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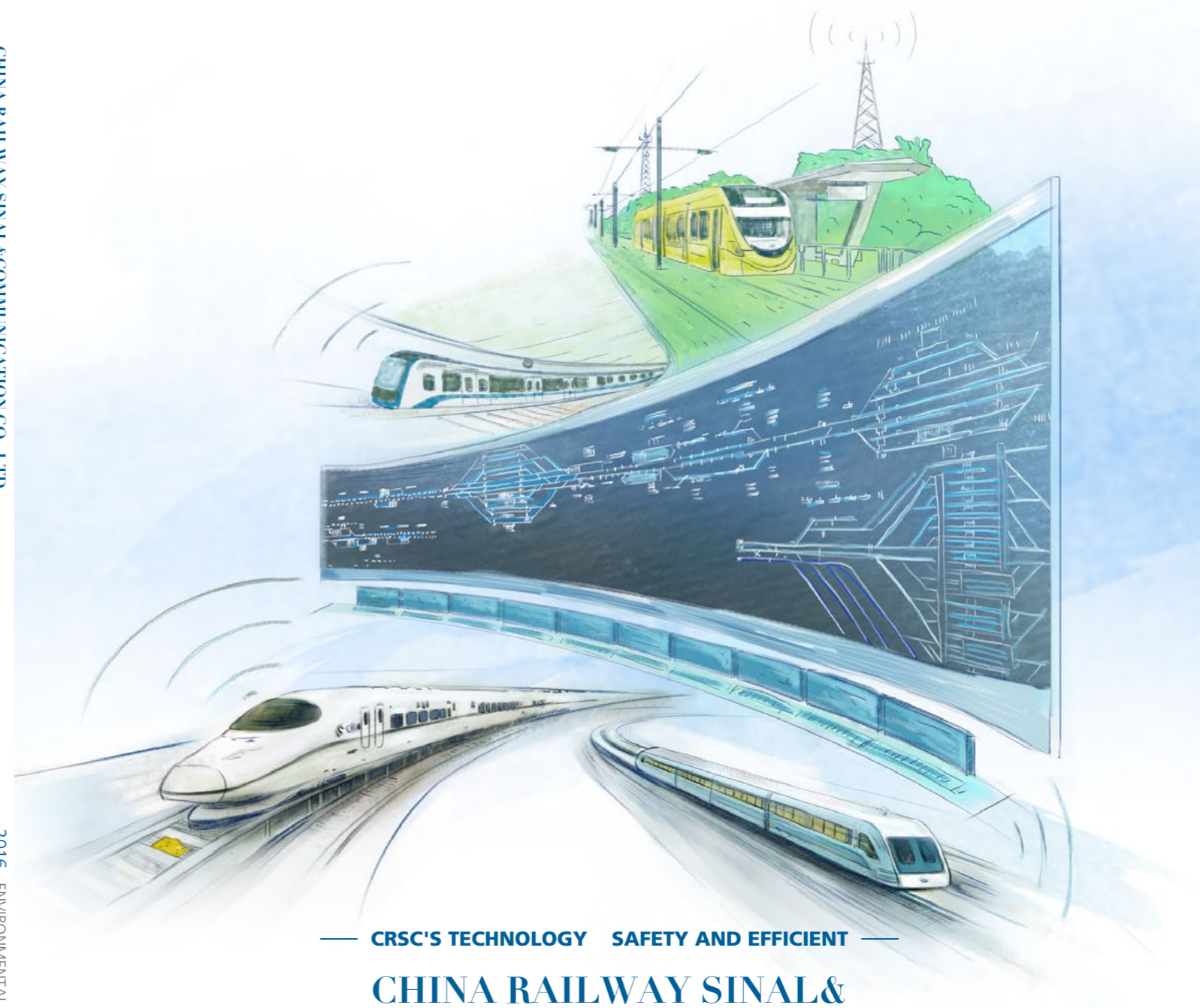
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CHINA RAILWAY SINAL&COMMUNICATION CO., LTD.

2016 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



— CRSC'S TECHNOLOGY SAFETY AND EFFICIENT —

**CHINA RAILWAY SINAL&  
COMMUNICATION CO., LTD.**

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

2016



# About this Report

This report is the fourth publicly disclosed Environmental, Social and Governance Report (or Social Responsibility Report) of China Railway Signal & Communication Co., Ltd (CRSC). This report aims at responding to stakeholders' expectation and demonstrates CRSC's concept, management, actions and performance of environmental, social and corporate governance and sustainability.

## Reporting Reference

This report is prepared with reference to the Guideline on Corporate Social Responsibility of State-owned Key Companies by SASAC, "Appendix 27 Environmental, social and Governance Reporting Guide" the Rules Governing the Listing of Securities on HKEX (Listing Rules). This report also meets the requirements set out in the Sustainability Reporting Guidelines (G4.0) issued by the Global Reporting Initiative (GRI), the Chinese Corporate Social Responsibility (CSR) Report Preparation Guide (CASS-CSR 3.0) issued by the Chinese Academy of Social Sciences and other national and international CSR reporting guidance.

## Scope of the Report

Unless otherwise stated, this report includes China Railway Signal & Communication Co., Ltd's headquarter, all its branches and subsidiaries, which the same scope of 2016 Annual Report.

## Report Data Specification

All key financial data disclosed in this report are collected from China Railway Signal & Communication Co., Ltd's 2016 Annual Report, other data are mainly sourced from internal management systems of the Group.

## Reporting Period

1 January 2016 - 31 December 2016. Some content is sourced from historical data.

## Reporting Specification

For the convenience of expression and reading, "China Railway Signal & Communication Co., Ltd" may be expressed as "CRSC", "the Company" and "we".

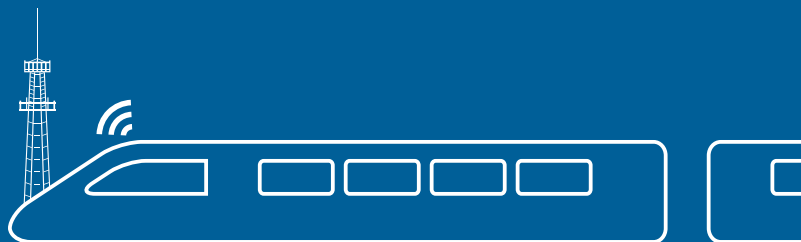
## Reporting Cycle

This is an annual report.

## Access to the Report

This Report can be browsed or downloaded both in Chinese and English from the Social Responsibility' template at the official website of China Railway Signal & Communication Co., Ltd or at the website of Hong Kong Exchanges and Clearing Limited.

# Events 2016



## Beijing-Shanghai High-Speed Railway won "Special Award" of the National Scientific and Technological Progress Award

- CRSC participated in the construction of the control system for the railway, utilizing the world's most advanced CTCS-3 Train Control System.

## CRSC received double-A ratings from the State-owned Assets Supervision and Administration Commission

- CRSC received a double-A rating from the State-owned Assets Supervision and Administration Commission of the State Council for its business performance in 2015 as well as between 2013 and 2015. The rating is an appraisal of China's central government-led enterprises and was announced on July 20.

## CRSC initiated the high-speed railway exhibition in Qatar

- On May 11 and 12, CRSC organized an exhibition of China's achievements in high-speed railway, BeiDou Navigation Satellite System and nuclear power in Doha, capital of Qatar. Attendants got a full understanding of China's accomplishment and experience in the area of high-speed railway and they also had the opportunity to communicate and negotiate cooperation with CRSC.

01



### 国家科学技术进步奖 证书

为表彰国家科学技术进步奖获得者，  
特颁发此证书。

项目名称：京沪高速铁路工程

奖励等级：特等

授：中国铁路通信信号股份有限公司

02



03





**The Mombasa-Nairobi Railway in Kenya makes progress**

- On July 7, the Mombasa-Nairobi Railway in Kenya which was contracted by CRSC, successfully finished the signal testing of equipment for the Konza station's machine room. The railway is Kenya's first new railway in a century, and it is the 'benchmark' project for China's railway "going out" strategy.

**National media interviews CRSC for reform experience**

- On December 19, more than 20 national media formed a team for "New state-owned enterprises and new momentums for reform" and interviewed CRSC. The interview focused on the deepening reform of the company and its story of independent innovation of the core technology for the railway control system in order to stimulate the endogenous impetus and enhance the core competitiveness.

**CRSC won the title of "The Best Listed Company in Technological Innovation" at Golden Bauhinia Awards**

- On November 25, at the sixth Golden Bauhinia Awards ceremony and also Hongkong International Financial Week, CRSC won the title of "The Best Listed Company in Technological Innovation" at Golden Bauhinia Awards. The company was awarded the title of "Listed Company with the Best Brand Value" at its first year of being listed.

04



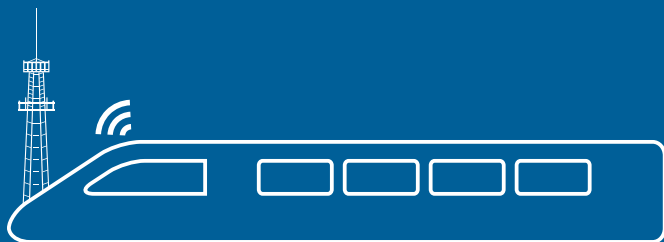
05



06



# Events 2016



## China Skills Competition: CRSC fifteenth Skill Competition forge craftsmen

- China Skills Competition 2016---CRSC Fifteenth Skill Competition held on Nov. 10 awarded nine "National Technological Experts" and 16 "Technological Experts in Central Government-led Enterprises", creating an upsurge among all employees to learn technologies and skills.

## CRSC contributes to national construction of high-speed railways and intercity railways

- On March 30, the Dongguan-Huizhou Intercity Railway, whose communication signals and information system integration were constructed by CRSC, officially went into operation, further facilitating the connectivity at the Pearl River Delta.
- On September 10, the Zhengzhou-Xuzhou High-speed Railway whose information system integration was constructed by CRSC officially went into operation. CRSC's 'one-stop service' integrating design and research, equipment manufacturing, and engineering services, provided the "smart brain" and "neural center" for the railway.

## CRSC promotes the connectivity of railways in China's central and western regions with the eastern regions

- On August 3, CRSC completed the Zhengzhou-Xuzhou High-speed Railway project by finishing the last part of laying the railway turnout connecting the railway with the Zhengzhou East Railway Station. Till then, Zhengzhou East Railway Station served as a hub to connect the Zhengzhou-Xuzhou High-speed Railway with the Beijing-Guangzhou High-Speed Railway, the Zhengzhou-Xi'an High-speed railway, the Zhengzhou-Kaifeng Intercity Railway and the Zhengzhou East Railway Station-Zhengzhou Xinxing International Airport Intercity Railway.

07



08



09





### CRSC's technology: compared with the German engineers on perfection

- At the beginning of this year, a WeChat moments named "CRSC's technology: compared with the German engineers on perfection" became popular with more than 100,000+ reading amount in short time, and was reproduced by the People's Daily and other official WeChat. CRSC received rave reviews for the technology which gone beyond Germany weak engineers.

### The first anniversary of the listing: strong performance momentum, strong improvement with efficiency broad prospects

- Since the first anniversary of the listing, CRSC is moving towards a future in a more open and aggressive manner. To "one industry-based, related to diversity" for the idea, focus on building communications signal business as the core of the seven business segments, CRSC is firmly toward the bigger and stronger to do the strategic goal. "Deepening reform" "eight broken eight" "second venture", all the CRSC people are working hard, hard work, concentric circles "CRSC dream".

### Line 9 of the Beijing Subway won Zhan Tianyou Award of Civil Engineering

- The Line 9 of the Beijing Subway which was built by the CRSC won Zhan Tianyou Award of Civil Engineering at the Awarding Ceremony of 13th China Zhan Tianyou Award of Civil Engineering held in Beijing. Altogether, the ceremony honored 38 excellent technological innovation projects.

10



11

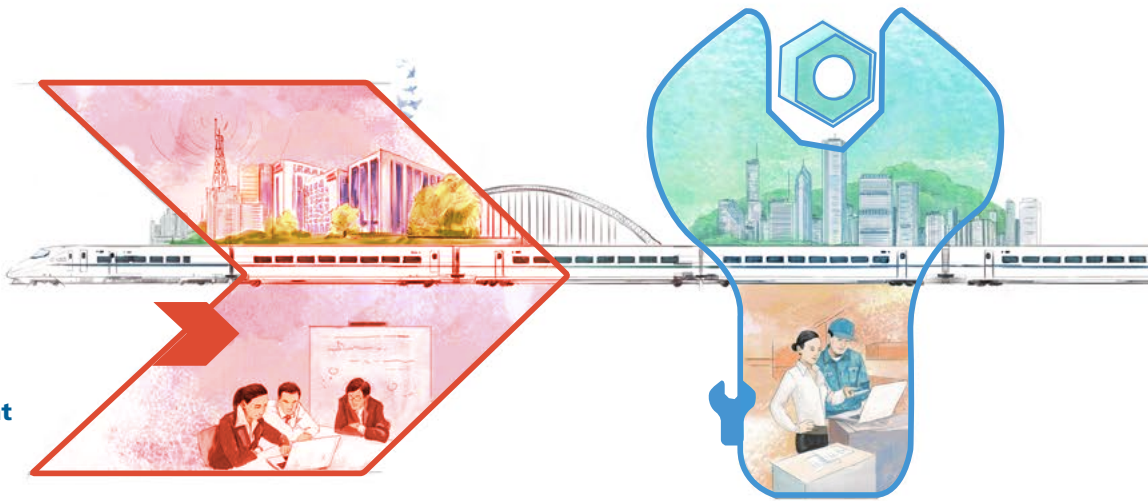


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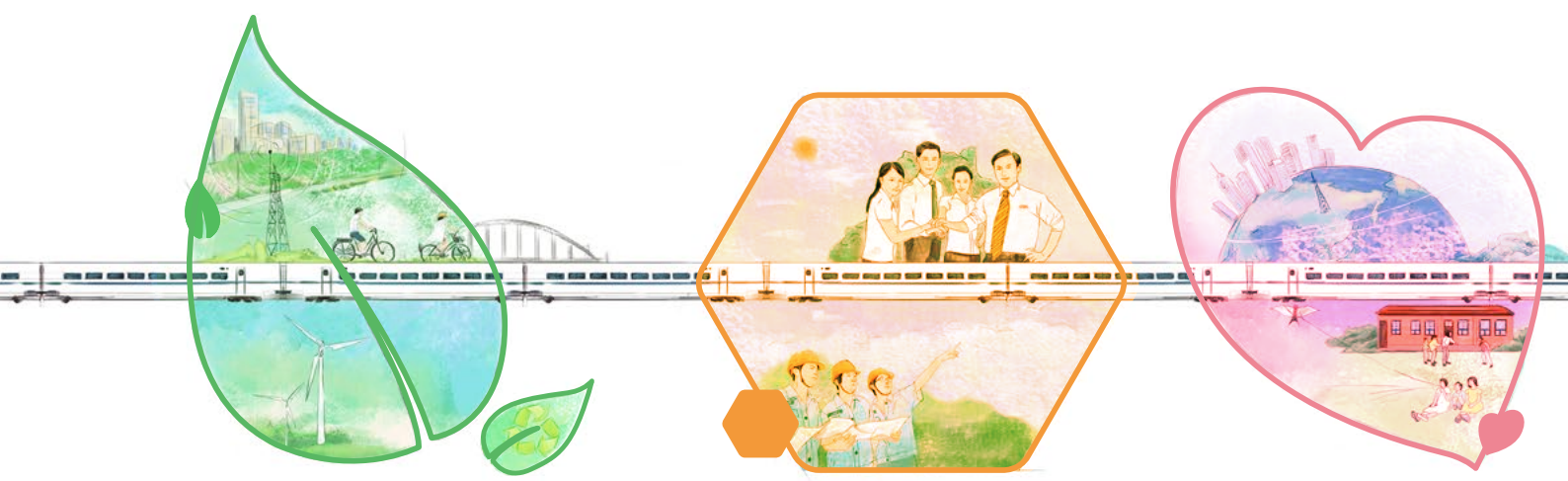
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## Chairman's Statement

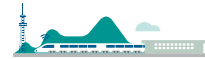
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**In 2016, China issued a Medium and Long-term Railway Network Plan; expanding the high-speed rail network for the next few years so that there will be eight rail lines north and south, and eight lines east and west, which will further drive regional economic growth. Meanwhile more than 40 cities' railway construction plans were approved, which will greatly relieve the problems caused by urban traffic congestion.** ●●

As one of the most low-carbon and greenest mode of transportation and logistics, rail transport plays a significant role in society, not only saving time and increasing efficiency but also by contributing to the sustainable development of the environment. Also, the emission reduction target for the 13th Five-Year Plan period was established, specifically to reduce the greenhouse gas emissions by 18% per unit of GDP. Therefore, CRSC can help increase the proportion of high-speed railway, subway, streetcar, intercity light-rail and other railways for people's transportation. This will reduce society's reliance on traditional energy and will finally facilitate China to realize the goal set in The Paris Agreement by fulfilling the responsibility of a major country in leading global affairs.

China plays a key role in the international community, not only in leading international affairs, but also in driving global economic growth through its own development, especially driving those regions along the Belt and Road. All these are effective means for the world to share the dividend of China's advancements. As one major member of China's high-speed rail alliance, CRSC strengthened technological research and development in 2016, initiated or participated in formulating industrial standards, promoted the development of railway communication and signaling engineering, improved the intellectual property management system and further enhanced the technological advantage of "Chinese Railway", a new national identity.



Chairman, Secretary of  
the Party Committee  
**Zhou Zhiliang**

While changing industrial demands provided eternal impetus for CRSC's sustainable development, we are also increasing the endogenous power as well. In 2016, we issued the CRSC 13th Five-year Plan on Quality and Safety Development, with the purpose of carrying forward a high-efficient, safe and clean operation. We also formulated Measures for the Management of Energy Conservation and Emission Reduction to control the impact on the environment caused from construction and production, and to reduce our greenhouse gas emissions. Moreover, we held the first Workers' Conference to enhance the self-management of workers, increase their communication skills and strengthen their sense of belonging and responsibility. Meanwhile, the headquarter of the company and all the branches and subsidiaries continued to contribute community development by implementing projects like targeted poverty elimination, donations and volunteering activities.

At the first year of the 13th Five-Year Plan period, CRSC laid a good foundation for the sustainable development of the company as well as for creating greater values for society, the environment and all our stakeholders, in the coming four years and also for the future. This is our aspiration and also what we can do. But, we still hope that more and more people and companies can join us in contributing to the green development, technological progress, life convenience, wealth increase and finally the sustainable development of the whole world.

# About Us



## Performance and Achievements



**29.4** billion RMB  
Revenue



**30.5** billion RMB  
Net income attributable to shareholders

**22.8%↑**  
with a year-on-year growth of

**30.2%↑**  
a three-year compound annual growth rate of

**22.1%↑**  
with a year-on-year growth

**22.8%↑**  
a three-year compound annual growth rate of



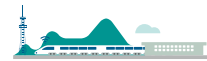
**93%**  
In the market of high-speed railway faster than 300 km per hour, CRSC occupies a market share of more than 90%



**60%**  
A market share of more than 60% in domestic urban rail transport.



**48**  
World's first-class 3 complex laboratories and 48 special laboratories.



## Brief Introduction

China Railway Signal & Communication Corporation Limited (hereinafter referred to as CRSC) is the provider of railway signal and communication technology, products and services, the precursor and leader in the China rail transit control industry, one of the biggest rail transit system solution provider. We provide specialized one-stop solution of design and integration, equipment manufacturing and system implementation services for rail transportation control systems to our customers and are the only authorized reviewer of rail transportation control system equipment modes, technology standards and product standards in the PRC. In 7th August, 2015, CRSC was successful listed in Stock Exchange of Hong Kong (stock code: 03989.HK).



**503** billion RMB  
Total assets

**19.8%↑**  
with a year-on-year growth of 19.8%

**32.7%↑**  
a three-year compound annual growth rate of



**494.8** billion RMB  
Overall new contract amount in the year

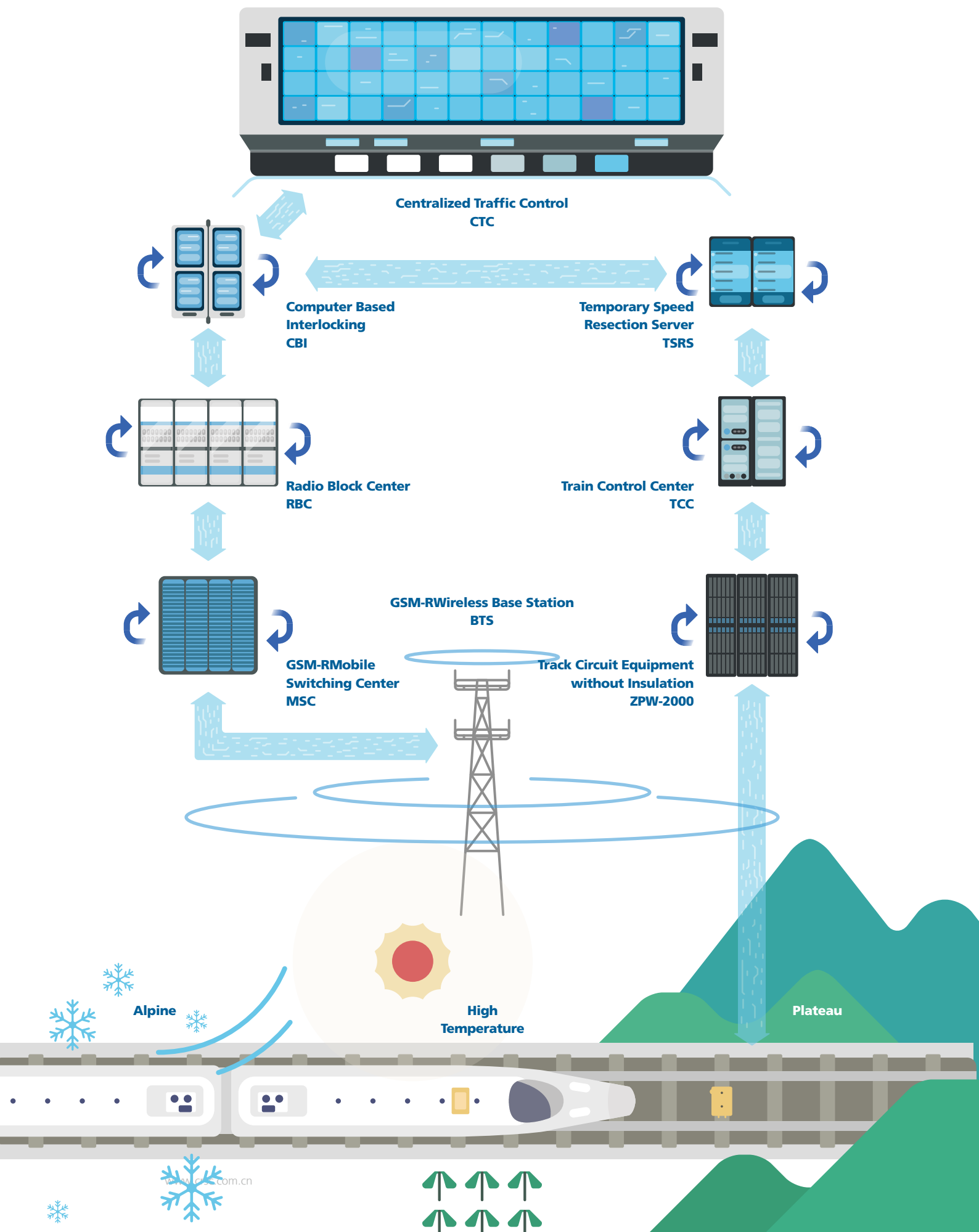
**30.8%↑**  
with a year-on-year growth of



**30** thousand  
Over 30 thousand railway testing cases, more than the total of foreign multinational companies combined.



**100%**  
All technologies of the rail control systems for national high-speed railway and subways are developed by the company itself, and all products are purchased from domestic markets.

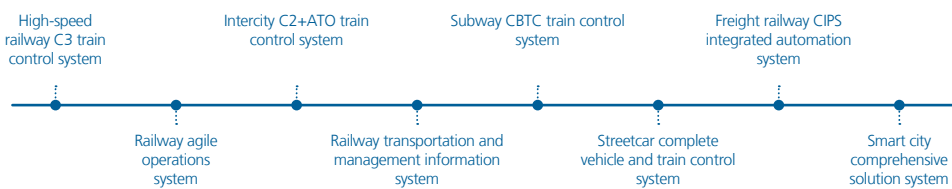


## Business Modules

CRSC sticks to the idea of "Giving priority to one major industry while developing other relevant ones", constantly improves industrial products structure, creates a business module system of "Extension between upstream and downstream, Development within related areas, Collaboration among industries", accelerates the transformation and upgrade of industries and pushes forward a sustainable development of CRSC.



## Key Technology



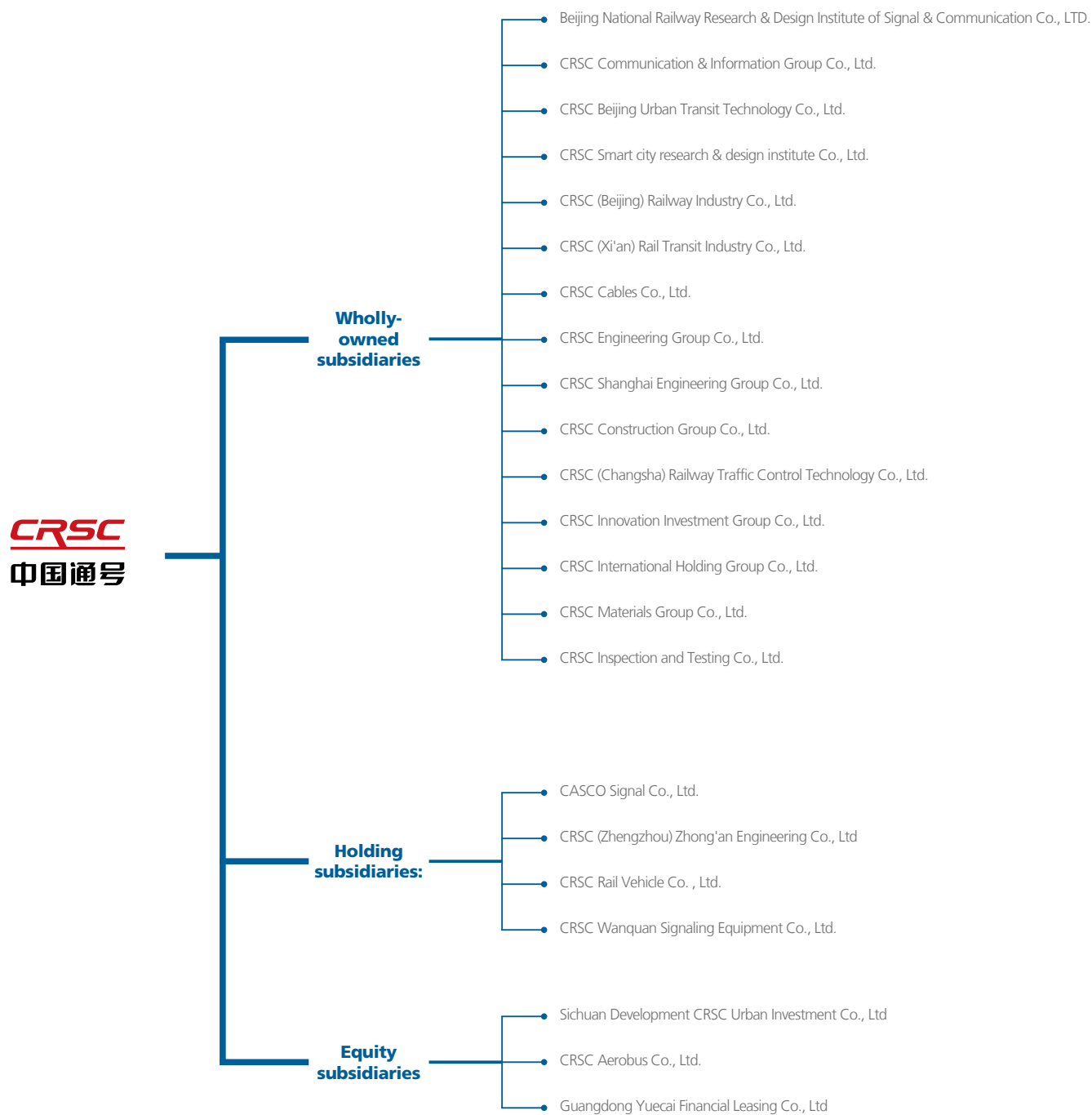
## Development strategies

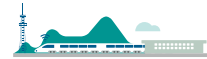
CRSC insists on holding quality and safety as our lifeline and shouldering the responsibility of introducing China's railway communication signal industry to the world. CRSC will speed up the pace of scientific and technological innovation and accelerate the process transformation and upgrading, give full play to the advantages of integrated industrial chain. CRSC are looking for strategic breakthrough of key industrial product structure adjustment, historical

breakthrough in core technologies, and international breakthrough in China's high-speed rail standards and industrial output. CRSC will constantly enhance the level of modern enterprise management, and actively integrate into the global competitive landscape, developed into a rail transit control technology for the characteristics of the world-class multinational industrial groups.

# Structure

## Structure Figure of CRSC





## Management

### Board of Directors



**Zhou Zhiliang**  
Chairman, Secretary Of  
The Party Committee



**Yin Gang**  
President, Executive  
Director



**Wang Jiajie**  
Independent Non-  
Executive Director



**Xin Dinghua**  
Independent Non-  
Executive Director



**Chen Jinen**  
Independent Non-  
Executive Director



**Gao Shutang**  
Independent Non-  
Executive Director

### Board Of Supervisors



**Tian Liyan**  
President of The Board  
of Supervisors



**Gao Fan**  
External Supervisor



**Zhao Xiumei**  
Employee Supervisor

### Top Management Team



**Kong Ning**  
Chief Accountant



**Zhang Jiqiang**  
Secretary of Discipline



**Hu Shaofeng**  
Chief Accountant,  
Secretary Of The Board  
Of Directors



**Chen Hong**  
Vice President



**Huang Weizhong**  
Vice President

## Mission

**CRSC**  
中国通号

**1**

Develop indigenous rail transportation industry.

### Mission

**2**

Provide safe and suitable control systems and services for rail transportation to customers at home and abroad.

**3**

Continuous value creation.

Creating values shall be the eternal pursuit of a company. Our company shoulders great political, economic and social responsibility in the country's social and economic development. Creating values is not only represented by increasing economic benefits, reducing operation risks, and enhancing development potential, but also by fulfilling responsibilities. Creating values also means to make joint efforts with shareholders, customers and society, and share those values with them.

Talent is the biggest capital for a company's development. Our company regards people's talents as its major resources, upholding a "people-oriented" principle and seeking common development. The company treats employees well by protecting their fundamental interests. We are also customer-centered by making every effort to fulfill their needs and to grant them satisfaction. Moreover, we respect our cooperative partners, adhering to win-win cooperation and mutual benefits.

Innovation is the momentum for a company's development. We stick to technological innovation and endeavor to promote technological progress of national industries. We also continually encourage our management innovation to strive to be stronger and better. The innovation in technologies and management are the two wheels for the growth of the company. Continuous innovation serves as the inexhaustible impetus for the company's sustainable development.

Quality is the cornerstone for our company's development. The most important political, economic, and social responsibility for us is to provide safe, stable and reliable technologies and products for our customers, which in turn can ensure the safety of rail transportation and the security of people's lives and properties.

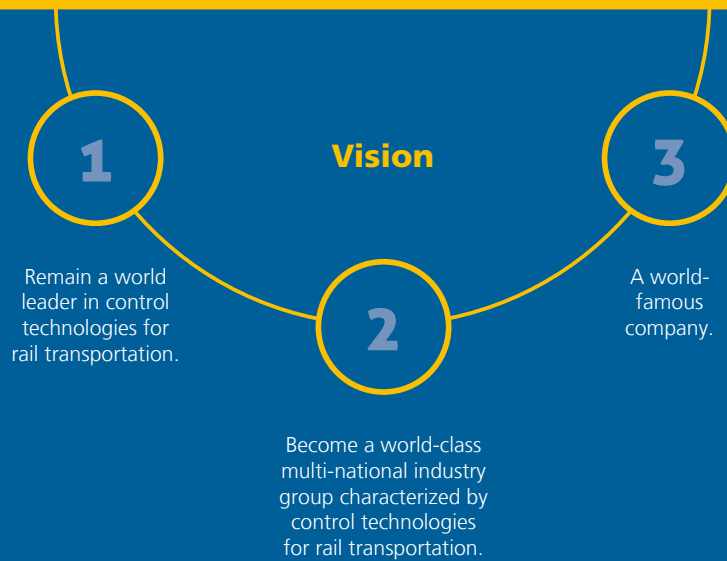
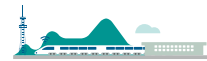
### Core Values

safety-first approach

innovation and progress

Advocate people-first approach

joint value creation



# Corporate Governance

CRSC endeavors to maintain a high-level of Corporate Governance to ensure the interests of its shareholders as well as to enhance the company's value and accountability. The company established a three-level management system; namely the first level is the headquarters, the second level is specialized groups or companies and the third level is business and operation units.

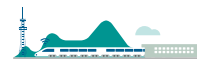


## Governance Framework

According to requirements of the Rules and Guidance on Listing Matters, the Company Law and other laws, regulations and other usual documents, CRSC formulated an effective regulatory framework and constantly reviews it to improve the internal supervision and management mechanism. We also do work for the company information disclosures, investor relation management, and investor services according to the law.

### CSRC Governance Framework





**CRSC received the titles of The Best Listed Company and The Best Secretary of the Board from the China Financial Market magazine in 2016**

Since the public listing on the Hong Kong Stock Exchange, CRSC has gained extensive attention from international investors due to its excellent business performance, strong competitiveness and great development potential. At the ceremony of China Financial Market Listed Companies Award in 2016, hosted by the high-end financial magazine China Financial Market, Hu Shaofeng, the company's Board Secretary was awarded the Best Secretary of the Board; a testimony that the comprehensive strength, value and brand image of the company have received high appraisal and recognition from the financial market.

As an experimental company of the state-owned enterprise reform by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), according to the guidance of the "1+N" policy system, CRSC adopted two modes of trials. That is to say that the trial of comprehensive reform and the trial in specific sections, that CRSC implemented 9 pilot reform measures in its subordinate Communication & Information Corporation (CRSCIC) which is within a completely competitive market environment. The company then spread useful experience like regulation of the Board of Directors construction and the construction of the Party into Company Articles to other corporations. In particular, the practice of employing professional managers was included into the book series titled 'How to Reform State-owned Enterprises', which is edited by the enterprise reform division of the SASAC; and the initial batch will be published soon.

In the trial in specific sections, through the pattern of "reform+professional manager", CRSC broke through traditional practices and initiated a mechanism for state-owned enterprises to select and appoint cadres, to motivate the vitality and innovation of talents. Meanwhile, through "reform+modern corporate structure," the company introduced the shareholding system to joint-stock enterprises and their subsidiary companies, to energize the development of these enterprises. Moreover, through "reform+reducing management layers", CRSC adopted measures for "controlling increase of new management, combining existing management bodies, reducing redundant management, and eliminating weak management", to strictly control the management layers and enhance management efficiency.

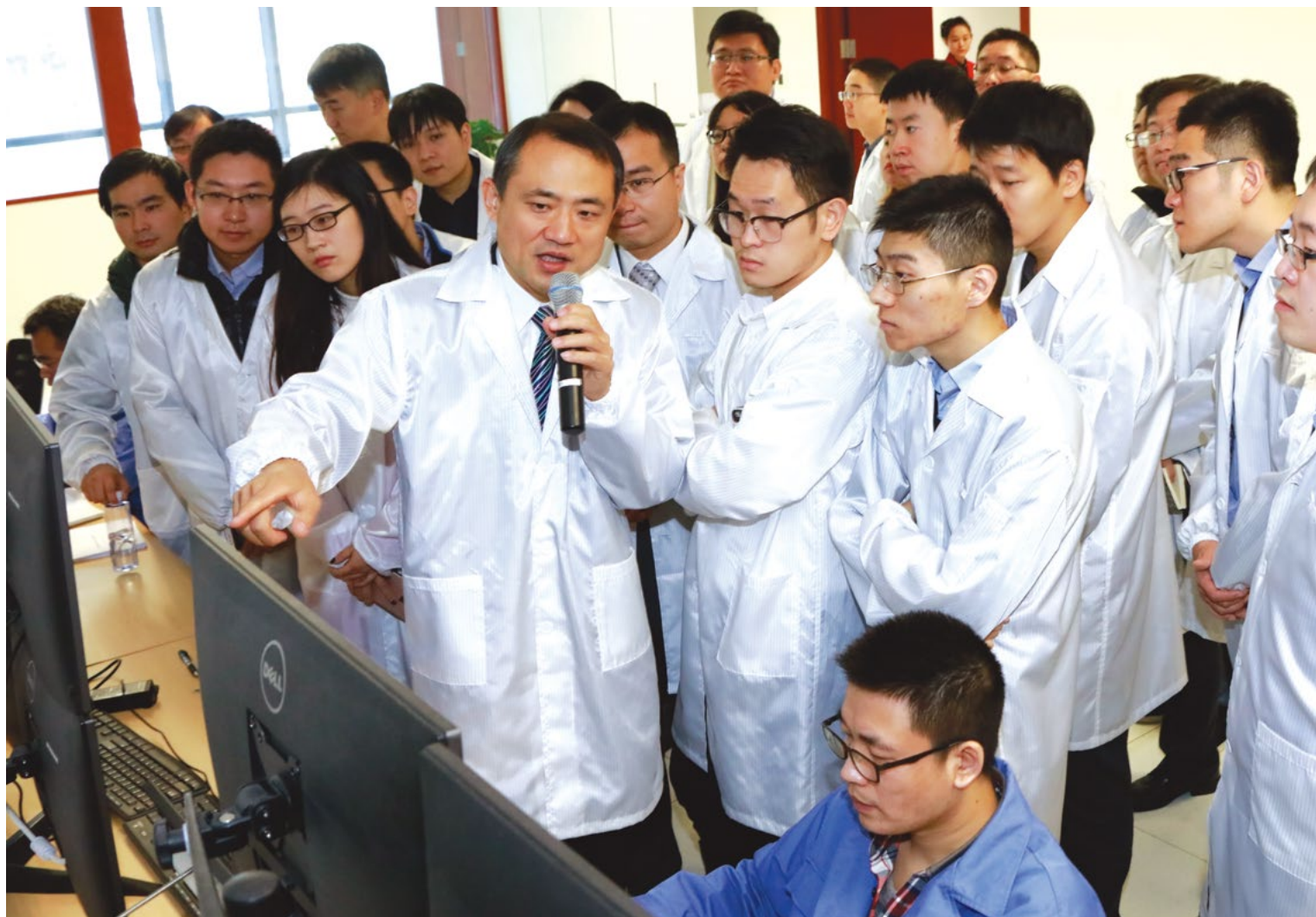


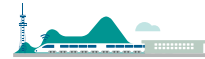
In 2016, CRSC formulated or improved documents related to company management, including Company Articles and the Working Rules of the Board of Directors' Quality and Safety Committee. It became the first H-Share Company listing on the Hong Kong Stock Exchange to include the construction of the Communist Party of China requirements into the Company Articles after the issue of the Opinions of the Central Committee of the Communist Party of China and the State Council on Deepening the Reform of State-owned Enterprises on Sept. 13, 2015. We further regulated the company management system and specified functions of different committees of the Board of Directors, to improve the modern enterprise system and to enhance the efficiency of company operations and management. For more information about the specific functions of the Board of Directors, the Board of Supervisors and specialized committees, please refer to the section of "Company Management Report" of the CRSC Annual Report 2016 (HK 3969).

## Risk Control

CRSC accelerated the construction of the inner control system by formulating the Methods of Comprehensive Risk Management and Internal Control Management, Management of Risk Assessment and Management and other management systems. They formulated methods that specify the responsibilities of the company's Board of Directors, managers, as well as functional departments like the legal compliance department and the audit department, in internal control and risk management. This practice aims at effectively preventing and controlling operation and management risks and then promoting the company's sustainable development.

In the beginning of 2016, according to company rules and regulations as well as the requirements from the Board of Directors and managers, the legal compliance department and the audit department organized functional departments at all levels of enterprises to carry out comprehensive risk evaluations, international control appraisals, as well as internal system reviewing and improving. They also conducted risk evaluation and response on major projects, in order to improve the system of comprehensive risk management and internal control management and make sure that the system and relating measures remains valid and are properly implemented. For detailed information of the internal control department and department responsibilities, please refer to the section of "Company Management Report" of the CRSC Annual Report 2016 (HK 3969) .





## Anti-corruption

CRSC has always included anti-corruption work into the company's operations and management, and has formed an atmosphere of "not daring, not able, and not willing to commit corruption." The anti-corruption work has achieved initial success at all levels. And all levels of Party organizations are proactively strengthening the sense of responsibility and engaging in creating a clean and honest administration.

In 2016, CRSC especially strengthened internal inspections of high-risk posts and reinforced supervision of material purchasing. All levels of discipline inspection departments and

supervision departments conducted whole-process supervisions for the system integration projects in communications engineering, signal engineering, electrical engineering and electrification engineering. Altogether, there were 335 on-site supervision cases of the company's key projects and the centralized purchasing of production materials for secondary subordinate enterprises, involving an estimated total of 7.72 billion and creating 2 volumes of supervision files. This practice substantially promoted the company's "Sunshine Purchase." During the whole year, each employee received an average of 18 hours of training on anti-corruption and there were no corruption-resulted lawsuits.



### CRSC invited the Prosecutorial Department of Railway Transportation to give lecture on preventing duty-related crimes

In November, 2016, CRSC invited the Prosecutorial Department of the Railway Transportation at the Supreme People's Procuratorate to lecture on duty-related crimes. The lecture involved the in-depth analysis of the new trends of anti-corruption in railway transportation and citations of typical cases to specify counter measures and opinions. More than 70 people, including leaders from headquarters as well as principal leaders and discipline inspection commission secretaries of secondary subordinate companies in Beijing, participated in the activity, while principal leaders and disciplinary inspection staff of secondary subordinate companies outside Beijing also took part in the activity at parallel sessions. The lecture was produced on CDs and given to the third-level subordinate enterprises to extend the education into the grassroots level and achieve universal coverage.

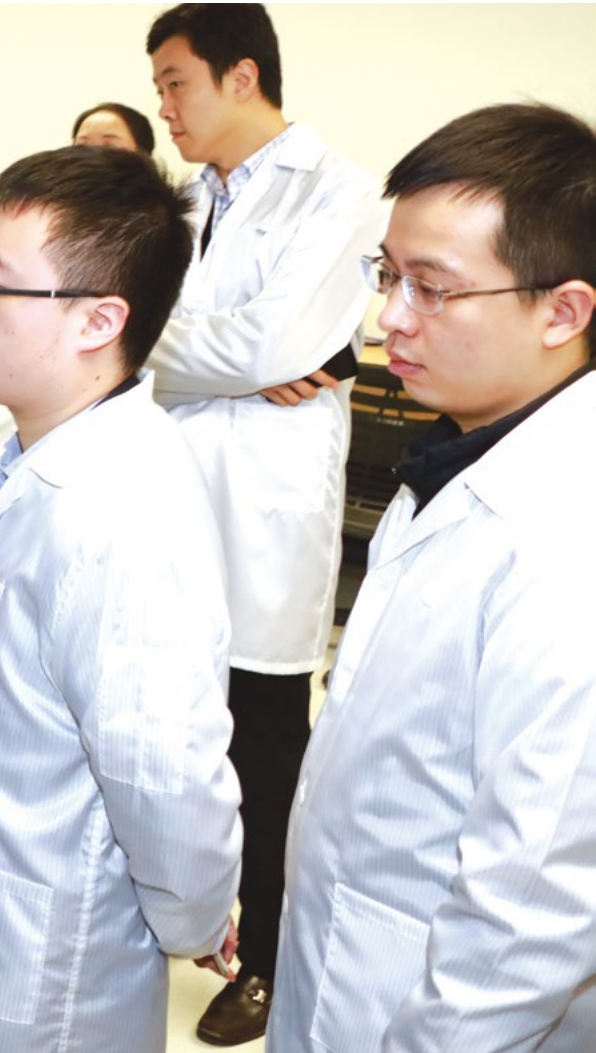
## Investor Communication

Strictly abiding by regulatory provisions of the authority and Hong Kong Exchanges and Clearing Limited (HKEX), CRSC adopted scientific policies and standard operations, and proactively communicate with the capital market and related institutions. Based on requirements from HKEX, we also regularly disclose accurate information in a timely manner, to respond to the concerns from the capital market and to ensure the compliance of the company.



### CRSC successfully held the first investors conference as a public company

In October, 2016, CRSC held an investors conference at the research and development (R&D) center. The company introduced its business in the high-speed railway, intercity railway, subway, streetcar, smart city and other areas to representatives from 40 renowned domestic and foreign security investment institutions. The management also carried out in-depth discussions with participants, answered questions proposed by investors, and showed participants around the comprehensive laboratory of the train control system, the data center, and plants, to allow them a more direct and deep understanding of the company's business.



# Sustainable Development Management

Based on their main business, CRSC identified the factors that have influence on the environment, society and the economy. They have built an effective control system and procedure, to realize the sustainable development of the company and its stakeholders.

## Participating in public welfare undertakings

CRSC is actively taking part in public welfare undertakings such as poverty alleviation, donations and volunteering, and public welfare services in the areas of education, culture and sanitation. During natural disasters and sudden events, CRSC is a firm supporter of local government and railway authorities by proactively providing manpower, financial and material resources.

## Running business with integrity and abides by law.

CRSC is committed to the legal operation and highest standards of integrity, business ethics and industry regulation when working with all stakeholders, including investors and creditors. CRSC embraces the value of paying taxes in full amount, committing to the execution of contract, and keeping commercial credit. We are against unfair competition and business corruption.

## Improving profitability

CRSC is dedicated to perfect the corporate governance and enhance management level. We consistently carry forward the implementation of CRSC Group's development strategy by highlighting the strength of main business and technological innovation. CRSC has always been devoted to the rational allocation of resources to reduce operating cost with the precaution of risk prevention. Consequently, CRSC's production has gradually been more cost-effective, and thus the sharpening of market competitive edge.

## Focusing on employee's legal rights

CRSC signs labor contracts with employees according to the law. We ensures and reasonably adjust the salaries according to the corporate profitability and pay social insurance in full amount. CRSC respects employees and treats everyone fairly without discrimination against their gender, nationality, religion, and age. We embrace the value of vocational training and providing equal opportunities for them. CRSC strives to create more job opportunities for society and pays attention to the formation of employee representative congress mechanism. CRSC is open to democratic management, and we care about every employee's mentality and try to solve their problems together with them.

## CRSC's commitment to product quality and service level.

CRSC is committed to the implementation of the management system which integrates quality, environment and vocational safety. CRSC values the quality awareness in every aspect of its business from product design, manufacturing, construction, installation to customer service. We seek to deliver these core values to every employee, and at the same time CRSC strives to enhance the performance, reliability and security of products to meet the requirement of railway and mass transportation to the largest extent.

# Sustainable Development Management

## Safety production

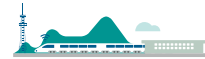
CRSC strictly sticks to the system of responsibility in safe production, increases input to ensure safety and prevents big or extraordinarily serious safety-related accidents. CRSC is also dedicated to building an emergency management system to increase its capability to face sudden events. CRSC is committed to providing a safe and healthy working environment. We equip employees with products and equipment that are safe for use. We also focus on implementing and improving processes and controls for preventing work-related accidents, injuries and illnesses.

## Promoting independent innovation and technology progress

CRSC is committed to establishing and optimizing its technological innovation mechanism by sharpening its capacity to be more originally innovative, integrated creative and re-innovative after introduction, digestion and absorption of other technologies. CRSC is focused on the system building of Chinese high-speed railway train control system and auxiliary products by speeding up the construction of technological innovation bases and basic equipment research and development platforms. We are making efforts to speed up the product upgrading and technical equipment modification. CRSC is devoted to protecting intellectual property rights and improving the protection of intellectual property rights system to form a core technology and product system equipped with proprietary intellectual property rights and relatively complete kit. Consequently, CRSC would play as a role model in the industry development and the Group's sustainability.

## Reducing our environmental impact

CRSC is committed to environmental leadership in all of our business activities, including energy conservation and emission reduction during operation process. Environmental protection for CRSC means taking care of the long-term economic, social and environmental health of our company and the communities in which we operate by increasing environmental input, improving technical process, reducing pollutant emission, optimize construction methods, decreasing land occupation, protecting forests, and implementing clear production. CRSC strives to be a leader in the industry to develop, manufacture, and market products that are energy efficient and that minimize their impact on the environment.



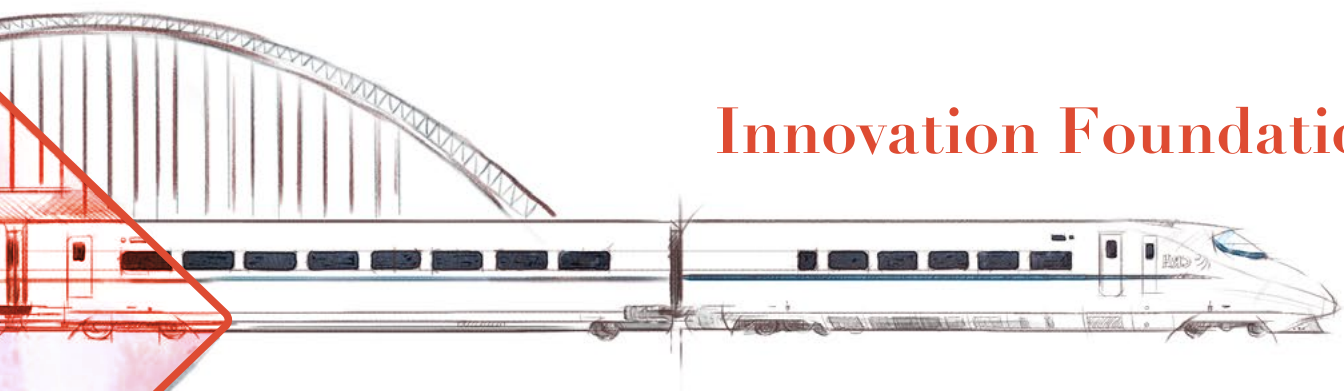
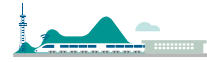
## Stakeholder Communication

As the closely groups related to CRSC's development, stakeholders play an important role through their interaction with CRSC. With establishing effective communication channels and maintaining frequent and effective communication, CRSC takes timely action and responds to stakeholders' needs.

### CRSC stakeholders communication in 2016

Stakeholder types	Expectations	Communication channels
Government	<ul style="list-style-type: none"> <li>• To implement macro policies</li> <li>• To operate honestly and legally</li> <li>• To pay taxes according to law</li> <li>• To promote employment</li> <li>• To drive local economic development</li> </ul>	<ul style="list-style-type: none"> <li>• Work report</li> <li>• Conferences</li> <li>• Supervision and inspection</li> <li>• Information reporting</li> </ul>
Shareholders and investors	<ul style="list-style-type: none"> <li>• Good operation performance</li> <li>• To preserve or add the asset value</li> <li>• To disclose information</li> <li>• to reduce operation risks</li> <li>• to protect the interests of shareholders and investors</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate annual report, middle term report and announcements</li> <li>• performance conference</li> <li>• general meeting of shareholders</li> <li>• investors conference</li> <li>• reporting and communication</li> </ul>
Clients	<ul style="list-style-type: none"> <li>• to perform contracts</li> <li>• product quality and safety</li> <li>• to offer premium service</li> <li>• to protect clients' information</li> </ul>	<ul style="list-style-type: none"> <li>• clients visiting and communication</li> <li>• satisfaction survey</li> <li>• telephone, e-mail, letter, and on-line feedback</li> </ul>
Employees	<ul style="list-style-type: none"> <li>• to protect staff interests</li> <li>• to clear the career development route</li> <li>• staff caring</li> <li>• to offer rational salary and welfare</li> <li>• to enhance the management of overseas stall</li> </ul>	<ul style="list-style-type: none"> <li>• general meeting of staff representatives</li> <li>• training and education</li> <li>• daily communication</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>• to be honest and trustworthy</li> <li>• open, fair and legal procurement</li> <li>• to support suppliers' development</li> <li>• information confidential</li> </ul>	<ul style="list-style-type: none"> <li>• open tendering</li> <li>• carrying out cooperation</li> <li>• industrial communication and exchanges</li> </ul>
Cooperation partners	<ul style="list-style-type: none"> <li>• to be honest and obey the law</li> <li>• to abide by business ethics</li> <li>• win-win cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• high-level visit exchanges</li> <li>• regular communication and exchanges</li> <li>• implementation of agreements or contracts</li> </ul>
Industry	<ul style="list-style-type: none"> <li>• fair competition</li> <li>• technology innovation research</li> <li>• to promote the industrial development</li> </ul>	<ul style="list-style-type: none"> <li>• enhancing communication with peers</li> <li>• industrial forums and conference</li> <li>• research tours and visits</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• of environment</li> <li>• to save energy and reduce emissions</li> <li>• to save resources</li> <li>• to improve the awareness of environment mental protection</li> </ul>	<ul style="list-style-type: none"> <li>• application of energy saving technology</li> <li>• publicity of environmental protection conceptions</li> <li>• environmental information disclosure</li> </ul>
Community	<ul style="list-style-type: none"> <li>• to take part in community construction</li> <li>• public welfare activities</li> </ul>	<ul style="list-style-type: none"> <li>• community publicity</li> <li>• symposium</li> </ul>





## Innovation Foundation

As the world's biggest supplier of railway transportation control systems, CRSC possesses a highly independent research and development (R&D) system, and high-quality research and development personnel, promoting the breakthrough and progress of China's railway transportation; for an example, in terms of the signaling system. High-speed railway has become modern China's new name card.

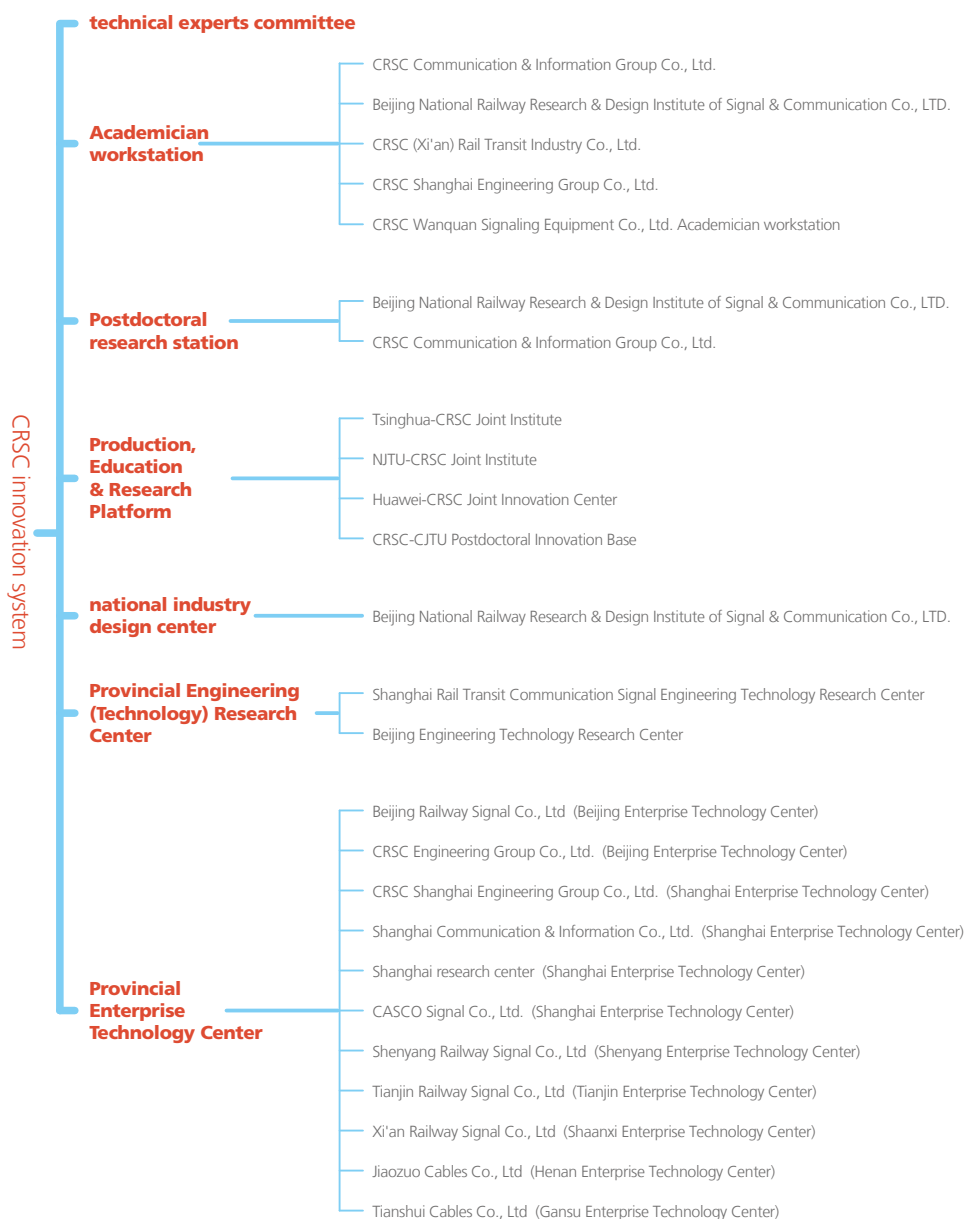
Improve Innovation Management System	24
Build Talent Innovation Platform	26
Facilitate Technological Innovation	27
Promote Industrial Technological Progress	28

## Improve Innovation Management System

➤ CRSC constructed a technological innovation system characterized by “market oriented, R&D platform as the center, and integration of production, research and application, ” to regulate technological activities related to R&D, technological standards, intellectual property and result promotion. Meanwhile, the company vigorously promoted the R&D and innovation of system technologies and related products, maintaining a leading role in the application of technologies like the train control system and CBTC ultra-high-speed wireless

broadband control system for intercity railways. In addition, closely following the industrial trend and market needs to adjust its R&D focus, CRSC independently developed technologies in areas like modern streetcar, informatized communication and the Internet of Things, in an effort to make more progress in constructing a technology system of communication signal and information-based system and developing complete equipment covering the entire railway transportation market.

### CRSC innovation system



### scientific and technological strategy

- Persist the combination of market orientation and business development needs.
- Persist the combination of independent innovation and open and compatible.
- Persist the combination of focusing on the present and looking forward to the future.
- Persist the combination of mastering core technology and improving general integration capability.
- Persist the combination of innovation of internal system and mechanism and outside cooperation.

### scientific and technological goals

- Improve capability for scientific and technological innovation in a comprehensive way
- Make the transition of the system equipment form "CRSC Built" to "CRSC Create"
- Become the most extensive product coverage and the strongest supporting capacity in the field of signal based equipment.
- Accelerate diversified business development, expand the new space of enterprise development.

### scientific and technological guidelines

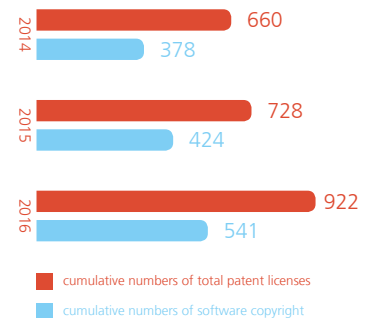
- Improve top-level design and construct science and technology innovation system.
- Adhere to independent innovation to promote corporate restructuring and upgrading.
- Strengthen the control of science and technology and improve the ability of innovation.
- Adhere to the standard lead and perfect standardization system of the company.

In order to ensure continuous R&D input and provide momentum for innovation, CRSC formulated and implemented the Regulation on the R&D Project Fund Management, to reinforce the management of R&D budgeting and use of budget and to optimize the mechanisms for project approval and implementation and finally, the scientific management of technologies and efficient use of resources.

CRSC attached high attention to protecting intellectual properties by strictly implementing

the Regulation on Intellectual Property Management. We formulated and improved systems pertaining to intellectual property management in secondary subordinate enterprises, and encouraged all employees to declare invention patents and to register for software copyrights through the proper channels. We also actively participate in trainings held by local intellectual property management departments regarding patents and have kept ourselves updated with new trends and policies regarding intellectual property.

### Patents authorized in 2014-2016 in CRSC

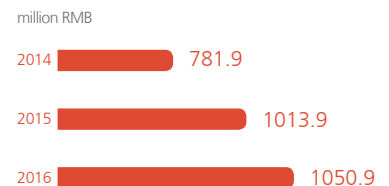


### CRSC railway transportation R&D center

The center has the world's biggest comprehensive laboratory for railway control system, and both the number of railway test cases accumulated and the degree of simulation in laboratories are also of the world's best. By the end of 2016, the center had built 34 laboratories, covering business of signaling, communication, and informatization in high-speed railway, ordinary-speed railway, intercity railway and urban rail transit. It has

become an important platform for R&D for railway transportation products and system integration. The center endeavors to be at the frontier of core technologies in domestic railway transportation and further solidify and enhance CRSC's status as an industrial leader in signaling, communication, and informatization. In this way, CRSC can become a strong support for progress in key technologies of railway transportation in China.

### R&D Input in 2014-2016 in CRSC

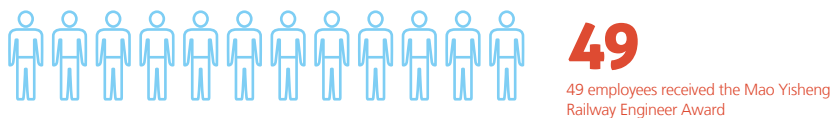
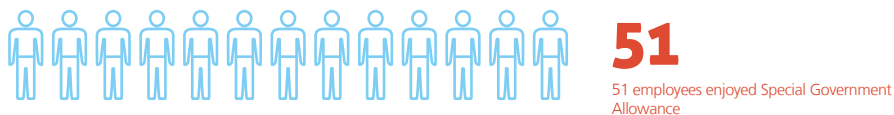


## Build Talent Innovation Platform

➤ CRSC formulated and implemented incentive measures for technological innovation, by establishing mid-and-long term incentive mechanisms for talents. For example, it sets up bonus funds for major R&D projects, and also offers a large platform for talents to create values and to develop themselves through transforming technological results into virtual stock rights and building venture capital investment mechanisms. All subsidiaries also relate performance assessment with technological innovation to motivate employees' enthusiasm and creativity. They have their mechanisms for evaluating employees' performance as well as authorizing science and technology awards, based on their own conditions in project progress, results transformation into application, and intellectual property declaration. As of the end of 2016, CRSC had 3,399 scientific research personnel, accounting for 23% of the total.

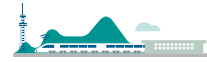
In 2016, two new national-level innovation platforms and one provincial-level innovation platform were built in CRSC, among which CASCO was certificated as the "National-level Enterprise Technology Center" by the National Development and Reform Commission, and "National-level Technological Innovation Demonstration Enterprise" from the Ministry of Industry and Information Technology. In addition, CRSC built a city-level academician expert workstation in Taizhou City which has passed the examination. The workstation provides complete solution plans of intelligent control and vehicle manufacturing technologies for urban rail like streetcar and monorail train.

### By the end of 2016, in CRSC



### By the end of 2016, HKEC had





## Facilitate Technological Innovation

➤ Aiming at the most advanced technologies in the industry, CRSC strengthened the top design for technological development and independent innovation, in an effort to realize independent innovation in basic technologies and to enhance the capacity in original innovation, integrated innovation and innovation through reverse engineering. CRSC strived to synthesize core technologies and make China's own technologies strong enough to support the development of high-speed railway and other rail transportation.

CRSC always believes that technology is the key for company development and promotes independent innovation of core technologies in signaling and communication. It actively engages in national and provincial level major scientific research projects and tries to break through bottlenecks restricting technological

development. The company has made several great scientific and technological achievements. In 2016, CRSC participated in a series of national major scientific research projects including "key technologies for passenger transport equipment with a speed of 400kmph and above--- operation and maintenance system for cross-border high speed trains" and "key technologies for maglev transportation system-high-speed maglev transportation system research". Moreover, the research on fully automatic driverless CBTC system has finished vehicle-mounted engineering prototype, tests and confirmation before delivery. CRSC provides a powerful technical support for China's railway modernization and urban rail transit construction, laying a solid foundation for the country's "Belt and Road" initiative and the "going out" strategy.



### CRSC won 2015 China Railway Society Science and Technology Awards

In 2016, at the ceremony for China Railway Society Science and Technology Awards, seven results from CRSC were awarded, among which "improvement and application of the automatic block system" and "development and application of railway signal centralized monitoring system" won the first prize. Awards CRSC received at the conference covered

a wide range of areas, like railway signaling and communication engineering, communication technology, signal detection technique, information security technology, and integrated circuit design technology, showing the company's innovation capacity and level which can greatly enhance national railway development.



## Promote Industrial Technological Progress

➤ Relying on strong technological innovation capacity and rich experience in product service, CRSC conducted open cooperation and exchanges with partners in various channels, creating a vigorous industrial eco-system and promoting the sustainable development of the industry and surrounding industries. At the same time, adhering to the principle of win-win cooperation, CRSC actively sought in-depth cooperation with top universities and colleges, enterprise and institutions from home and abroad. It gradually developed and improved a pattern of collaborated innovation among enterprises, universities and research institutes, forged a sound industrialized operation mode, and drove the innovation and progress of the whole industry.

CRSC is China's designated enterprise responsible for developing train control systems as well as making technological standards and product standards. It is the only enterprise authorized by the National Railway Administration that can examine and approve standardized technologies for railway systems as well as signaling and communication products. It led the formulation of technological standards for train control systems for CTCS-0 to CTCS-3 levels of trains.



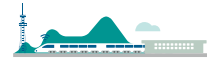
### CRSC passed examination of the outline for railway industrial standards

In January, 2016, the outline for the Standard for Constructional Quality Acceptance of Railway Signal Engineering compiled by CRSC passed the examination. According to requirements from the National Railway Administration and China Railway Economic and Planning Research Institute, the Standard concentrated on the revision of 17 acceptance standards for ordinary-speed railways and high-speed railways. The outline offers a framework and a good foundation for further compilation of the content.

### Railway Signaling & Communication Engineering

In order to promote industrial technological innovation and to build a platform for scientific and technical personnel to exchange ideas on railway signaling and communication as well as information technology, CRSC published a magazine. It was approved by the State Administration of Press, Publication, Radio, Film and Television. In December 2015, CRSC began to issue the magazine 'Railway Signaling & Communication Engineering' to domestic and foreign readers. The magazine discusses, analyzes and does follow-up reports on major projects, excellent designs, and international advanced technologies in railway and urban rail transit signaling and communication. It is also a platform for related personnel and professionals to exchange knowledge on new technologies and scientific results. Moreover, it also offers timely reports on policies, standards and trends in related areas, hence serving as a reference for enterprises and universities that develop, research or produce railway signaling and communication products.





In September 2016, the InnoTrans 2016 International Trade Fair for Transport Technology was held at ExpoCenter City, in Berlin, Germany. As the world's largest supplier of solutions for train control systems, CRSC attended the event with its world leading technologies and equipment for railway transportation control system as well as the whole industrial chain of streetcar manufacturing and train control systems.

By the end of 2016, CRSC



## 500

formulated more than 500 regulations and standards on railway communication and signaling including Code for Design of Railway Signaling and Code for Design of GSM-R Digital Mobile Communication System of Railway; and 167 of them were finished in 2016

## 200

was authorized to manage a total of 200 Chinese railway communication and signaling equipment and system standards, which are currently valid or planned to be formulated; and 121 of them were completed in 2016

## 100

participated in more than 100 standard formulation projects for Chinese railway signaling systems and products

## 1

declared one ISO proposal to the Technical Committee of Railway Applications (ISO/TC269) at the International Organization for Standardization in 2016

By the end of 2016, CRSC



## 199

led the formulation and revision of 199 system and product standards, among which 12 were national standards and 183 were industrial standards

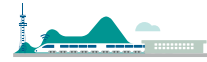
## 159

formulated nine of a total of 13 national standards for signaling technology, and 91 of a total of 159 industrial standards

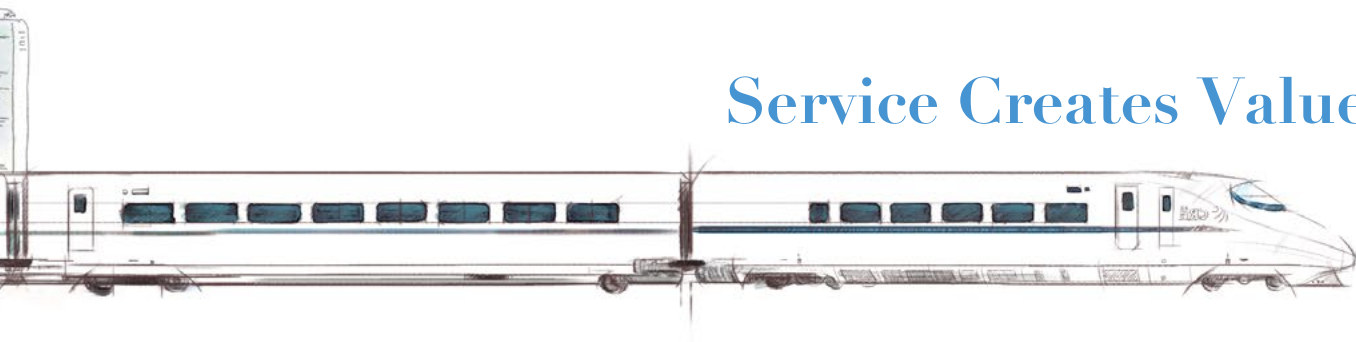
## 18

participated in the formulation and revision of 18 engineering construction standards, among which 4 were national standards and 14 were industrial standards





## Service Creates Value



As a forerunner and leader in China's railway transportation system industry, CRSC has always been safeguarding the country's railway transportation safety. From equipment and technology to personnel and management, the company makes the country's railway transportation operation increasingly safer, more stable, and more reliable. On the basis of solid traditional business, the company vigorously develops new business areas, seeking cooperation within areas like smart city building, information technology, and intelligent architecture as well as with telecom operators in communication construction and maintenance.

Sound Quality and Safety System

32

Enrich Product and Service

34

Facilitate Smart City Construction

36

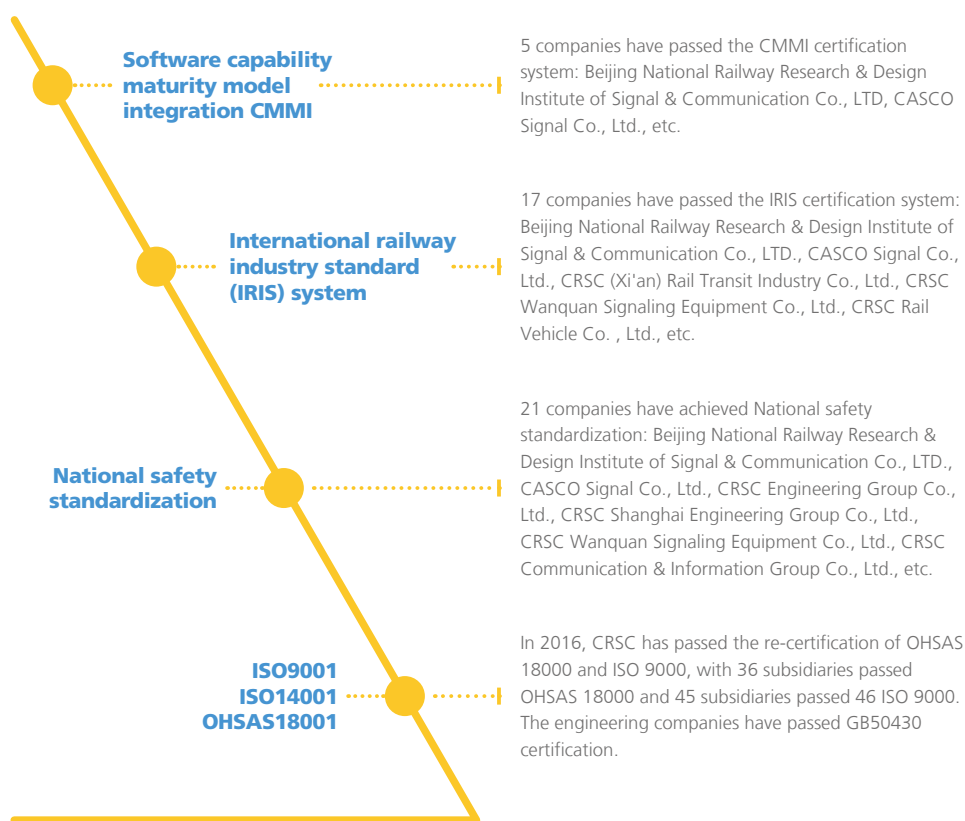
## Sound Quality and Safety System



CRSC always upholds the concept of "Quality is the lifeline and safety is the top priority." It introduced the international standards for safety management, strengthened the top-design, and constantly improved and integrated various management systems like the organizational system, management system and the guarantee system for quality and safety as well as the occupation health safety management system to gradually enhance the efficiency and effectiveness of these systems.

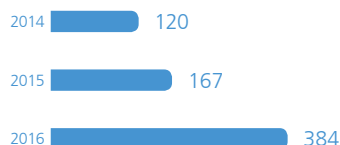
The company created the safety production committee to be responsible for safety production affairs and policy-making in this regard, with a Chairman as the director and principal management as the committee members. The company also issued the Safety Production Inspection System, The Safety Production Responsibility System (New Version) and the 13th Five-Year Plan on Quality and Safety in 2016 were also passed to further systematize and increase the effectiveness of quality and safety management work. In 2016, CRSC received the OHSAS 18000 and ISO 9000 certifications, while 36 of its subsidiaries received the OHSAS 18000 Certification and 46 subsidiaries received the ISO 9000 Certification.

### CRSC safety and quality certification system



### CRSC Input in Safety Production in 2014-2016

Unit: million RMB



CRSC strengthens safety control at the five links of a product's full life circle to make sure that safety requirements are properly handled at every stage; therefore, the risks can be controlled, transferred, eliminated or reduced. Also, while new high-speed railways went into operation each year, the failure rate of products declined for years. All on-orbit systems and equipment have remained in safe and reliable

operation. In 2016, six general products from the company's affiliated design institutes, CRSC (Xi'an) Rail Transit Industry Co., Ltd acquired product-level safety certifications, and eight subway projects from CASCO and CRSC Beijing Urban Transit Technology Co., Ltd. passed the special-application safety assessment. In 2016, there were no fatal accidents or severe injury due to negligence in the company.

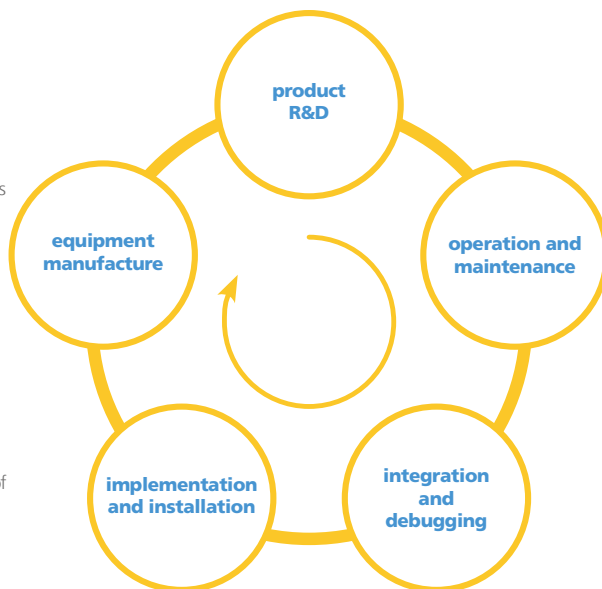
In order to prevent production incidents or reduce the damage of incidents, CRSC established a safety production emergency management committee and a leading group for emergency rescue of major safety production incidents. It also formulated the Regulation on Production Safety Emergency Management and a Comprehensive Emergency Plan for Major Safety Incidents to comprehensively and systematically specify the procedure and disposal plan for all types of incidents.

CRSC attaches great importance to building a culture of safety and quality. It issued the Regulation on Safety Education and Training to reinforce training on safety and quality as well as cultivation of personnel in these fields, so as to build a professional team in accordance with the company's strategy of "relying on one major industry while developing related industries". In 2016, the company conducted the Safety Month and Quality Month activities. Activities included training for safety management personnel, special operating personnel, new staff, and front-line workers. The training involved three-degree safety education, safety operation rules and other content. Each employee received an average of 4 hours' training.

### RSC safety controls in product life-cycle

CRSC refines product design and development process, makes clear of critical quality control points and control requirements. We analyze and calculate the reliability and safety of the product, and convey safety requirements in a timely manner. We ensure that final product meets relevant safety standards and all main products concerning the safety of rail transportation meet the standards of SIL4 which is the highest standard of its kind.

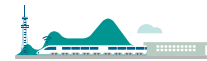
CRSC strengthens control of production process, and conduct manufacture process in strict accordance with design standards and plans. We emphasize the importance of the study of technology files and inspection code. We implement the Process Failure Mode and Effect Analysis in full range, and make clear of the risk source in production. We operate in accordance with codes and rules so as to ensure that product technology is of high quality and safety standards are met.



CRSC steps up efforts to enhance operation and maintenance. We write detailed operation manuals and training textbooks for various products and inform the units responsible for the operation to strictly follow our instructions in manuals and textbooks to operate and manage relevant safety products or to formulate safety control measures.

CRSC strictly follow the implementation standards, conduct detailed analysis of installation safety and construction on quality safety. We identify critical points of safety and quality, and adopt corresponding construction method and process research to ensure implementation techniques and strengthen quality control during implementation and installation.

CRSC strictly follows rules and regulations, instill enormous efforts into the safety analysis of system integration, inspect and test the quality of products, communicate with construction companies and users in a timely manner. We spot and identify management, technical and safety problems in the process of integration of debugging and take effective measure to address them.



### Safety Month

In June 2016, CRSC held the Safety Production Month and safety production publicizing activities, and printed and gave out safety production plans in the whole company. Sticking to the principle of "Safety the top priority, protection first and comprehensive management," CRSC assumed the primary responsibility for safety production. Themed on "strengthening the safety development concept and enhancing people's safety awareness," plenty of publicizing activities were held which yielded remarkable results.

### Quality Month

In September 2016, CRSC held the Quality Week activity, focusing on "enhancing quality of supply and building a country characterized by quality products." Activities included training and skill competition, and stressed public involvement, so as to lay a good foundation for future quality management and implement quality management measures. More than 19,300 people took part in the activity. At the same time, the company combined the Quality Week with production, and made the concept run through the whole year by creating good atmosphere for safe production.

### Awarding Quality Management Team

In April and May 2016, CRSC organized meetings to announce achievements made by quality management teams. Altogether, 52 achievements in R&D and design, manufacturing, engineering construction and system integration were presented.



## Enrich Product and Service



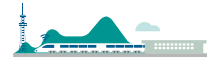
### Chinese standard for the first time adopted in modern African railway

In 2016, CASCO, CRSC's subsidiary company, provided the advanced signaling system for Nigeria's Abuja-Kaduna railway. The railway connects the country's capital Abuja with Kaduna, one important city in north-central Nigeria. It is the first modern African railway to use Chinese standard, and also Nigeria's first modern railway. The railway went into operation on July 26. As the signaling system supplier, CASCO built the core signaling system, the VPI computer interlocking system, for all nine stations along the railway. After the railway was put into use, the travelling time between the two cities was reduced to one hour from the original three hours, greatly facilitating exchanges of people and goods between them, and in turn, driving the country's economic development. Also, the railway promotes export of China's railway products and the economic cooperation between the two countries.



CRSC is customer oriented all the time. Relying on the rich service experience, the company provides the one-stop service for customers in design consulting, tailored development, system integration, equipment manufacturing, construction and installation, system debugging, and operation maintenance.

As China's biggest railway transportation control system equipment manufacturer, CRSC has 13 modern production bases all over the country. In order to conform to the expanding scale of China's railway network, construction of new major railway transportation hubs and modernization of technologies and equipment, the company endeavors to enhance the level of technologies and manufacturing techniques to meet the needs of high-speed railway construction and to serve its customers.



CRSC has four subordinate engineering & construction groups, that is, China Railway Signal & Communication Shanghai Engineering Bureau Group Co., Ltd., Railway Signal & Communication Engineering Bureau Group Co., Ltd. (CRSCE), CRSC (Zhengzhou) Electrification Bureau Group Co., Ltd., and China Railway Signal & Communication Construction Co., Ltd. They play a significant role in fostering the company's distinct advantage in design and R&D, equipment manufacturing and project delivery for railway transportation. Also, based on the company's strength in brand reputation, capital, management

and technologies, these groups have made great progress in railway signaling and communication system; integration of communications engineering, signal engineering, electrical engineering and electrification engineering; engineering, procurement and construction and other areas, which contributes to the increase of the company's comprehensive competitiveness and potential. In October 2016, China Construction Industry Association announced the country's Top 200 enterprises for both competitiveness and progress in the construction industry, and CRSC's engineering section was rated 29 on the list.



#### CRSC CASCO took lead in the industry to get the CMMI4 Certification\*

In 2016, CASCO successfully passed the assessment and obtained the CMMI4 Certification, becoming the first enterprise in the industry to have this certification. Ever since CASCO obtained the CMMI3 Certification in January 2009, it kept endeavors in product R&D and innovation in working flows.

\*CMMI, or Capability Maturity Model Integration, jointly developed by the United States Department of Defense and the Software Engineering Institute at Carnegie Mellon University, as well as the National Defense Industrial Association in the United States, is an integration framework for guiding quality and efficiency improvement of software processes on the whole. CMMI defines five maturity levels for processes. The higher the level, the greater maturity the process is.



#### Transformation of Wuhan's railway hub

Hankou Station is China's largest European style railway station and also the "heart" of the railway in Wuhan. It is a station for both ordinary-speed and high-speed railways.

In 2016, CRSC Engineering Bureau Group was designated to transform the station, organized related construction units to cooperate with each other, and completed upgrading the old and constructing new signaling and communication system. They conducted renovation construction, software replacement and system debugging of the station, railway lines running through the station and neighboring sections. They successfully introduced the Wuhan-Xiaogan Intercity Railway into Hankou Station and finished the integration and construction of communication, signaling and information systems. The project was accomplished on schedule and with excellent work, ensuring the regular operation of all trains at the station.

## Facilitate Smart City Construction

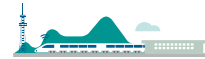


Nowadays, the construction of smart cities is on the rise. Smart city construction can adequately integrate and dig information resources, and utilize the information technology to realize precise and intelligent management as well as the intensive utilization of all sections of a city, and ultimately promote the sustainable development of cities.

CRSC actively joined in China Strategic Alliance of Smart City Industrial Technology Innovation and set up the Smart City Research and

Design Institute Company, to cooperate with institutions from different industries and areas on smart city construction. With its advantage in railway communication and information engineering, targeted at the needs of city development and city residents, and relying on modern information technology, and the Internet of Things, the sensor networks and cloud computing technology, CRSC developed smart city solutions, promoting progress in intelligent transportation, architecture and environment protection, and creating beautiful lives for all the people.





#### Facilitate smart city construction in Tongren city, Guizhou Province

In January, 2016, CRSC won the bid for the Tongren smart city construction project, including project design, purchase, EPC, performance test and all the other work. It involved 10 areas like the building of a cloud data center, database for the city's general information, public information platform, smart tourism, smart emergency response and smart transportation.

#### CRSC's video monitor reinforcement project upgrades Boao security

In March 2016, the light of the surveillance video in Hele Station of the loop high-speed railway which encircles Hainan island turned on, signifying the completion of the main work of the video monitor reinforcement project, and then the project entered the debugging stage. CRSC was responsible for system integration of the project. Previously, the company constructed the train control system for the railway. The railway became the first loop high-speed railway with the EyeLine Video Surveillance Software installed. And the project facilitated the all-round upgrading of the security for Boao Forum for Asia.

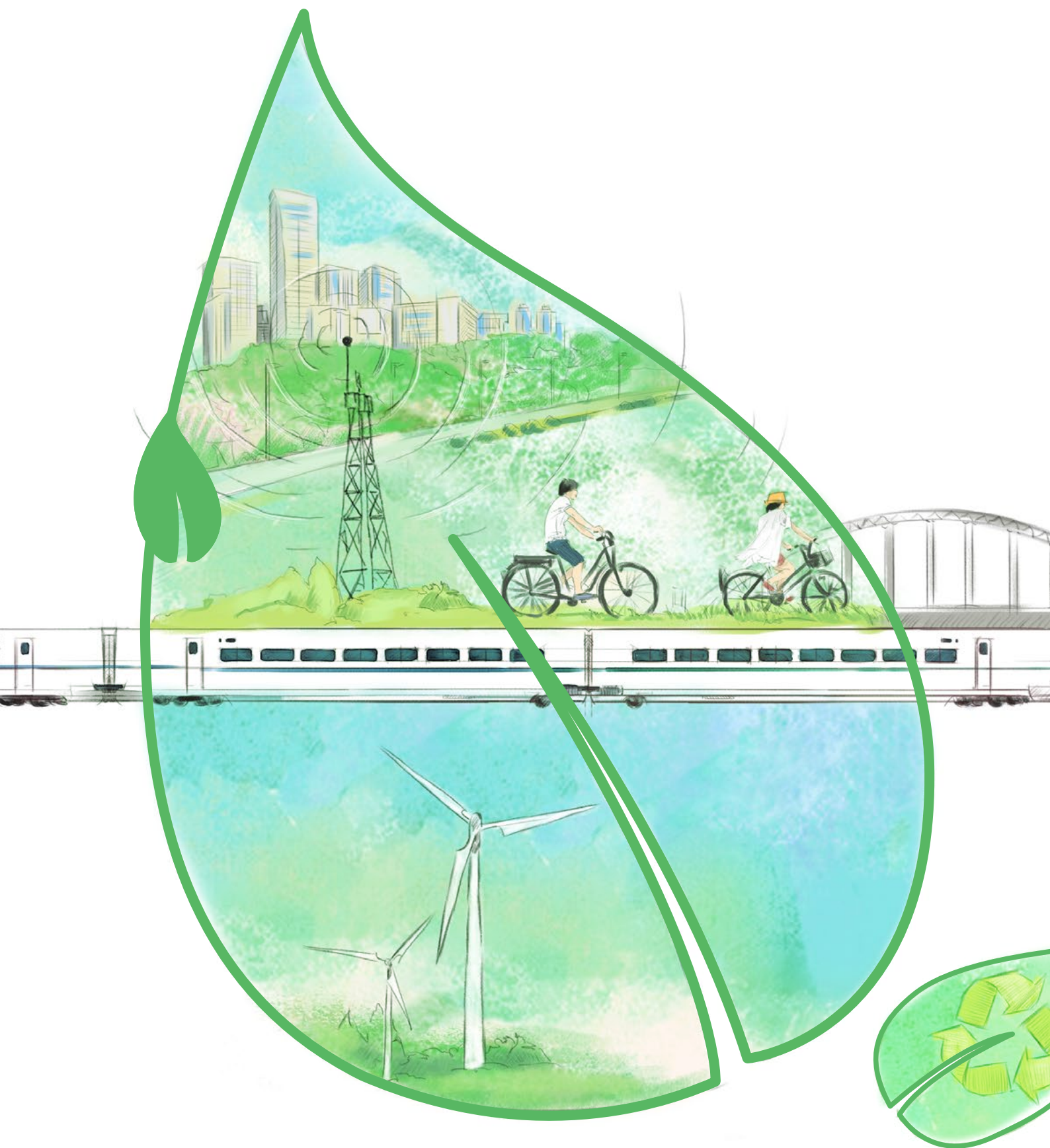


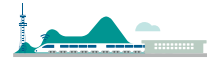
CRSC has accumulated many technologies in the railway transportation industry. As a central government-led enterprise and a state-owned listed company, CRSC responded to the government's call upon the PPP (Public-Private Partnership) project. It is willing and has the ability to make joint efforts with local governments to shoulder the responsibility of investing in infrastructure in underdeveloped regions. CRSC demonstrated the advantage in the entire supply chain, making contributions to local economic and social development.



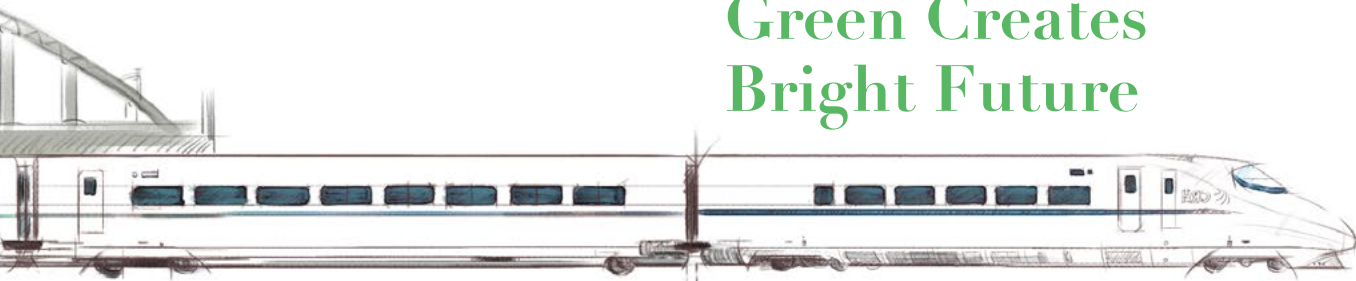
#### CRSC signed PPP contract with Hebi City in constructing Sponge City

The PPP project of investment and financing for sponge cities is a stress in CRSC's capital operation. In 2016, the company signed the PPP contract for building the sponge city in Hebi, Henan Province. The project includes the design, purchasing, construction, investment and financing, operation, and management of the aquatic ecosystem engineering in new city zone of Hebi. Through management and upgrading of the urban rivers and their branch canals in the city, CRSC fulfilled the goals of the project to create "a friendly environment, beautiful landscape and safe aquatic ecosystem".





## Green Creates Bright Future



Fully considering environmental benefits in enterprise operations, CRSC adheres to the path of sustainable development with high-tech content, low energy consumption and low environmental pollution. It fulfills the company's commitment to environmental protection, takes advantage of their own professional and operational advantages to promote green solutions, and strives for the harmonious development of society and the environment while providing environmentally friendly products for the whole society.

Provide Green Product 40

Clean Production and Operation 42

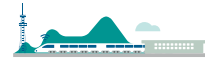
## Provide Green Product



As an important part of green travel, the development of the public transportation industry such as high-speed rail and subway plays an important role in regulating the energy structure of the whole of society and realizing low carbon development of the social economy. CRSC integrates the green low-carbon concept into product development, and gives full play to its

own advantages by changes of process technology, development of energy efficient products and expansion of energy saving environmental protection products with the aim of making travel greener and the traffic condition better, so as to lead the rail transportation equipment industry towards green and intelligent development. Relying on the core technology in the green travel





field, CRSC have been launching new green technology products. In 2016, it released the latest achievements in the development and utilization of energy grading, industrial parks upgrading, information monitoring, intelligent management, online simulation control technology, green building, intelligent buildings and so on and development of numerous products and platforms including the sponge city, monitoring and alarm

system for underground pipe gallery, integrated application system for intelligent building, the intelligence architecture solutions, centralized monitoring system for power and environment, railway infrastructure equipment like screen door, PM2.5 air purifier (device), high speed railway switch equipment like digital simulation platform and so on.



#### **Debut of CRSC in 2016 International Energy-Saving and Environmentally Friendly Products and Technology Exhibition**

At the 2016 International Energy-Saving and Environmentally Friendly Products and Technology Exhibition, CRSC embodied a centralized display of full automatic city rail transit train control system (CBTC), metropolitan train control system solutions (C2+ATO), core technology of medium and low speed maglev train control system, as well as innovative products in the field of environmental protection.

Among those products, PM2.5 air purifier (unit) of rail transit vehicle developed by CRSC adopts advanced technologies like Nano luminescent catalyst and light plasma supported by integrated design of vehicle air purifier; it makes the system of high efficiency, low energy-consuming, low noise and light weight, thus building a new generation of metro vehicle PM2.5 air purification system with independent intellectual property rights in China.

## Clean Production and Operation

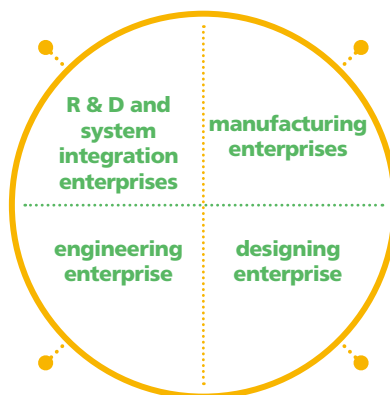


CRSC constantly optimizes the environmental management system and strengthens performance evaluation of energy conservation and emission reduction. It promotes and guides the environmental protection of member enterprises and projects through an environmental protection management system and special supervision activities. After years of three integrated certification work on security and professional health management, quality and environment, the company has formed a complete standardized environmental management system.

The company adheres to the green production concept of the whole life cycle, and promotes the application of new technologies, new materials and new processes for energy saving and emission reduction, and encourages the production, use and popularization of efficient energy-saving products. It strives to minimize the adverse effects of production on the environment and build a resource-saving and environment-friendly manufacturing enterprise while ensuring sustained and steady development in production and operation.

Actively promote the design concept and integration concept of energy saving and environmental protection; in the selection of materials and equipment, give priority to energy conservation and environmental protection technology; adopt low energy-consumption components and equipment configuration so as to ensure energy saving and low carbon quality.

Centering on Made in China 2025, vigorously publicize and implement green manufacturing projects. Take this activity as the starting point, optimize the production process, improve the process technology, eliminate backward production capacity as the key point, and improve the management of energy conservation and emission reduction. In the procurement of production equipment, raw materials and components, Xi'an Industrial Group follows the concept of energy conservation and environmental protection, emphasizes low energy consumption, low pollution and recyclability to achieve effective energy conservation and pollution reduction.



### CRSC National Energy Conservation Awareness Week

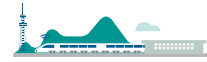
In June 2016, around the theme of "energy saving technology, green development" and "low-carbon green development innovation" of the national energy conservation week and the national low carbon day, CRSC carried out an energy-saving publicity week and low-carbon day. To implement energy-saving and low-carbon in the production practice and office services, headquarters and subordinate companies hold various activities like hanging banners, posters and other promotional activities according to their own circumstances in order to ensure the actual effect and create a strong atmosphere of energy-saving publicity.

Issue Regulations on Occupational Health Safety at the Project Site and Environmental Management of China Railway Signal & Communication Corporation Limited. Bring Environmental Protection Management System and Environmental Protection and Water Conservation into Standard Management Manual for Engineering Construction. Each subsidiary company introduces its Measures for the Administration of Environmental Protection according to relevant national or regional laws and regulations about environmental protection

Advocate green office concept and put up propaganda slogan about energy-saving and emission reduction in eye-catching positions in the office and production place calling on all staff to "Start from minor matter, take action from me". Strengthen resource-concerning thoughts among the staff by holding exhibitions, technical exchanges, on-site experience, radio and other forms of public interest.

For further release of energy savings and emission reduction, CRSC practices the "I contribute to energy conservation and emission reduction" and green travel concept and carries out energy conservation and environmental protection propaganda. We set up a column titled "Suggestions for Energy Conservation" in the OA office system to collect proposals on energy-saving emission reduction from the staff. The trade union committee organized an "eight to eight" labor contest with the aim of propelling energy saving and emission

reduction, creating social benefits and reduce the energy output ratio. During the activity, a special incentive fund is set up as rewards for winning the contest. By improving the workers' awareness of environmental protection and strictly abiding by the laws and regulations on environmental protection, CRSC attempts to reduce energy consumption, ensure pollutant discharge up to standard, reduce or eliminate the environmental impact of the production enterprises and create a good social benefit while maximizing the enterprise benefit.



### CRSC Resource Consumption in 2016



**21506**<sup>MWH</sup>  
Engineering Construction

**42104**<sup>MWH</sup>  
Products Manufacturing



Coal

**8958**<sup>ton</sup>  
Products Manufacturing



Gasoline

**6019.10**<sup>ton</sup>  
Engineering Construction

**4364.53**<sup>ton</sup>  
Products Manufacturing



Kerosene

**3.02**<sup>ton</sup>  
Products Manufacturing



Diesel

**5570.42**<sup>ton</sup>  
Engineering Construction

**1336.95**<sup>ton</sup>  
Products Manufacturing

### CRSC Usage of Packaging Materials in 2016



**593.90**<sup>ton</sup>  
Carton



**3198.94**<sup>ton</sup>  
Wood

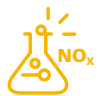


**117**<sup>ton</sup>  
Plastic

### CRSC Emissions in 2016



**41.77**<sup>ton</sup>  
SO<sub>2</sub>



**17.26**<sup>ton</sup>  
NO<sub>x</sub>



**231.20**<sup>ton</sup>  
Wood



**22**<sup>ton</sup>  
Wood



**20.78**<sup>ton</sup>  
COD



**16.59**<sup>ton</sup>  
Hazardous chemicals waste



**446.43**<sup>ton</sup>  
Plastic



**14**<sup>ton</sup>  
Plastic



**3.27**<sup>ton</sup>  
NH<sub>3</sub>



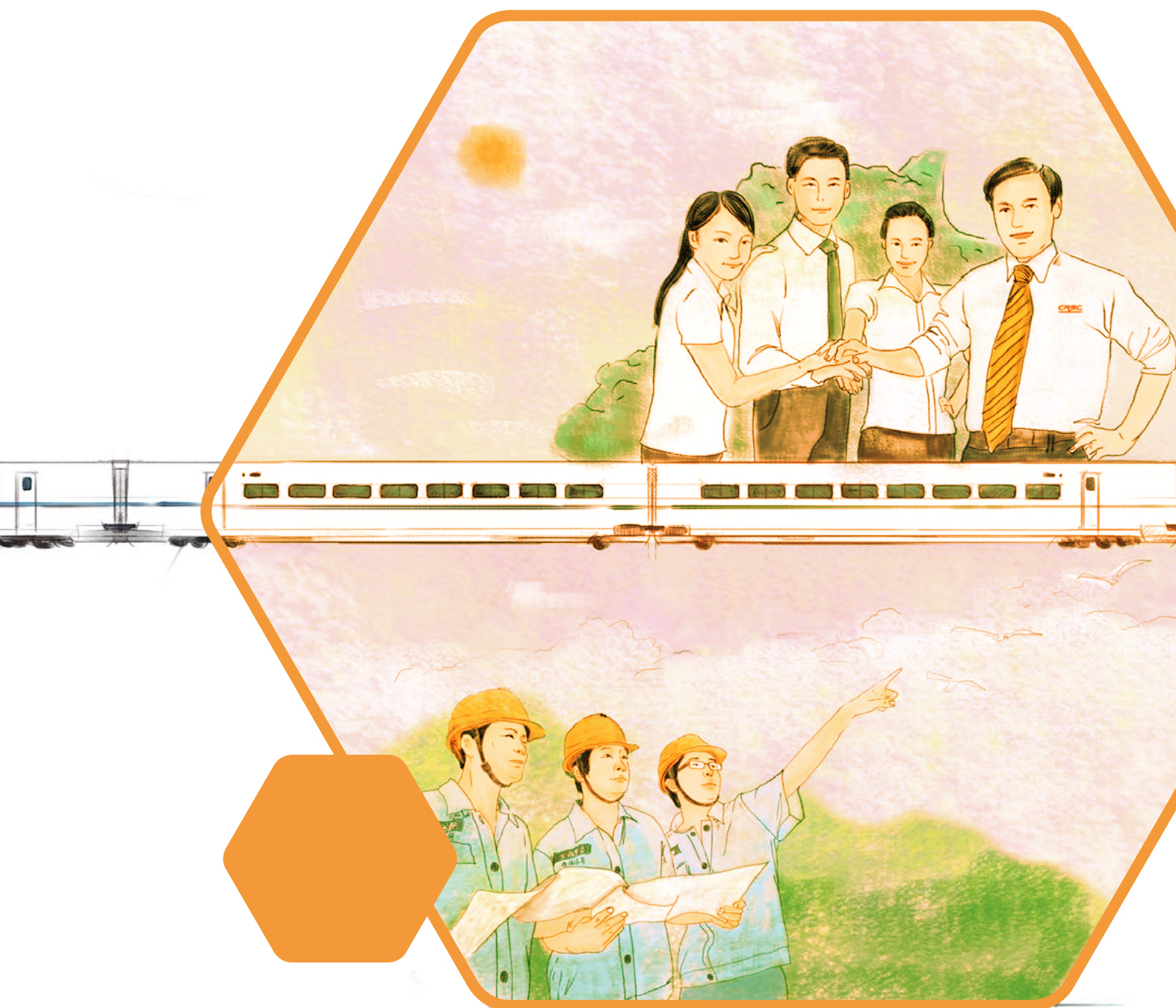
**1757.94**<sup>ton</sup>  
Metal

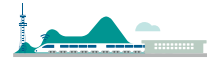


**124.20**<sup>ton</sup>  
Metal

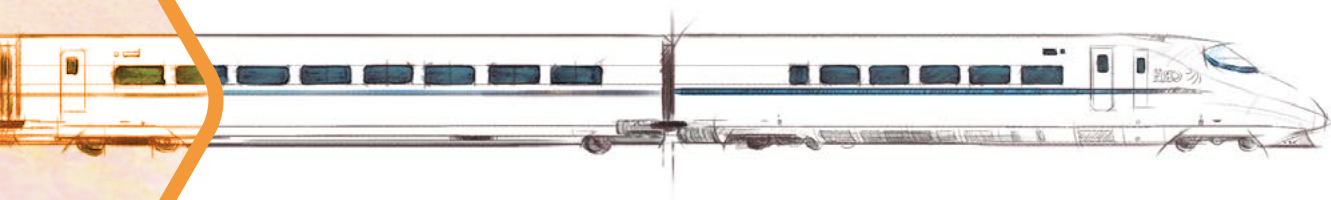


**87.50**<sup>ton</sup>  
Carton






## Good Environment for Talents



CRSC regards employees as their most valuable wealth. The company upholds the principle of “recruiting talents, appreciating talents, nurturing talents and treasuring talents” and implements the talent strategy of “open access and elite concentration” to provide education and training opportunities for employees, create equal development environment, care about the life of staff and propel growth of employees together with the company.

Protect Employee Interests	46
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## Protect Employee Interests

-  The company complies with the policies and regulations for the protection of employee rights and interests, optimizes employee welfare policies continuously, carries out democratic and scientific management, and implements the company's responsibility to employees strictly.

### Protect Interest of Employees

The company strictly abides by the Labor Law, Labor Contract Law and other laws and regulations, fulfill the labor contract signed with employees with no child labor nor forced labor, respect their personality, and treat them equally without discriminations concerning gender, nationality, religion and age. By implementing

Measures for the Implementation of Labor Protection for Railway Female Workers, carrying out "four phases" protection education for female workers and starting the building of "love house", the company tries to protect the labor and rights of female employees.

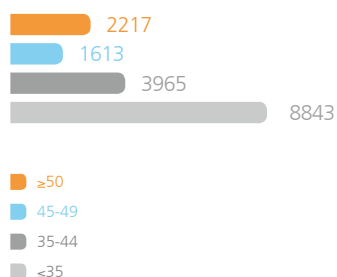
#### Number of employees by type of staff

Unit: person



#### Number of employees by age structure

Unit: person



### Salary and Welfare

The company formulates the Measures for the Management of Staff Salaries at the Company Headquarters and improves the system of employee salaries and benefits; pays social insurance for employees timely and sufficiently, covering 100% of employees; improves the enterprise annuity management system, formulates the Company Annuity Program and pays the enterprise annuity for employees in line with the company's pension plan conditions and voluntarily join the project. It promulgates the Headquarters Measures for Supplementary Medical Insurance Management and provides supplementary medical and personal accident insurance to the staff according to the actual situation, while continuing to enrich employee welfare.

### Democratic Management

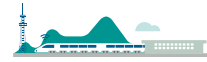
The company further promotes democratic management and strengthens the construction of the system of the Congress. By the end of 2016, the Congress has 40 units established and 31 units holding a Congress. It tries to establish and perfect the system of openness and equal consultation and collective contract system. In 2016, 34 units implemented publicity of factory affairs and 29 units signed collective contracts. It formulated Measures for the Assessment of Model Workers and Staff Homes of the Union. In 2016, the enrollment rate of the labor union was 97.4% of the total, among whom 26.2% were female employees.

#### First Session of the 1st Workers Conference in CRSC

In February 2016, CRSC held the first session of the first workers conference in Beijing. More than 200 persons participated in the meeting, including the Board of Directors, the Board of Supervisors, the senior management team, the leading cadres at the middle-level level and above, and the principal leaders and representatives of the workers and staff members of the enterprises. The meeting approved the following three documents, i.e. Measures for the Implementation of the Congress of Workers and Staff, Measures of the Collection and Implementation of Proposals by Workers' Congress and Monitoring Measures for Voting. Besides, the meeting deliberates the proposal work report and congress members of special working committee, list of concurrent supervisors of the Board of Supervisors and the resolution of the conference. The meeting acts as an important milestone to strengthen the democratic management of CRSC, by actively strengthening workers sense of ownership and initiative, promoting the staff representatives to better participate in democratic decision-making, democratic supervision and the democratic management of enterprises.

#### CRSC comprehensively enhance the ability of workers' representatives to perform their duties

In June 2016, CRSC held "Staff and Workers Congress and Labor Union Legal Rights Training Course", covering all subsidiary enterprises of the group company. 81 representatives and trade union leaders at all levels participated in the training. The training focuses on enhancing staff representatives and trade union leaders' ability to perform their duties, and invited professors and experts from China Institute of Industrial Relations, Railway Party School, and the Shanghai Railway Bureau to lecture on courses like System of Collective Consultation and Collective Contract, Democratic Management of Workers and Administrative Staff, Labor Law and trade union work, Practice of Processing Railway Labor Relations in the New Period with specific cases.



## Expand Space for Talent Development

CRSC implements the talent strategy of “open access and elite concentration” to promote the value of human capital comprehensively and change the traditional personnel management to the modern enterprise management system. It develops a medium and long-term human resource planning to establish reasonable talent, optimize the allocation and reserve of human

resources, reserve talent, and increase the stock of human capital for long-term human capital investment and gains. It establishes and perfects development strategy of talent recruitment, training, cultivating, assessment, and incentive mechanism to gradually establish a systematic human resource management system.



### Collection of rationalization proposals and technical improvement projects

To promote the corporation innovation and development, The Beijing Signal Company affiliated to CRSC continues to carry out collection and selection activities of rationalization proposals and technical improvement projects among all staff as an effective means to improve the human resources quality and efficiency. In 2016, 103 pieces of proposals on rationalization and improvement projects as a whole, covering areas like product technology improvement, technological innovation, management system upgrading, equipment support, maintenance and many other aspects.



In my career, nearly 60 rationalization proposals I put forward were rewarded. I hope the following young people will make good use of the platform that the company provides for us and realize the value of their life as well as the interests of the company.

57-year-old master worker Xu Jiusheng from Technology Department of The Beijing Signal Company



## Good Atmosphere for Working and Living

CRSC held various assistance and cultural and sports activities among the employees to enrich their spare time life, strengthen employee care, enhance employee happiness and sense of belonging.

## Affirmation of Employee Value

CRSC formulates regulations, like Measures for the Selection and Commendation of Advanced Workers, Labor models and Advanced Collectives and Measures for the Administration of Labor Competition of the Company, to select and commend excellent employees. In 2016, it selected 57 advanced employees, 27 advanced collectives, 4 locomotives medals and 1 first train cup.



### honors of CRSC's employees in 2016

#### National May 1 Labor Medal

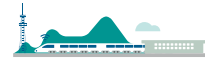
All-China Federation of Trade Unions

Beijing National Railway Research & Design Institute of Signal & Communication Co., LTD. **Jiang Ming**

#### Medal of the Locomotive

China National Railway Federation of Trade Unions

CRSC Engineering Group Co., Ltd. **Wang Dongbao**  
Beijing National Railway Research & Design Institute of Signal & Communication Co., LTD. **Cui Junfeng**  
CRSC (Beijing) Railway Industry Co., Ltd. **Xu Qing**  
CRSC (Xi'an) Rail Transit Industry Co., Ltd. **Yuan Fuxiang**  
CRSC Shanghai Engineering Group Co., Ltd. **Qi Chao**



## Helping Needy Employees

The company carried out special aid activities for needy staff families, and introduced Labor Union Measures for Poverty Alleviation. In 2016, the "warmth sending" activities during Spring Festival and New Year's Day raised 5.9096 million Yuan, visited 1,123 needy families and visited 11,639 employees including front-line workers, retired workers, model workers, advanced labor and dispatch workers. Through graded relief mechanism, the company carried out autumn student aid activities, supporting 175 students from the needy families with 0.1592 million Yuan granted. It actively contacts the local trade unions and carries out medical cooperation under the principle of territoriality to improve aid and rescue mechanism for workers of severe poverty.

## Caring for Special Employees

The company makes reasonable arrangements for staff leave, taking the specific nature of engineering enterprise into consideration. It also arranged the staff members to visit relatives at the construction site for certain projects or arranges job adjustment and replacement during special periods like college entrance examination. The trade unions regularly organizes warm-sending activities, offers holiday relief and consolation money and extends sincere greetings and best wishes to their employees during the holidays.

## Enriching Employee Life

We carry out mass sports and entertainment activities with a healthy, active, distinctive theme to enrich the lives of our employees. In 2016, we added 17 newly-built recreation and sports clubs providing a total of 37. Meanwhile, we promulgated the Management Measures for the Club's Recreational and Sports Activities to strengthen the supervision and guidance of the club, promote diversification, activation and autonomy of staff leisure activities.



### Send "cool" to front-line staff

In 2016, many regions suffered from high temperature and humid weather. CRSC engineering bureau distributes anti-snake or anti-insect drugs and Huoxiang Zhengqi Liquid to staff to prevent heat illnesses; adjusts the construction operation time, abiding by the principle of "start earlier, finish later and rest at noon" to avoid construction during high temperature periods. Staff from logistics prepared mung bean soup, cool tea and other summer heat food to improve diet structure, configure sun umbrellas, straw hats and other sunshade tools for employees and improve outdoor working conditions to send "recipe for hot weather for employees".

### Mao Yisheng Railway Engineer Award

China Railway Society, Beijing Mao Yisheng Science and Technology Education Foundation

Beijing National Railway Research & Design Institute of Signal & Communication Co., LTD. Guo Junqiang, Zhang Xiaoling, **Jiao Dawei**

CRSC (Beijing) Railway Industry Co., Ltd. Meng Chixu, **Wang Zhengming**

CASCO Signal Co., Ltd. **Fei Zhenghao**

### National excellent construction division

China Construction Industry Association

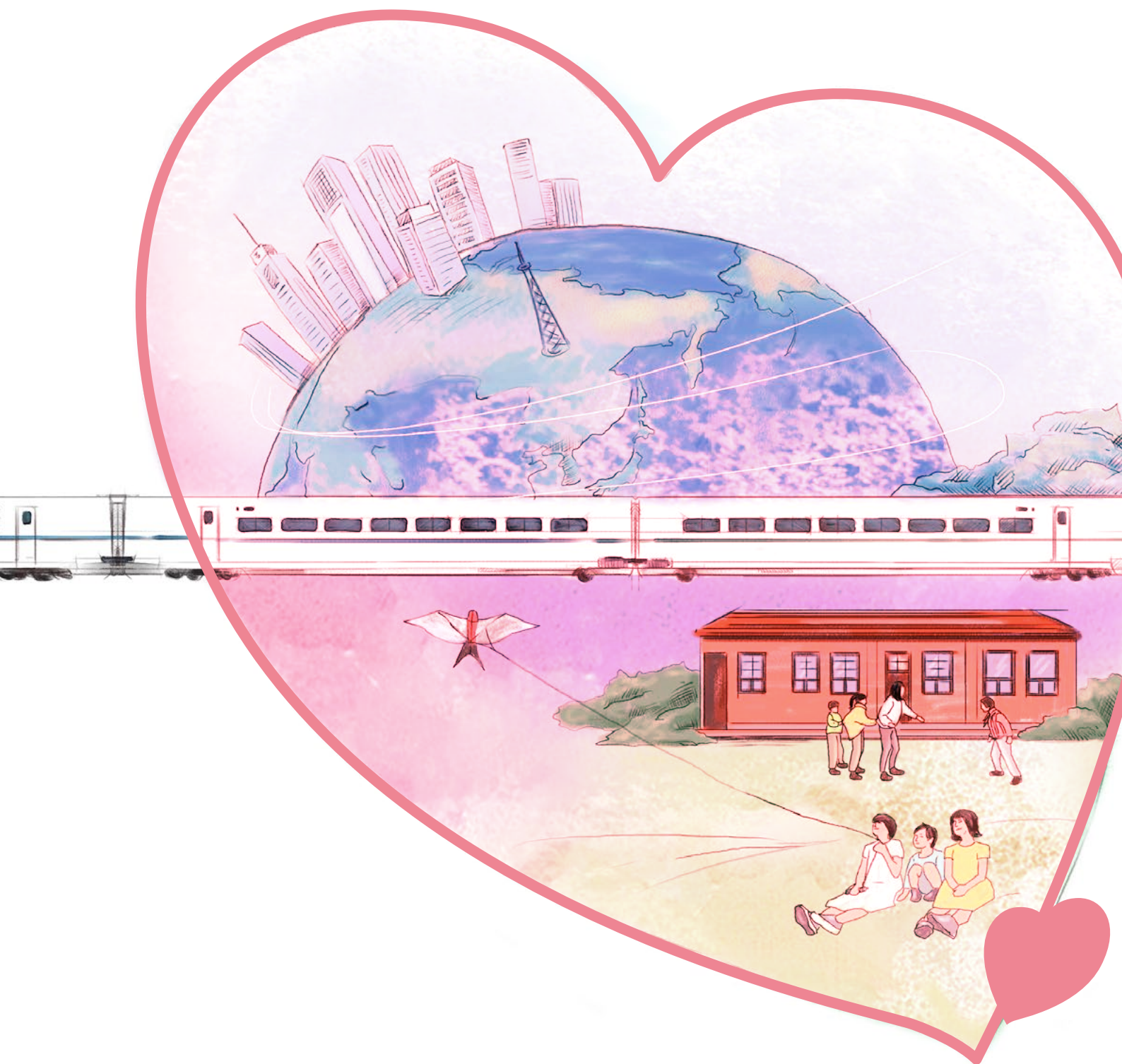
CRSC engineering management department, **Guo Yongquan**

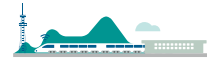
CRSC Engineering Group Co., Ltd. **Li He**  
CRSC Shanghai Engineering Group Co., Ltd.  
Xu Zhong, **Zhang Feng**

### Champion of IPC Competition North Area

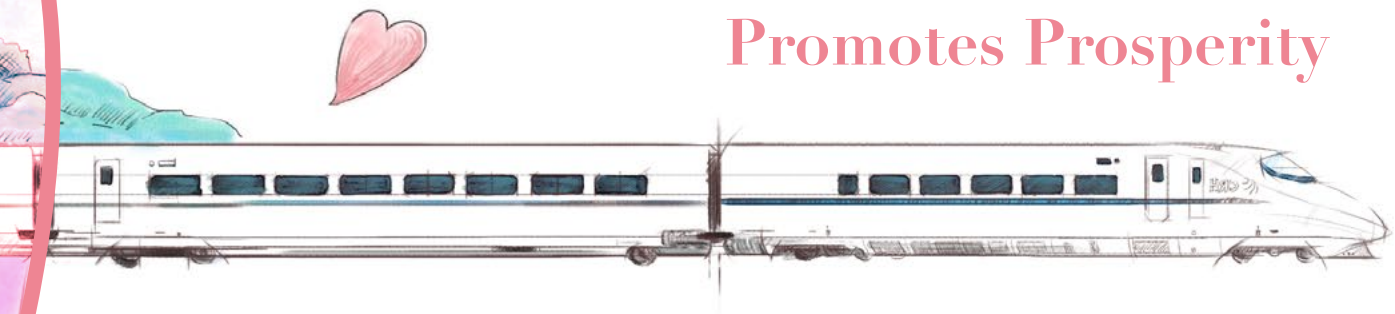
International Electronic Industry Connection Association

CRSC (Xi'an) Rail Transit Industry Co., Ltd. **Feng Wanjun**





## Cooperation Promotes Prosperity



CRSC has received extensive support and understanding from all sectors of society and this is our momentum for progress. We shouldered our due responsibility, facilitated targeted poverty elimination, and promoted education and cultural progress. We also contributed to regional industrial advancement, strengthened communication with communities, served social economic development and conducted regular activities for public benefit.

Contribute to Global Economy	52
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## Contribute to Global Economy



Under the guidance of China's "going out" and "Belt and Road" strategies, and making use of our advantages in the R&D, equipment manufacturing and engineering service for railway train control systems, CRSC strives to spread out advanced technologies and experience in railway construction around the world. We not only offer speedy, convenient and safe transportation for people, but we also provide the fast lane for the upgrading function of interaction between cities. We try to play a positive role in promoting and guiding the economic integration among cities and in global economic growth.

### Serve Global Transportation Network

As a major member enterprise in the country's railway "going out" strategy, CRSC participated in railway projects of 10 countries in Asia, Africa, and Latin America. We are also taking part in government-led railway cooperation projects with foreign countries, like the Jakarta-Bandung High-speed Railway in Indonesia, China-Thailand Railway, Moscow-Kazan High-speed Railway, Hungary-Serbia Railway, and railway projects in the Gulf country. All these projects are part of the country's "going out" strategy.

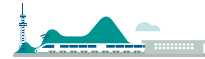


#### CRSC participated in the first project of China's high-speed railway whole industry chain "going out" strategy

The Jakarta-Bandung High-speed Railway, jointly built by China and Indonesia, is the first high-speed railway in Indonesia. Adopting Chinese technological standards and prospective design, it is the first project for the all-dimensional "going out" of Chinese high-speed railway. Chinese enterprise participated in the engineering construction, equipment manufacturing and supply, operation management, personnel training and comprehensive development of the whole railway line. It stretches 150 km with an estimated speed of 350 km per hour. The railway will utilize Chinese technologies, standards and equipment. After it is built, the travel time between the two cities will be reduced from more than three hours to less than 40 minutes, greatly improving the country's infrastructure. As a foregoer and leader in China's train control system industry, CRSC become the world's first train control system supplier which can offer a complete package of products and services. We will participate in the whole process of the railway construction through collaboration with other fellow units and jointly create a demonstration project for Chinese high-speed railway "going out."

#### CRSC participated in the initiation of the Belt & Road Industrial and Commercial Alliance

The Belt & Road Industrial and Commercial Alliance aims at building an international cooperation platform and realizing the connectivity in information. Its focus is to construct the Belt and Road cloud platform for economic and trade investment, the global investment and mergers & acquisitions fund alliance, and the think tank for industrial cooperation. CRSC is one initiator of the alliance, whose members are industrial and commercial alliances from 20 countries and regions like Russia, Germany, France, Turkey, Iran, Kazakhstan, and Hong Kong. At the ceremony for launching the organization, CRSC pledged to cooperate with other alliances and enterprises within the framework and jointly expand the overseas market.



### China-Russia High-speed Railway Research Center launched in Russia

In July 2016, CRSC signed a Strategic Co-operation Frame Agreement with St. Petersburg State Transport University under the witness of leaders and experts from the Chinese Ministry of Transport and the Ministry of Transport of the Russian Federation, on the sidelines of which the ceremony of launching the China-Russia Railway Transport Research Promotion Center took place; making substantial progress with the railway cooperation between the two countries.

Major research areas in the center are: design of high-speed railway automation, and technological standards and codes for modernizing existing railways; integration of resource from the two parties and build collaborative laboratories; consultancy for Chinese railway products (not limited to communication and signaling products) to get certification in Russia; and develop new technologies and products in railway and urban rail transit.

### CRSC finished eighth seminar for foreign aid

In August 2016, the Seminar on Railway Operation, Management and Maintenance for Bangladesh Officials 2016, sponsored by the Chinese Ministry of Commerce and organized by CRSC, was held in Suzhou. At the seminar, 19 senior officials from the Ministry of Railway and the Bureau of Railway in Bangladesh learned modern railway engineering technologies as well as theories and methods for operation, management and maintenance. The event promoted the exchanges and cooperation between the two countries in railway engineering.

CRSC is always committed to promoting Chinese advanced train control systems for high-speed railway and urban rail transit to the international community, and to organize the seminar is one important practice in this regard. Since 2009, under the guidance of the Ministry of Commerce, the company has organized nine seminars of this kind in eight consecutive years, benefiting 174 attendees from 45 countries in Asia and Africa.

## Facilitate Local Development

Taking advantage of its brand image, technology, capital and management, CRSC established strategic cooperation relations with local governments, exploring cooperation for mutual benefits in railway transportation, smart city, sponge city, and infrastructure, and at the same time promoting regional development.

### Strategic cooperation with local governments



**January, 2016**

**Sichuan Province**

Strategic cooperation agreement

**May, 2016**

**Hunan Province**

Strategic cooperation framework

**October, 2016**

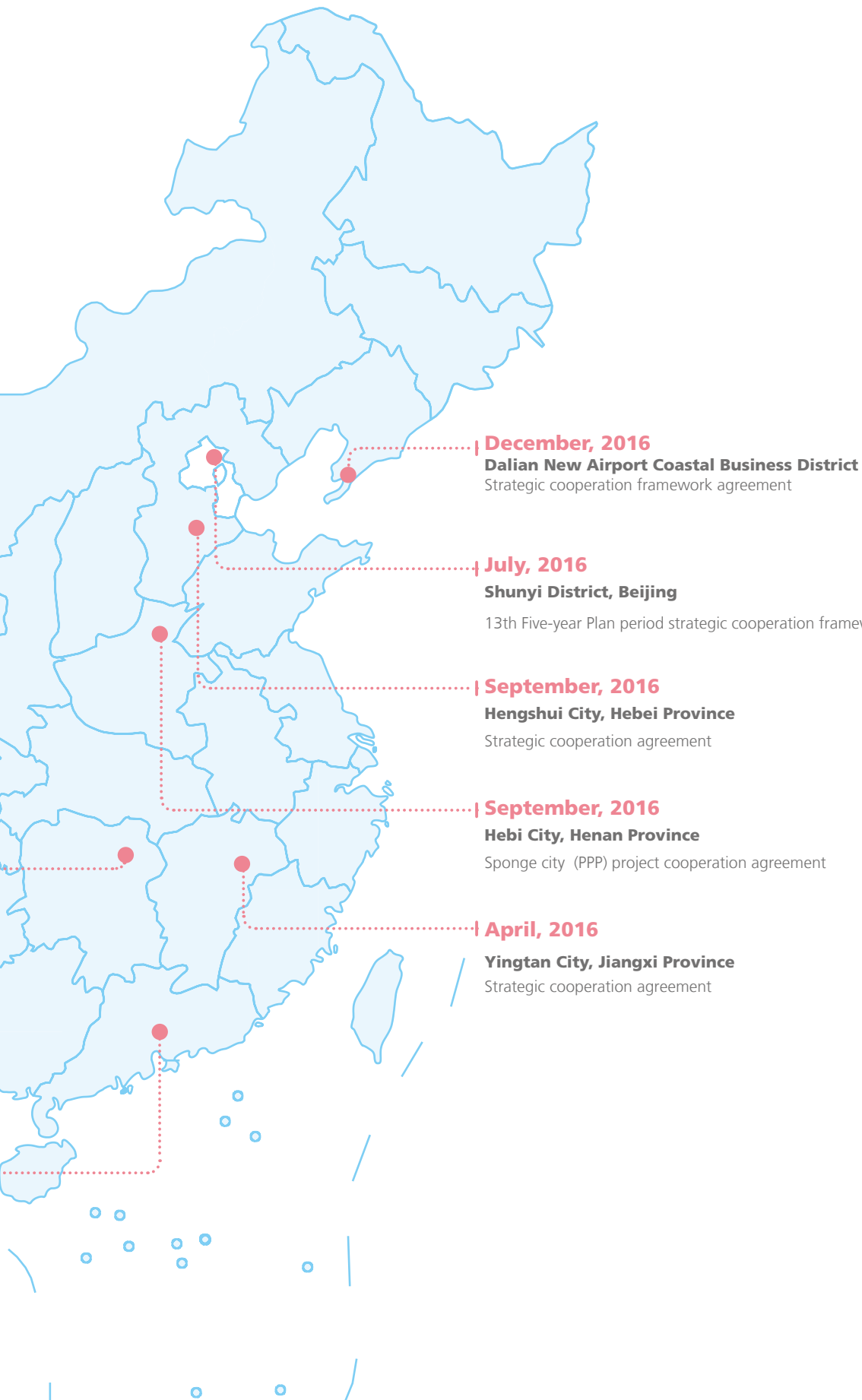
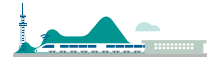
**Yuxi City, Yunnan**

Strategic cooperation framework agreement

**April, 2016**

**Nansha District, Guangzhou Province**

Base of CRSC railway "going out" strategy



**December, 2016**

**Dalian New Airport Coastal Business District**

Strategic cooperation framework agreement

**July, 2016**

**Shunyi District, Beijing**

13th Five-year Plan period strategic cooperation framework agreement

**September, 2016**

**Hengshui City, Hebei Province**

Strategic cooperation agreement

**September, 2016**

**Hebi City, Henan Province**

Sponge city (PPP) project cooperation agreement

**April, 2016**

**Yingtian City, Jiangxi Province**

Strategic cooperation agreement



**CRSC participated in expanding and rebuilding capability of Qinghai-Tibet Railway section**

The Qinghai-Tibet Railway opened in 2006, stretching 1,956 kilometers and is the world's highest-elevation railway that connects Xining, Qinghai Province to Lhasa, Tibet. It runs through the longest frozen soil as a plateau railway. In the past decade, this railway greatly advanced the region's economic and social development. CASCO and the Qinghai-Tibet Railway Company agreed to cooperate to further speed up the railway and expand its transportation capacity. CASCO will be responsible for the expanding and rebuilding capability of the Golmud-Lhasa section by providing an advanced CTC system, CSM-KA system and ITCS.

## Responsibility industry value chain

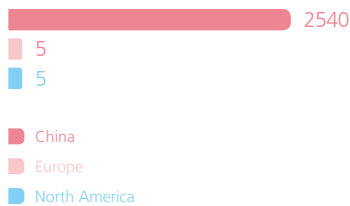


CRSC integrates social responsibility into supplier chain management, trying to improve suppliers' professional ethics, transparency in trade and social responsibility fulfillment. Adhering to the principle of equality and mutual benefit, we build cooperation platforms, expand channels for communication and exchanges, and promote the common development among up-line and down-line enterprises of the industrial chain.

The company issued Supplier Management Measures as well as a Method of Credit Evaluation for System Indentation Material and Equipment Supplier for Communication Engineering, Signal Engineering, Electrical Engineering and Electrification Engineering (provisional) for effective supplier management in terms of entry, assessment and other processes. At the same time, we constantly include more assessment criteria. For example, in addition to quality, cost, and delivery speed, we also consider their production environment and safety.

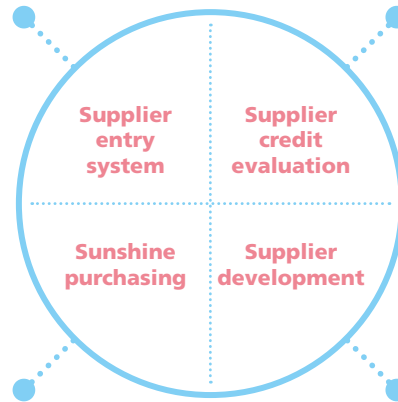
### Structure of CRSC Suppliers in 2016

Unit:



strictly enforce the supplier entry system, strengthen examination of supplier qualifications and conditions, and select suppliers based on criteria like qualification, brand, fiscal status, as well as product and service quality

gradually implement the credit evaluation work for suppliers, formulating Method of Credit Evaluation for System Indentation Material and Equipment Supplier for Communication Engineering, Signal Engineering, Electrical Engineering and Electrification Engineering



Carry out pilot work of centralized purchasing, by unifying the purchasing standards, reinforcing purchasing regulations, and building platforms for logistics and material trading and then realize "Sunshine purchasing and transparent purchasing"

Communicate with suppliers; build exchange platforms through supplier meetings; encourage suppliers to improve product and service quality, and their self-management and then realize mutual development

## Support Social Benefit



CRSC conduct activities for public good like poverty elimination, difficulty assistance, donations, and volunteering regularly. It also supports education, culture, health care and other social welfare careers. We endeavor to

promote the economic and social development and enhance their ability of self-development in impoverished areas and disaster-affected areas, through intelligent action and fund support.

### Targeted Poverty Elimination

Since 2003 CRSC chose Sheqi County in Henan Province to be the target destination for poverty relief work and donated a total of 15.06 million RMB to cover costs of functions like grassroots Party construction, education, assistance and health cases. The donations were used to improve local education, and conditions for production, living and industrial development. Meanwhile, CRSC adopted the mode of "company supervising, local government managing and audit department following up" for assistance fund utilizing. It built and improved the measures for managing poverty alleviation funds and programs, as well as the supervision mechanism for fund appropriation, program construction, and result evaluation, to make sure funds were used in a safe and rational way.

In 2016, adopting the "4+2" working mode, (all the major issues in a village must be under the guidance of the Party organization and be approved by the Villager Conference. And all the policies and implementation results for these issues should be released to the villagers), the company's work team for poverty reduction, formulated the Plan for Targeted Poverty Elimination and Collective Economic Development and obtained 1.62 million RMB from the assistance fund of the Department of Finance of Henan Province. The team planned to construct 180 vegetable greenhouses, begin the circulation of 180 mu of rural land, and then create a base for industrial poverty reduction. Every registered household could have the priority to rent the vegetable greenhouses. The net profit from the greenhouse per mu was estimated to reach more than 6 thousand RMB and the village could increase revenue to 360 thousand RMB.

## Support Education

We keep doing student assistance programs all the time, and care about the education and growth of impoverished children and the vulnerable groups. We show our concern for

children of migrant rural workers, send school suppliers to Hope Primary Schools, hold "Colorful Classes", and support and assist educational development in communities and other areas.



### Thank-you letter from primary schools in impoverished mountainous area

In March, 2016, the Youth League of the fifth project team in CRSC branch Tianjin Railway Signal Co., Ltd visited a primary school in remote impoverished mountainous areas and gave students bags, books, stationery and other school supplies. The team was constructing the signaling and communication project for Baoji-Lanzhou High-speed Railway. At the Heishan Dazhuang Primary School in

Anding District, Dingxi City in Gansu Province, CRSC staff also gave cash assistance to students who are in extreme poverty, encouraging them to finish their schooling and get high scores. Students who received the warmth and assistance were extremely delightful and expressed their gratitude in plain but sincere words.



Thanks for CRSC's concern for rural education. The virtue you showed makes us feel the warmth of society.

A Thank-you letter from Heishan Dazhuang Primary School to CRSC staff



### Teach children of rural migrant workers

In order to better fulfill our social responsibility, CRSC Beijing Signaling Company carried out "Colorful Classes" activity, recruiting and organizing volunteers to give lessons to students from Hope Primary Schools and children of rural migrant workers. The content of teaching included: classics reading, singing, knowledge of self-protection, outdoor training, sports and cultural activities, and more. Through lecturing and interacting activities, volunteers encouraged students to be a "kind, well-educated, and happy people and learn how to protect yourself." This activity will become the regular work of Beijing Signaling Company and the company will continue to inherit and transmit the concept of volunteering for public benefit.



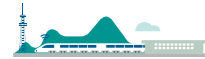
### Donation for people afflicted by rainstorm in Anhui Province

In June 2016, heavy rainfall hit a number of areas in Anhui. Staff from CRSC branch Tianjin Railway Signal Co., Ltd. who were doing the electrification transformation project for Hefei-Wuhu Highway spontaneously organized a donation activity and bought medicine, food, water, umbrellas, water glasses and other relief materials for the stricken people in those areas. They also formed a team with staff from Anhui music radio (FM 89.5) to send warmth and materials to Yaobu Village of Changlinhe Town, in Feidong County, Hefei City, in their spare time.

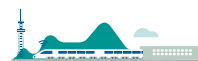


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# Feedback

Distinguished readers:

Thank you for reading China Railway Signal&Communication Co., Ltd. Environmental, Social and Governance Report (ESG Report) 2016. We sincerely hope to get your comments and suggestions regarding this report and our work as well. Please send the filled feedback form to us via mail, email after scanning or fax, or call your valuable advice directly. Really appreciate it.

Address: CRSC Building, 1 Qichebowuguan Nanlu, Fengtai Science Park, Beijing.  
Post code: 100070

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3: If yes, do you read a paper version or an electronic version?

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- ☐ 3 (good) ☐ 2 (general) ☐ 1 (poor)

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- ☐ 3 (good) ☐ 2 (general) ☐ 1 (poor)

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In addition to the contents that have been disclosed, what kind of information do you wish to read?

June, 2017