Happy Assistance Program

CRRC Chengdu cares for the mental health of employees, carries out special mental health training for different groups of employees, and opens a psychological counseling hotline for employees, which covers all employees.

### CRRC Yonge Cares the Health of Female Employees

CRRC Yonge has set up a "Special Disease Insurance for Female Employees", and settled the claim from 5 sick female employees in 2018. The Company made the female employees to take the general gynecological examination, and more than 2,600 employees took part in the screening for "two cancers"; organized the activities of "flowers and condolence", and visited the female employees suffering from illness.



The Company provided assistance to employees in need, and carries out the activity of "Six offerings and Three Concerns" to effectively achieve the effect of "helping a person, saving a family, warming a person and inspiring a group of people".

- **Six Offerings:** offer warmth in winter, cool in summer and student aid in autumn, condolence in festival, assistance in case of difficulty and care for illness.
- **Three Concerns:** pay attention to the "three-line" construction (the life line, health line and culture line of the employees in the after-sales service stations of high-speed railway (bullet train), rolling stock and non-railway products, etc.), the enterprises with relatively poor benefits, and the humanistic care, physical and mental health of the employees.

### CRRC Shenyang Developed Parent-Child Campaign

CRRC Shenyang organized a theme activity of "Feeling Corporate Culture and Delivering the Melody of Love", and more than 30 families, nearly 100 people attended the activity.

### CRRC DLOCO Helped Employees in Difficulties Attentively

CRRC DLOCO is concerned about the employees with difficulties, and offers then systematic assistance.

The Company would sort out and improve the family files of employees with difficulties and of special employees every year, master timely and track the new information closely, and manage the information in real time and dynamically.

"Heart-Warming" activities are held during festivals. These activities mainly include visiting and consoling the employees with long-term difficulty, female employees with living difficulties, employees with serious illness or injures, working employees and retired employees bedridden for years due to serious illness, retired employees and model workers aged more than 80.

The thorough investigation of the party members in difficulties is made. The Company makes an in-depth investigation into the basic information of Party members according to the scope and conditions of the subsidies for the Party members in difficulty, gets full hold of their living conditions, establishes files for them, so as to ensure that the assistance covers all personnel concerned without omission.



# Social Contributions

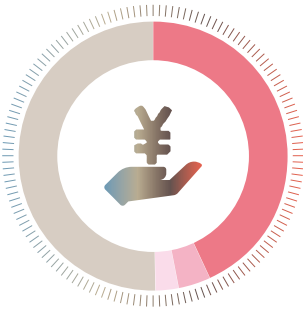
CRRC coordinates with the national strategy for poverty alleviation actively, takes the initiative to shoulder the responsibilities, carries out targeted poverty alleviation depending on CRRC's capacity and advantages, and helps the targeted poverty-stricken areas to realize sustainable capacity and industrial development, so as to "teach people to fish". Meanwhile, CRRC organizes and participates in diversified public welfare activities, passes on CRRC's love and makes CRRC's contribution to make our society warmer.

## Targeted poverty alleviation

In 2018, CRRC continued to intensify targeted poverty alleviation efforts, highlighted the word "targeted", and made efforts to contribute to the development of rural economy and the building of a well-off society in an all-round way.

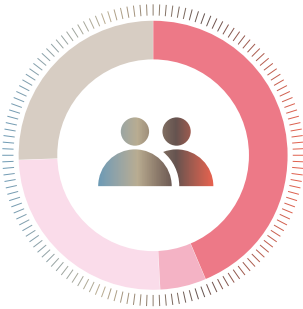
In 2018, CRRC invested RMB 11.55 million directly into Maiji District and Gangu County in Tianshui and Jingxi and Napo County in Baise, and the investment was mainly used to make up for the weakness in infrastructure, build assistance projects with leading role in demonstration. Focused on targeted poverty alleviation and, gathering all strength to overcome difficulties, CRRC strove to achieve concrete results and provided, a solid foundation for poverty alleviation. Also, CRRC sent five party member cadres to serve as deputy county magistrates in poor counties and as first Party secretary in poor villages to help with local poverty alleviation affairs.

Direct Investment of CRRC for Targeted Poverty Alleviation in 2018



- Poverty alleviation by industrial development : RMB 5 million
- Poverty alleviation by education: RMB 0.43 million
- Bottom-line guarantee: RMB 0.32 million
- Other projects: RMB 5.8 million

Number of Persons Receiving the Assistance of CRRC for Targeted Poverty Alleviation in 2018



- Poverty alleviation by industrial development: 345 persons
- Poverty alleviation by education: 44 persons
- Bottom-line guarantee: 200 persons
- Help the poverty stricken people filed and recorded to shake off poverty : 200 persons



CRRC has always taken the enhancement of their capabilities and benefits as well as their self-development awareness as their priority in work, so as to stimulate the endogenous driving force of people in poor areas.

### CRRC's "Tian'e Program"



In 2018, CRRC began to implement the "Tian'e Program" (Tian stands for Tianshui City, e refers to Baise City, also known as City of Goose), coordinated with the rural revitalization strategy of poverty-stricken areas in Tianshui, Gansu and Baise, Guangxi, which focused on targets of talent priority and intelligent poverty alleviation.

In October 2018, CRRC held the first "Tian'e Program" activity and the workshop for improving the leadership of outstanding grassroots cadres in CRRC designated poverty alleviation areas. 430,000 yuan, were invested in the event and used to customize the training and learning of "Tian'e Model of Leadership" for 46 cadres from municipalities, counties and towns of Tianshui and Baise, complemented the strength of enterprises with the weakness of villages and towns, helped the cadres from poverty-stricken areas to improve their stance, emancipate their minds and enhance their capabilities, broadened their horizons, identified business opportunities, changed their way of thinking, strove to cultivate "leaders" for poverty alleviation in the new era, so as to provide talent guarantee for poverty alleviation for poverty-stricken areas and rural revitalization.



Trainees of "Tian'e Program" Visited CRRC





Network  
Support

Depending on CRRC's advantages in informationization, CRRC has set up a special poverty alleviation project on "CRRC Go" e-commerce platform to build a long-term poverty alleviation mechanism. Help poor areas to improve their ability to use e-commerce, so as to break down the information barriers and cash out the high-quality resources in such poverty-stricken areas. CRRC has already provided online business services for featured agricultural products produced in Tianshui, Gansu and Baise, Guangxi, which enabled the high-quality agricultural products from poverty-stricken areas to enter nearly 200,000 consumer groups of CRRC, so as to help farmers in poverty-stricken areas to shake off poverty and become rich via "Internet +".



Industrial  
Support

It needs not only "investment", but also "creation" to deal with poverty. According to the characteristics and actual situations of Tianshui in Gansu Province and Baise in Guangxi, CRRC promoted the mulberry growing and silkworm raising, fruits, Chinese herbal medicine, PV power generation and other industries based on specific local conditions in poverty-stricken areas and created characteristic industry demonstration bases with poor villages as the core, enlarged the rural science and technology consulting and production technology training, promoted the development of "one village and one product, one household and one income-increasing project" in poverty-stricken areas, so as to speed up the pace of poverty-driven people to shake off poverty and become prosperous.

In June 2018, CRRC signed a special poverty alleviation tri-party agreement on uniform procurement with Gangu Tengda Company in Gangu County, Tianshui City, Gansu Province, which was to purchase 14,900 sets of uniform, and such practical measure taken by CRRC to help Gangu County to shake off poverty has greatly promoted the development of "Poverty Alleviation Workshop" in Gangu County.



Public Benefit  
Support

Taking the improvement of production and living conditions in poverty-stricken villages as a breakthrough in poverty alleviation and development, CRRC has constructed the infrastructure such as road construction, renovation of dilapidated houses, reconstruction of village appearance, water tanks and wells, etc., so as to solve the most urgent and needed problems of the poor practically. According to the characteristics of superior resources in the four designated counties of poverty alleviation, CRRC provides flexible forms of assistance to improve the performance of assistance. CRRC has invested more than RMB 5.8 million into the construction of infrastructure, such as hardening of rural roads, transformation and construction of agricultural machinery roads and country roads in various bases, provided assistance to plastic-covered tunnel with all-steel frame without vertical column and fresh-keeping storehouse, which better solved the problem in pre-cooling of vegetable transportation, and promoted the development of fruit and vegetable production, processing and circulation industry in Gangu County.

## Intangible Cultural Heritage Miao Embroidery in Shibadong Village "Took" on China's High-speed Train to Go Abroad

Shibadong Village is the place where General Secretary Xi Jinping advocated "targeted poverty alleviation" for the first time. Here, CRRC Zhuzhou established the "National Poverty Alleviation Workshop for Intangible Cultural Heritage Miao Embroidery" together with Hunan University of Technology, Government of Huayuan County in Hunan Province and Shibadong Miao Embroidery Cooperative. On October 27, 2018, CRRC Zhuzhou signed the first Miao Embroidery purchase contract with Shibadong Miao Embroidery Cooperative. Currently, this workshop has 54 female embroiders, eight of which are intangible cultural heritage inheritors of Miao Embroidery.

In addition, CRRC Zhuzhou also set up a Shibadong charity fund for students named "Blue Schoolbag", and signed a 5-year procurement contract with Shibadong Miao Embroidery Cooperative, which is to purchase 30,000 boxes of water for poverty alleviation every year. Through targeted poverty alleviation, Shibadong Village has been promoted from "shaking off poverty and becoming prosperity" to "rural revitalization".



## Public Welfare

Assisting public welfare, giving back to society and being enthusiastic about charity are important parts of CRRC's social responsibilities. The Company supports the public welfare vigorously, takes active actions to make the society more beautiful.

### CRRC Zhuzhou (Hunan) Public Welfare Foundation

CRRC Zhuzhou established the CRRC Zhuzhou (Hunan) Public Welfare Foundation, which was designated to raise funds actively for public welfare, and has planned and carried out a variety of public welfare activities. In the past two years, a total of 133 caring enterprises, more than 14,300 person-times devoted their love for public welfare via CRRC Zhuzhou (Hunan) Public Welfare Foundation.



The Most Beautiful Volunteer Service Community

CRRC Yonge integrates the voluntary service of learning from Lei Feng with the governance of innovation community, organizes the young people to contribute to society and serve the masses, and strives to make voluntary service the spiritual fashion of contemporary communities. The community was awarded with the title of "the Most Beautiful Volunteer Service Community" in 2018.



The Fifth "'Car Fans' Visit to CRRC"

More than 70 train fans wandered into the "Cradle of Locomotive" - Visit CRRC DLOCO

"Car Fans' Visit to CRRC" is a "Public Open Day" event initiated by CRRC for Chinese rail transit equipment manufacturers, whose purpose is to publicize the Company and show the good brand image of the Company among the public.

There were nearly 600 eligible candidates for the fifth event, and finally more than 70 train fans from more than 20 provinces (autonomous regions and municipalities directly under the central government) became the lucky fellows that could participate in this event after selection, including Internet celebrities, college students, civil servants, railway staff, subway drivers, botanic physician, graphic designers, media reporter, etc., the oldest of which was 65 years old, and the youngest was 9 years old.



CRRC Qishuyan Welcomed 40 Tibetan Students from the Third Nationalities High School of Yushu State, Qinghai



Young Report Interviewed CRRC Sifang

In 2018, the Company participated in overseas public welfare undertakings actively and extensively, deepened the understanding and communication and established mutual trust with the local, guaranteed to improve local people's livelihood, and gave back to society actively.

CRRC devoted to Public Welfare in Malaysia

Over the years, CRRC has been enthusiastic about the public welfare activities in Malaysia, and has made great efforts to give back to society, which received wide acclaim from the Malaysian people.

- In 2014, Malaysia suffered from the worst flooding in nearly 50 years due to continuous rainfall, CRRC Zhuzhou donated 500,000 Malaysian ringgits. Meanwhile, Kuala Lumpur CRRC Maintenance and Malaysia CRRC Railway Transportation Equipment also asked their employees to make donations.
- In 2017, an extraordinary rainstorm hit Penang, Malaysia, resulting in landslides, and over 3,000 people lost their home. Kuala Lumpur CRRC Maintenance and Malaysia CRRC Railway Transportation Equipment, quickly called for donations and their staff donated a total of 30,000 Malaysian ringgits, which were used to help the Malaysian people to alleviate the disaster and rebuild their homes.
- On July 24, 2018, Kuala Lumpur CRRC Maintenance won the Public Welfare Award by Chinese Enterprises Association in Malaysia.





Looking ahead to 2019, CRRC will take the corporate mission of "Connecting the World through Better Mobility" as the driving force, unite in a concerted effort to forge ahead and promote the advancement of the "13th Five-Year" Strategy comprehensively and implementation of "Double Creation and One Cultivation" based on the five major tasks of "internationalization, diversification, high-end orientation, digitization and collaboratization", so as to spare no effort to set an enterprise model in fulfillment of the social responsibilities.

**We will dream high and embrace the world.** We will take the initiative to integrate into the global development, unite as one to the set out again, push forward the reform and opening-up in the new era further, promote CRRC into an international enterprise, and provide the vast number of users with CRRC products, technologies and solutions and show CRRC image, quality and courage.

**We will be brave in outperforming, and making constant changes.** We will implement three major themes, namely "coordination, weakness perfection and quality improvement"; improve the five mechanisms of strategic management and control, resource coordination, risk management and control, joint development and sharing, incentive and constraint; establish six major systems of comprehensive budget management, technological innovation, IT management, global talent cultivation, international management and control, supervision and assessment; adhere to the new development concept, and unswervingly implement the requirement for high-quality development.

**We will adhere to innovation-oriented and technology-driven principles.** We will build a core technology system with international competitiveness and an internationally advanced pedigree product system to provide CRRC wisdom for the technological progress and sustainable development of human society. We will implement the "Four-wheel Drive" strategy of technological innovation, management innovation, institutional innovation and business model innovation to promote quality, efficiency and power changes in enterprise so as to foster new power for the development of CRRC.

**We will keep pace with the times and shoulder our mission.** We will take the initiative to implement the green concept, go deep to carry out targeted assistance, strengthen risk prevention and compliance operations, and firmly fight against three tough tasks, including prevention and resolution of major risks, targeted poverty alleviation, and pollution prevention and control. We will continue adhere to the talent-oriented principle, benefit the employees, promote the spirit of high-speed rail workers, so that employees have a sense of belonging, a sense of gain and a sense of happiness.

It is responsibility that forges quality, wins respect, and composes future. We will respond positively to the concerns of all stakeholders, make new and greater contributions to the building of a moderately prosperous society in all respects with outstanding performance, and give a satisfactory answer to the 70th anniversary of the founding of the People's Republic of China.



ESG Reporting Guide Index

Subject Areas, Aspects, General Disclosures and KPIs			Locations in the Report
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		A1.1 The types of emissions and respective emissions data	P49
		A1.2 Greenhouse gas emissions in total (in tonnage t) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P47
		A1.3 Total hazardous waste produced (in tonnage t) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P49
		A1.4 Total non-hazardous waste produced (in tonnage t) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P49
		A1.5 Description of measures to mitigate emissions and results achieved	P49
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Subject Areas, Aspects, General Disclosures and KPIs			Locations in the Report
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# Feedback from Readers

Dear readers,

Thank you very much for reading the *2018 CRRC Social Responsibility Report*. We pay great attention to and expect to hear your feedback on CRRC's management, practice and reporting of social responsibility. Your comments and suggestions will help us to continue promoting the management and practice of corporate social responsibility. We look forward to your reply!

**Multiple-choice Questions (please tick✓ in the appropriate box)**

1. Does the Report reflect the significant influence of CRRC on economy, society and environment?

Yes ☐    Somewhat ☐    No ☐

2. Do you think the relation analysis of stakeholders hereof and CRRC is accurate and comprehensive?

Yes ☐    Somewhat ☐    No ☐

3. Was the information provided in this report comprehensive?

Yes ☐    Somewhat ☐    No ☐

4. Was the information provided in this report readable?

Yes ☐    Somewhat ☐    No ☐

**Open Question**

Please address any opinions and suggestions on the 2018 CRRC Social Responsibility Report.

**Your Contact Information**

Name: \_\_\_\_\_

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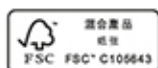
Connect the World through Better Mobility

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