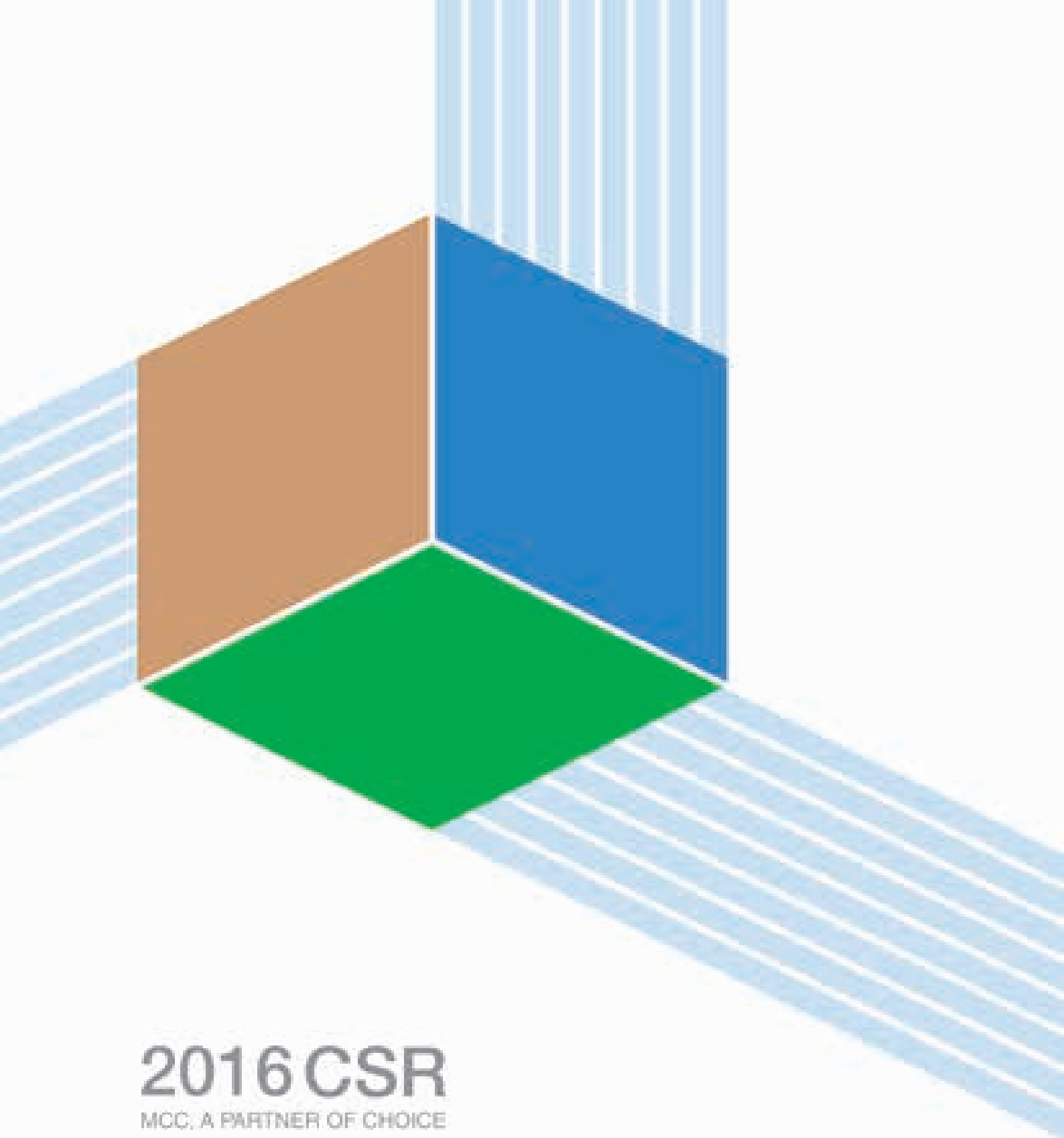


2016 CSR

MCC, A PARTNER OF CHOICE

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The report is made from environmentally friendly paper.



2016 CSR

MCC, A PARTNER OF CHOICE

Description of this report

This report is the 8th Social Responsibility Report of Metallurgical Corporation of China Ltd. For the convenience of expression and reading, Metallurgical Corporation of China Ltd. is called "MCC", "MC" or "the Company" for short, and its controlling shareholder – China Metallurgical Group Corporation – is called "MCC GROUP" for short.

Scope of this report

Companies involved: this report covers the headquarters of MCC and its subordinates.

Reporting period: from 1 January to 31 December 2016; part of the contents in this report is not in this reporting period.

Release cycle: this report is issued annually.

Bases for the preparation of this report

This report is prepared by reference to the *Guiding Opinions of the SASAC on the Performance of Social Responsibilities* by Central Enterprises, *Consultation Paper – Environmental, Social and Governance Reporting Guide* of Hong Kong Exchanges and Clearing Limited, the *Guidelines of Shanghai Stock Exchange for Environmental Information Disclosure of Listed Companies* by Shanghai Stock Exchange and the *Sustainability Reporting Guidelines (Version 4)* of the Global Reporting Initiative (GRI) in combination with the specific practices of MCC.

The Company complies the rule of "comply or explain" listed in *Environmental, Social and Governance Reporting Guide* for this fiscal year.

Description of data in this report

This report truly reflects MCC's proactive performance of economic, environmental and social responsibilities as well as its realization of overall, harmonious and sustainable development. Data in this report are from MCC's official documents and statistical reports as well as the summary statistics of social responsibility practices of the subordinates. The financial data are from MCC's 2016 financial statement, while other data are mainly for the year 2016 and partially for previous years. Unless otherwise specified, the amounts in this report are denominated in RMB.

Language and Release

This report is published in Simplified Chinese, Traditional Chinese and English. In case of any discrepancy, the Simplified Chinese version shall prevail. If you have any question about this report, please contact us by email or phone. Our contacts are as follows:

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This report is released to the readers in print edition (with recycled paper) and in PDF, and the latter can be downloaded from the website of MCC (<http://www.mcc.com.cn>).

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President Message



We are the pioneer of steel industry of the People's Republic of China. A kind of responsibility inherited in our genes, a kind of belief engraved in our heart, a kind of loyalty flowed in our blood, that is – casting national strength.

Casting national strength, we are the national team of metallurgical construction. Our mission is to make the country stronger through steel industry during the global economic downturn and the new normal practice of China's economic development, we take on the heavy responsibility of promoting the transformation of China's steel industry and leading China's steel industry out of the country. On 15 July 2016, the victory ignition of No. 2 blast furnace of Baosteel Zhanjiang Steel marks the overall completion of the first-stage project of Baosteel Zhanjiang Steel which is honored as "the highest efficiency green factory of the world". The design and construction of the dream steel factory created by MCC is integrated with its independent intellectual property rights of green technology. Almost at the same time, the project of Formosa Ha Tinh Steel which the service of full system, full process and full cycle provided by MCC has almost completed. This is the first time of Chinese steel industry to reveal the world with the honour of world's benchmark and prototype project of the steel industry since the emergence of technology and premium national facilities.

Casting national strength, we are the key players of basic construction. After more than 60 years of accumulation and precipitation, the dominant position of national basic construction has been laid. Projects of MCC are all over the main battlefield of national strategy namely "the Belt and Road" Initiative, coordinated development of Beijing-Tianjin-Hebei and Yangtze River Economic Zone. MCC also participates in the construction of major international events, namely the Olympic Games, World Expo and APEC, etc. The people of MCC set new records and milestones one after another. As the key player, our business scale expands steadily and we ranked 290th among the Fortune Global 500 Companies in 2016, which rose 36 places when compared to last year. Our business performance improved and we promoted to Level A in an assessment organized by SASAC (State-owned Assets Supervision and Administration Commission).

Casting national strength, we are forerunner of emerging industry. Based on the pioneering spirit of being the first, we extend the systematic, professional and complex technical advantages in technology field of metallurgical engineering to other engineering fields. We take the lead in establishing six institutes of technology including utility tunnel, sponge city, beautiful village and smart city, water environment, health-care and theme park of MCC, which serve as the power and engine of the emerging industry. We explore the construction of professional investment and the new pattern of market development, establish breakthrough technology as pioneers, capital strength and innovative business model as the accelerator of the emerging industry's operational mode, in a bid to contribute for the business development expansion. Establishment of the first professional utility tunnel institute of technology, the first tunnel investment company specialized in construction operation and the first billions level of urban industry fund of utility tunnel mark that MCC seizes the "third strategy" opportunity of national urban construction of utility tunnel. The tunnel projects of MCC will be developed in cities, such as, Xian, Zhuhai, Changde, Shenyang, Baiyin, Baotou, Siping, which are considered as "the first of total milestone and the first of individual performance" by the Ministry of Housing and Urban-Rural Development of

the People's Republic of China and became a genuine forerunner of the new high-tech industry in the emerging industry.

Casting national strength, we insist on taking the road of high-tech construction in the long term. It is the historical conclusion of enterprise development and also the only choice of enterprise development. With 18,996 valid patents, 20 national key laboratories and science and technology platforms, as well as ranking 4th in the central enterprises, it strengthened the dominant of core technology of MCC Group in the field of metallurgical engineering. Obtaining three second prizes of National Science and Technology Progress Award which ranked high of the central enterprises in 2016 manifests our constant innovation ability. "Insisting on taking the road of high-tech construction in the long term" meets the requirements of the "Five Development Concepts", the actual condition for the enterprise development of MCC Group. It is the fundamental security of enterprise development strategy and the strategic approach, basis and foundation of the enterprise.

Casting national strength, we always put the interests of state, society, public and customers first and actively perform all social responsibilities undertaken by the enterprise. We strive to obtain the trust and support of government at all levels, cooperative partners and surrounding public through excellent performance, reliable products, professional attitude and effective communication. We shall use our best endeavours to make contribution to the society and its harmonious development.

Casting national strength, we persevere in people as basis. Employees are the driving force of development, whom the enterprise relies on and the development results shall be shared with the employees. We strive to create "the highland that young people have been dreaming of, the platform of entrepreneurial development for middle-aged people and the recuperation harbour for elderly people". We have placed emphasis on employees' training. During the enterprise development, we achieve the employees' dream and realize their personal value. We are proud that General Secretary XI genially granted an interview to employee ZENG Zhengchao of MCC who is China's first gold winner in WorldSkills. In the competition of "China Danengshou" of CCTV, employees WU Chunqiao and TU Xintao of MCC won the first and second prize in masonry section and employee WANG Chenyu of MCC won the first prize in "Battle of Welding". Craftsmen of MCC brighten the brand image of MCC.

Casting national strength, we shall continue to carry forward the simple yet profound spirit of MCC Group, "Never delay and never slack". We put a lot of efforts into our work; strive to achieve the new span of "good construction of MCC"; create "China No. 1, World Level I" metal mining group for new Chinese Minmetals and greet the 19th Session of the National People's Congress with excellent performance!

People of MCC build the world with heart.

Board Chairman



Responsibility

“Insist on taking the road of high-tech construction in the long term” is a historical option and responsibility of the development of MCC

“Insist on taking the road of high-tech construction in the long term” is a historical option of the development of MCC. The metallurgical engineering is featured with systematicness, integrity and complexity. With the rocketing development process of Chinese steel industry, we accumulated technical advantages with comprehensive choice of subjects and prominent innovation capabilities that other construction enterprises lack of, in a bid to build its top-notch core techniques in the field of metallurgical engineering, irreplaceable integration advantage in the entire industrial chain of metallurgical construction and constant ability of reform and innovation. The extension, fission and aggregation of these kinds of technological advantages in the field of non-metallurgical engineering have formed the technological advantages with full domain, business state and industry chain in the field of construction industry. These kinds of advantages are mostly reflected in the following aspects.

In the platform construction, MCC has 20 national key laboratories and science and technology platforms, including national key laboratories, national engineering laboratories, national engineering technology research centers and national enterprise technology centers, etc.

In the award of science and technology achievements, the Company has won the National Science & Technology Award 42 times since 2000, which ranked high in metallurgy and construction of the central enterprises. It has won three second prizes of National Science and Technology Progress Award, which are the “key technology and application of high efficiency and low consumption and outside blast furnace” completed by CISDI in 2016 and the “smelting in bottom blowing furnace-smelting reduction-oxygen-rich volatilization constant lead smelting new technology and industrialization application” and “key technology of producing high-level ferronickel of Laterite-Nickel Ore and equipment development and application” completed by ENFI. MCC Group won the titles of “Science and Technology Innovation Excellent Enterprise” issued by the State-owned Assets Supervision and Administration Commission for two consecutive three-year terms (2010-2012, 2013-2015) in 2013 and 2016 and ranked 16th in the central enterprises.

In technology transformation and application, we have over 18,000 valid patents which has been ranking the forth in central enterprises in three consecutive years, only after the State Grid, China National Petroleum Corporation and SINOPEC. The MCC Group won 1 Award for the 18th Outstanding Chinese Patented Invention and 11 Patent Awards of Excellence in the Ceremony for the WIPO-SIPO Award for Chinese Outstanding Patented released by the State Intellectual Property Office, which has become the most patent awarded company and the only gold awarded company in the metallurgical and construction central enterprise.

In professional talent, the Company has over 60,000 professional technicians and over 18,000 scientific and technological talents, 1 academican of the Chinese Academy of Engineering, 13 national exploration and design masters and 4 National Talent Engineering Experts.

In standard compilation, the Company compiled 1,826 domestic and overseas industry standards in total and released 40 international standards, among which, the Company hosted to compile 15 standards and participated to compile 25 standards. The Company released 730 national standards, among which, the Company hosted to compile 310 standards and participated to compile 420 standards. The Company has 73 valid national compilation.

“Insist on taking the road of high-tech construction in the long term” is the historical responsibility of the development of MCC. Being a stronger, better and more powerful state-owned business confidently is not only an explicit request regarding the development of the state-owned business by General Secretary XI Jinping on behalf of the Party Central Committee, but also the highest strategic target of the enterprise development of MCC. “Insist on taking the road of high-tech construction in the long term” is the only route to achieve the highest strategic target which satisfied the actual situation of the enterprise development of Metallurgical Corporation of China Ltd. and complies with the objective laws of current enterprise development.

For insisting on taking the road of high-tech construction in the long term, we should rely on making the most of the science and technology innovation advantages and vigorously expand the emerging business fields

The emerging business fields and emerging industries, such as utility tunnel, sponge city, beautiful village, smart city, water environment management, health care industry and theme park, etc. have vast development prospects, which are the major support for the transformation, upgrade and steady sustainable development of the Company. These emerging industries have a common feature, which is high-tech, high entry threshold and in a top position in the industrial chain and value chain. We should increase the input to develop new products, expand new markets, create new models and build strategic emerging industries and profit growth point with technical research and development as the precursor. When these current emerging industries are in the period of market development, we should grasp this key opportunity to change the existing technical research advantages into the national and entrepreneurial standards and specifications and to take our first-mover advantage in the aspect of industry development in a bid to grasp the development initiative and occupy the dominant position of the industry.

For insisting on taking the road of high-tech construction in the long term, we should promote traditional industrial transformation and upgrade with the help of new scientific and technological innovation achievements

Digitization, intelligence and greenization have become the main trends of global industrial transformation development. Intelligent factory and green buildings are transforming from ideas to reality. "China No. 1, First World Class", we must strengthen the sense of urgency for the promotion of scientific and technological innovation ability, extend the original innovation and the disruptive innovation for technology as to be the real forerunner from a follower, thoroughly solve the problems including extensive production, single product structure, low added value, low comprehensive usage level of resources, etc. through scientific and technological innovation and transformation of traditional industries. We should take the high-end, high-tech and high-value added development path.

We should effectively combine big data technology, information technology, artificial intelligence technology, 3D printing technology, nanotechnology and metallurgical engineering construction to express the leading purpose of the national key laboratories and science and technology platforms and to promote the transformation and upgrade of metallurgical engineering construction to a high-grade, precise and advanced field. We should strive to resolve the core problems regarding the quality and efficiency improvement of enterprises in order to promote metallurgical enterprises to lower production cost, reduce resources consumption and pollutant discharge, and increase the competitiveness and viability of enterprise market in the fields of intelligent manufacturing, energy conservation and resources recycling, etc.

For insisting on taking the road of high-tech construction in the long term, we should form the industrial agglomeration effect focusing on the building of scientific and technological innovation platform

The General Secretary XI Jinping proposed, "focusing on the main planning of 'One Belt One Road Initiative (the Silk Road Economic Belt and the 21st-Century Maritime Silk Road)', the Yangtze River economic zone development, coordinated development of Beijing, Tianjin and Hebei, respect the regional agglomerative pattern, exploit different innovation and development path in accordance with local conditions, speed up the establishment of global influential scientific and technological innovation center and various innovative cities and regional innovation center with strong driving force." Intensivism and agglomeration are the basic mode of the development of high-tech industry and innovative industry. The industry chain and innovation chain are required to develop synergistically to achieve effective grafting and have a close connection between research and industry so as to enter the path of positive development for promoting scientific research and industry feedback research and to urge for a mutual improvement on the development of technology and industry.

We will optimize the layout of the national platforms and strengthen the function of radiation and support of science and technology on industry in accordance with the national planning and deployment and relevant scientific and technological development laws. We will develop distinctive industrial clusters, drive regional economic transformation and form a new development pattern of innovative economic agglomeration by cultivating new formats and patterns.

The high-tech resources of MCC is one of the key elements for the company to survive in development and is the winning power of creating new advantages for the company. We will continuously promote the hardworking spirit of "Never delay and never slack", focus on the requirements of strategies, aim to be the top of science, dominate market through technology advantages and transform through improvement on technology. "Insist on taking the road of high-tech construction in the long term", continuously improving the ability and capability of MCC's technology innovation in a bid to build an advanced level of "four beam and eight column" and to create a new advantage of "better MCC".



About Us

Company Profile

Metallurgical Corporation of China Ltd. (Stock short name: MCC; Stock Code: 601618, HK1618) is the world largest metallurgical construction operation service enterprise group.

From the construction of “the cradle of the Chinese iron and steel industry” – Ansteel in 1948 to the construction of WISCO, Baogang, TISCO, Pangang, Baosteel, to name but a few, its subsidiaries have undertaken the planning, investigation, design and construction of the key facilities for the production of nearly all large and medium iron and steel enterprises in China, thereby making it the founder of the “iron and steel backbones” of China.

Through years of development, the Company has formed its four sectors of principal business: engineering contractor, real estate development, equipment manufacturing and resources development. The Company is one of the largest engineering contractors in the world as well as the metallurgical engineering contractor with longest operation history and strongest professional design capacity and construction capacity in China. For the sector of real estate development, the Company is one of the first central enterprises with real estate being part of their principal business approved by SASAC (State-owned Assets Supervision and Administration Commission). The real estate development brand of the Company – “MCC Real Estate” has already enjoyed a good reputation. In technical equipment manufacturing field, MCC is one of the large manufacturing enterprises of metallurgical equipment in China that can manufacture core metallurgical equipment of independent intelligent property rights which completed the equipment set. In the meantime, the Company is also China’s largest steel structure manufacturer which gains the prominent position in the R&D, design, manufacturing and installation of steel structure. For the sector of resource development, the Company is one of the large Chinese enterprises engaged in overseas resources development. It owns the mining rights of many resources development projects exploring iron ore, copper, nickel, cobalt, lead, zinc and other metal mineral resources. Besides, the Company is rated one of the ten world largest polysilicon production enterprises for consecutive years, and it is an influential polysilicon production enterprise in the world.

As the national innovative enterprise, the Company possesses 13 Class A scientific research design subsidiaries (non Science and technology departments), 20 national-level scientific and technological innovation platforms and national-level key laboratories, 4 comprehensive A-grade design qualification and 25 special-grade general contracting construction qualification. Among them, 10 of them are the triple special-grade and double special-grade construction qualification enterprise which ranked number one nationally. As of the end of 2016, the Company has valid patents amounted over 18,000 which ranked 4th in the central enterprise in 3 consecutive years (2013-2015); won 42 National Science & Technology Awards in total (after 2000), 84 Luban Prizes for Construction Projects (including participation), 140 National Quality Engineering Awards (including participation), 11 Tien-yow Jeme Civil Engineering Prizes (including participation), 503 Metallurgy Industry Quality Engineering Awards, 335 Metallurgy Construction Industry Excellent Engineering Exploration Awards and 1,149 Metallurgy Construction Industry Excellent Engineering Design Awards in total. The Company has over 60,000 technicians in different field of expertise, over 18,000 scientific and technological talents, 1 academican of the Chinese Academy of Engineering, 13 national exploration and design masters, 4 experts of the National Hundred Thousand – Ten – Thousands Talents Project in Engineering Experts and over 500 staff members who enjoy a special government allowance from the State Council.

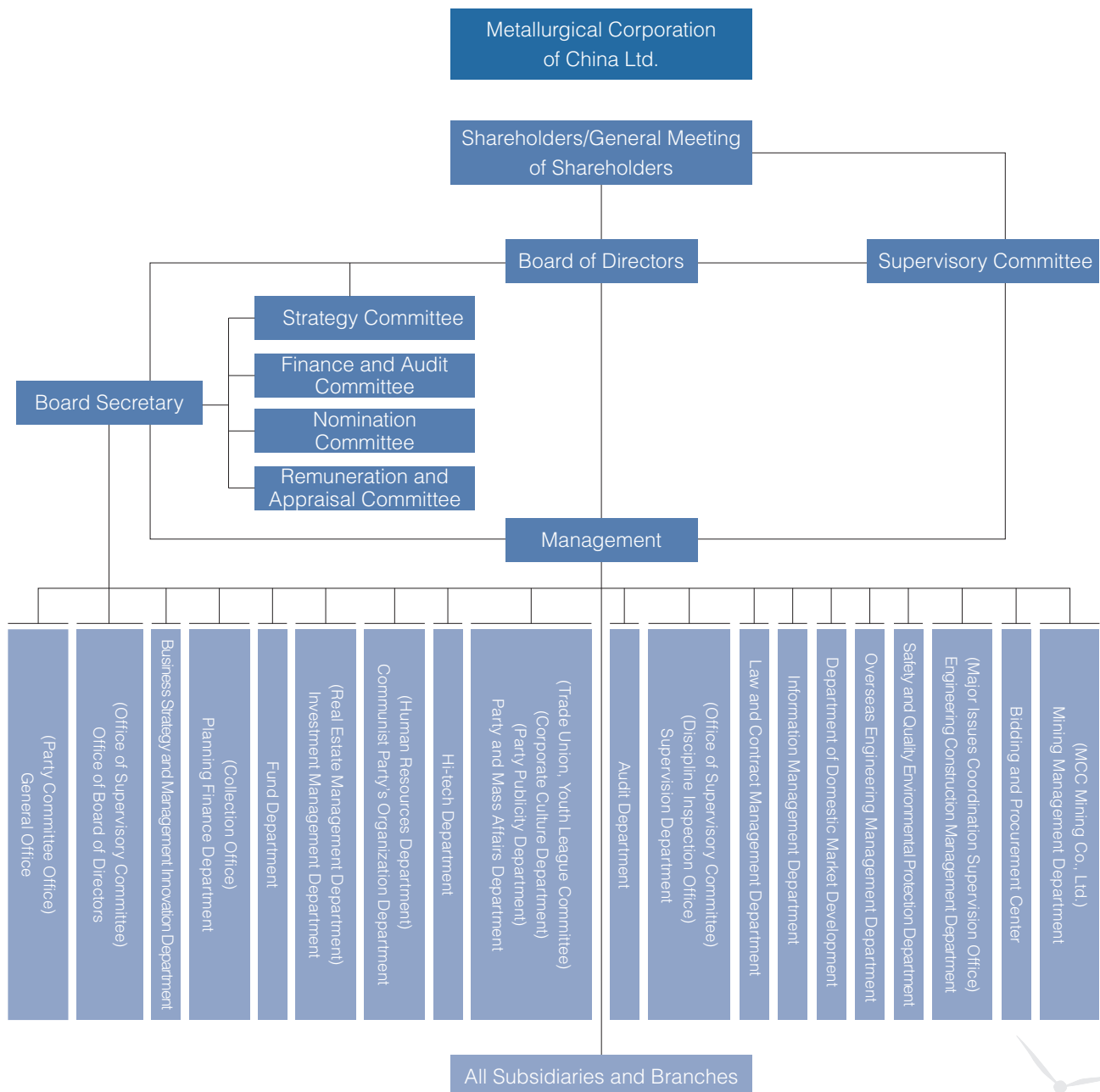
In 2016, the Company won the Level A Enterprise in 2015 annual business performance assessment organized by the principles of central enterprise and Excellence in Technology Innovation Enterprise business performance assessment organized by the principles of central enterprise in the terms of 2013-2015. MCC ranked 290th among “the Global Fortune 500 Companies” in 2016 and the 8th of “Top 250 Global Contractors” released by ENR.

Viewing from the history, MCC in the past, as the earliest steel industry construction strength of new China, has witnessed the start and development of China’s steel industry and showed the pride of personnel of MCC in 90% of the domestic metallurgical construction market and 60% of the international metallurgical construction market, respectively with its quality of “build the world with heart”. Now, MCC is moving forward on the journey of “national team of metallurgical construction, the main force of infrastructure construction, the pacesetter of emerging industries, insisting on taking the road of high-tech construction in the long term”.

This new strategic height is not only the historical inheritance of “better MCC” but also the enrichment and development of the principal business connotation as well as the deepening and promotion of another peak. In addition, it is both the new stage from quantity accumulation to qualitative leap and the new period from strengthening foundation to making breakthrough and achieving outstanding results. MCC will actively make use of the opportunity of strategic restructuring, adhere to the core idea of “value thinking and profit-oriented” and emphasize the core principal business. MCC will build world-class core technologies and professional brands and become the supplier of solutions to the world-class urban and industrial development system and service provider of engineering projects for their whole life cycles, which aims to build MCC to a world-class comprehensive engineering company with international competitiveness. This is the new hallmark in the history of MCC.

Organizational Structure

Company's organizational structure



Subsidiaries

As of 31 December 2016, MCC had 48 wholly-owned subsidiaries and holding subsidiaries in China and abroad, which are:

1	Central Research Institute of Building and Construction Co., Ltd.	25	MCC Baosteel Technology Services Co., Ltd.
2	Beijing MCC Equipment Research & Design Corporation Ltd.	26	MCC Communication Construction Group Co., Ltd.
3	China ENFI Engineering Corporation	27	MCC Northeast Construction And Development Co., Ltd.
4	Capital Engineering & Research Incorporation Ltd.	28	MCC (Hainan) Investment Development Co., Ltd.
5	CISDI Group Co., Ltd.	29	MCC Inner Mongolia Construction Investment Co., Ltd.
6	WISDRI Engineering & Research Incorporation Limited	30	MCC Southern Construction and Investment Co., Ltd.
7	Huatian Engineering & Technology Corporation, MCC	31	MCC Tongsin Resources Limited
8	ACRE Coking & Refractory Engineering Consulting Corporation, MCC	32	MCC Australia Holding Pty Ltd.
9	Zhongye Changtian International Engineering Co., Ltd.	33	MCC-JJJ Mining Development Company Limited
10	Northern Engineering & Technology Corporation, MCC	34	Ramu Nico Management (MCC) Limited
11	Shen Kan Engineering & Technology Corporation	35	MCC Real Estate Group Co., Ltd.
12	MCC Wuhan Surveying Geotechnical Research Institute Co., Ltd.	36	MCCFC Ltd.
13	China First Metallurgical Group Co., Ltd.	37	MCC Financial Leasing Co., Ltd.
14	China Second Metallurgical Group Co., Ltd.	38	MCC International Engineering Group Co., Ltd.
15	China Third Metallurgical Group Co., Ltd.	39	MCC Overseas Engineering Co., Ltd.
16	China MCC5 Group Co., Ltd.	40	China MCC International Economic and Trade Co., Ltd.
17	MCC TianGong Group Corporation Limited	41	Qianhai MCC (Shenzhen) International Trade Co., Ltd.
18	China MCC17 Group Co., Ltd.	42	MCC (Guangxi) Mawu Expressway Construction Development Co., Ltd.
19	China Metallurgical Construction Engineering Group Co., Ltd.	43	MCC Holding (Hong Kong) Co., Ltd.
20	China 19th Metallurgical Corporation	44	MCC-SFRE Heavy Industry Equipment Manufacturing Co., Ltd.
21	China MCC20 Group Corp., Ltd.	45	MCC Xi'ao Mining Co., Ltd.
22	China 22MCC Group Corporation Ltd.	46	CERIS
23	Shanghai Baoye Group Corp., Ltd.	47	WISDRI
24	China Huaye Group Company Limited	48	China No. 13 Metallurgical Construction Co., Ltd.

Corporate Philosophy



Corporate mission

Creating value
Rewarding shareholders
Benefiting employees
Making success



Vision

Focusing on principal business
Building a better MCC



Strategic positioning

Being a leader of national team of metallurgical construction
Main force of basic construction and the forerunner of emerging industry
Taking high-tech construction road in long run



Corporate spirit

Never delaying
Never slacking



Concept of social responsibility

Developing innovatively and sustainably
Paving the future of the world together

Social Recognition

Some honors and rankings of MCC GROUP, the holder of MCC, in 2016.



It ranked 290th among the Fortune Global 500 Companies in 2016, which is 36 places higher than last year



For the first time, it successfully promoted to Level A Enterprise in 2015 annual business performance assessment organized by the State-owned Assets Supervision and Administration Commission



It ranked 8th in the Top 250 Global Contractors by ENR



It was awarded the "Best Listed Company of Technology Innovation" by Chinese Securities Golden Bauhinia Awards



It ranked 23rd among the China 500 released by the Fortune (Chinese Edition) in 2016



It was awarded 1 patent gold award, 11 patent excellent awards, and Chinese patent awards ranked Top 1 among the central enterprises

Technical Edges

MCC Group is a “national innovative enterprise” and “national-level intellectual property advantage enterprise” with MCC as its core asset. It has a complete science and technology innovation system and an innovative talent team which has distinct level, reasonable structure, high quality and strong capability. It has 20 national-level scientific and technological innovation platforms and key laboratories. Its science and technology input is stable and the input quality gradually improves. The overall level of science and technology innovation enters “the first square array” amongst the central enterprises.

- MCC owns 18,996 valid patents in total and ranked 4th among the central enterprises. During the past five years, MCC has won 27 “China Patent Awards”. In the year of 2016, “a kind of special gas supply device for dry quenching furnace” won the Chinese Patent Gold Award.
- MCC primarily formulated and participated in the preparation of 257 standards. During the past five years, the Company primarily formulated and published 3 international standards and participated in the preparation of 15 international standards; it primarily formulated and published 108 national standards, and participated in the preparation of 66 national standards; it primarily formulated and published 36 industrial standards and participated in the preparation of 29 industrial standards.
- MCC has 73 in-force national-grade construction methods.
- 10 post-doctoral scientific research workstations. The Company has established 2 mobile research stations for post-doctoral research and 10 post-doctoral scientific research workstations.
- Representative results and leading technologies. The Company was awarded 3 National Scientific and Technological Progress Second Prizes in total in 2016. In the past 10 years, MCC has won 24 National Science and Technology Awards and 92 Metallurgical Science and Technology Awards. Won 6 Luban Prizes, 19 National Quality Engineering Award which all the prizes are non- steel construction. China MCC17 Group Co., Ltd. became the first construction unit of the national technology innovation demonstration enterprise
- MCC has 1 academican from the Chinese Academy of Engineering, 13 national exploration and design masters, 4 experts of the National Hundred Thousand – Ten – Thousands Talents Project and over 500 staff members who enjoy a special government allowance from the State Council.
- MCC owns 63 Class A engineering consultation qualification, 9 Class A engineering exploration qualification, over 90 Class A engineering design qualification (including 4 Class A comprehensive design qualification), 25 special-grade general contracting construction qualifications (including 2 subsidiaries owning three special-grade qualifications at the same time and 8 subsidiaries owning two special-grade qualifications at the same time) and 167 engineering construction Level I qualifications.



27

“Chinese Patent Award of Excellence”

24

National Science & Technology Awards

92

Metallurgical Science and Technology Awards

63

Class A Engineering Consultation Qualifications

Corporate Governance

Corporate Governance

MCC strictly complied with the *Company Law*, *Securities Law* and requirements of regulatory rules in domestic and overseas regions where the Company is listed, standardized the legal person governance structure, strengthened the construction of Board of Directors system, improved the operating mechanism of Board of Directors, further clarified the scopes of rights and responsibilities between Board of Directors, Board of Supervisors, and Management, made effective checks and balances, cooperation, and harmonious operation and realized the integration of the philosophy of corporate governance, regulatory requirements of listing and actual situations of the Company.

In 2016, Board of Directors of MCC performed the responsibilities in strict accordance with authorities and job requirements endowed by contributors and regulators over the listed company. Board of Directors carried out the construction and operation of Board of Directors in strict accordance with the *Company Law*, relevant requirements of State – owned Assets Supervision, Administration Commission of the State Council, Listing Rules for the listed companies in the place listing are held, Articles of Association, Rules of Procedures of Shareholders' General Meeting, and Rules of Procedure for the Board of Directors. For the purpose of maintaining and increasing the value of the state-owned assets and maximizing shareholders' interests, based on the function orientation of "making strategy, managing team, discussing important issues and controlling risks", the Company performed the review procedure for the matters that shall be examined and approved by Board of Directors pursuant to the laws and regulations to ensure the decision of Board of Directors is normalized, effective, and scientific. The Company continued highlighting and devoting greater efforts in solving important matters and actually improved standard of specified operation and quality of efficient decision.

As important section of the corporate governance system, Board of Directors of the Company strictly performed duties according to the requirements of State-owned Assets Supervision and Administration Commission of the State Council and listed regulatory rules. Board of Directors, Community Party, Management and Board of Supervisors performed their respective duties, and made timely and effective communications with each party which formed the regulatory mechanism that decision, management, and supervision coordinated and effectively operated. Board of Directors clearly demanded that the matters within the scope of rights and responsibilities of Board of Directors shall be decided by Board of Directors. Each functional department, leaders with specific responsibilities, and President shall strictly control the matters out of the scope of jurisdiction of Board of Directors or the matters authorized by Board of Directors through the methods of department examination and approval, special meetings, and President Office, etc. and practically take the entity responsibilities.

All supervisors of the Company monitor the legal and compliance of financial performance of the Company, relevant matters of the non-public offering of A Shares by the Company, internal controls, connection or transaction matters, use of financing capital, and performance of responsibilities of Board of Directors and administrative officers on the basis of the spirit of being responsible for all the shareholders.

During the reporting period, Board of Supervisors audited reports regularly disclosed by the Company and relevant matters of the non-public offering of A Shares by the Company, carefully studied financial statements and the plan on profits sharing in 2016, supervised internal control, list of affiliated person, and use and change of financing capital, studied the matters of the non-public offering of stock by the Company, paid sustained attention to the assets or business influencing the Company performance, and had no objection on how the Board of Directors and Management handled such assets or business.

Risk Management

The Company established and perfected the internal control system featuring "risk-oriented, system-based, process as link, and system as gripper". It also established and perfected the internal control and risk management system featuring "the integration of self evaluation by subsidiaries and on-site inspection by the Group together with the integration of internal inspection and internal audit". Among them, it effectively promotes the Company's standard of internal control management and the ability of preventing risks. It further promotes the construction of the Company's internal control system more in-depth and meticulous, with more comprehensive risk prevention measures, especially targeting for material risk prevention and control of risk effectiveness, thereby the internal control and risk management system can form a closed loop.

For the purpose of realizing management objectives, the Company thoroughly analyzed the change of internal and external circumstances, actively formulated risk response plans, focused on significant risks from evaluation such as governance risk of deficit company, risk of paying off two kinds of premiums, safety risk, and operation risk of offshore projects, etc., strengthened the risk prompts of the industry and promotion of response measures to typical risks under the "new trend" economic background, learned from advanced management experience, continued promoting and perfecting each job of the risk management system to secure effective implementation of controls of significant risks, traced the implementation and improved the capacity for managing risks to provide support and service for operation of the Company.

Compliance of Laws

The legal management of MCC accelerated the establishment of legal system of "two-level management and integration of impetus, execution, and assistance" on the basis of perfecting "two-level management". Perfecting "two-level management" consisted of strengthening the group's supervision and coordination of legal management work of subsidiaries, establishing the evaluation system of two-level legal affairs executives of the headquarter and subsidiaries and general counsels, perfecting the work system of the Company, and realizing the fully control of the branches, project departments, and affiliated management group subsidiaries (branches). Realizing "integrating impetus, execution, and assistance", integrating the impetus of main principles of company of each level, execution of management and operation personnel and assistance of legal counsels and carrying out legal work as one cohesive unit.

In 2016, the Company further deepened the construction of (general) legal counsel system, legal work system and law risk guard mechanism, comprehensively improved the Company's capacity for managing the Company pursuant to laws and provided strong legal protection over the Company's new strategic positioning. The New Five-Year Plan and Seventh Five-Year Law Popularization Plan of legal work of MCC Group were formulated and issued. The legal management system of subsidiaries was constantly improved and 13 important subsidiaries established general counsels. The legal review was integrated in the management process of rules and regulations, contracts, significant decision, authorization of legal representative, external dispatch and seals. Total 170 legal opinions were provided throughout the year (by the headquarters). 156 power of attorneys (including 28 pieces of MCC Group; 128 pieces of MCC), and 35 legal letters were examined and handled. More than 800 pieces was examined and stamped, which effectively evaded the Company's legal risks. The Company improved the management of contract accounts and special seals for contracts; established early warning and mediation system of important legal dispute cases, improved professional level and standardization of case management; improved the Company's capacity for safeguarding rights pursuant to the laws.

Building corruption-free management

The Party Committee of MCC adhered to strengthening the conduct-discipline construction, combined the daily supervision with periodic inspection, making conduct-discipline construction regular work, organized and carried out "looking back" (review) of corrective actions of "Four Style" problems (formalism, bureaucracy, hedonism, and extravagance), strictly prosecuted the violation of the "Eight Rules" spirit, and prevented the comeback of "Four Style" problems. The disciplines and customs were always made the priority for all and "Four Kinds of Forms" were held, applied, supervised, and executed. The "strengthening early, strengthening small problems, and being punished whenever making mistakes" was insisted on to realize the object of reducing inventory and containing increment. In the meantime,, the Company pursued the policy that cases must be checked and corruption must be penalized, thus maintaining the crackdown situation of punishing corruption.

The Party Committee of MCC has been strictly performing its political responsibility of strictly governing the Party. At the beginning of the year, MCC held the meeting of building of Party Conduct to arrange overall anti-corruption work, divided and assigned tasks to functional departments, party committees and discipline commissions and signed the *Party's Corruption-Free Building Responsibility Statement* with party committees of 46 subsidiaries. In the middle of the year, interview work was organized and carried out as per position levels. The Group Discipline Commission had interviews with 22 principles of the function departments of the headquarters, 22 secretaries of party committees and secretaries of committees for discipline inspection of subsidiaries; the party committees of second-level subsidiaries had interviews with 4243 leading cadres promoting effective implementation of responsibilities as per position level and transmitting pressure by position level. By the end of the year, in line with relevant requirements of political tours, The Party Committee of MCC made key inspection of 12 subsidiaries, supervised and urged corrective action of problems, promoted the effective implementation of responsibilities as per position level and transmitting pressure by position level.



Total legal opinions issued (by headquarters) throughout the year

170 copies

Power of attorneys examined and handled

156 copies

Management of the Relationship with Stakeholders

Stakeholder Engagement

Stakeholders	Expectations and Requirements	Communication and Responses
Shareholders 	<ul style="list-style-type: none"> To obtain the returns on investment To obtain satisfactory capitalization To protect rights and interests To understand MCC's operation 	<ul style="list-style-type: none"> To improve the profitability To strengthen the market management To hold shareholder meetings To timely disclose the information
Clients 	<ul style="list-style-type: none"> To offer them high-quality products To continuously improve the service quality To stick to equal and mutually beneficial cooperation 	<ul style="list-style-type: none"> To keep close contact with customers To provide rich products and services information To improve the complaints handling mechanism
Environment 	<ul style="list-style-type: none"> To conserve energies To protect the environment To conserve resources 	<ul style="list-style-type: none"> To adopt the green design and construction To protect the ecological environment To achieve the green office
Creditors 	<ul style="list-style-type: none"> To continue to improve the value of MCC To minimize risks and operate steadily To repay capital with interest on schedule 	<ul style="list-style-type: none"> To disclose routine information To issue regular reports To receive visitors
Staff 	<ul style="list-style-type: none"> To protect their legal rights To provide them with good welfare and development opportunities To provide them with healthy and safe working environment 	<ul style="list-style-type: none"> To establish the staff union To hold the worker representatives congress regularly To establish smooth internal communication channels To improve staff training system and provide the staff with occupational safety and physical check
Partner 	<ul style="list-style-type: none"> To achieve win-win cooperation and common development To be open and fair and keep its promises 	<ul style="list-style-type: none"> To hold high-level meetings To conduct daily communication To disclose procurement information To hold regular meetings To conduct multi-channel cooperation and research
Industry 	<ul style="list-style-type: none"> To compete fairly To promote the industry development To promote the industry management level 	<ul style="list-style-type: none"> To enhance research and development capabilities To participate in industry development forums
Governments and regulatory agencies 	<ul style="list-style-type: none"> To implement government policies and regulatory rules To maintain and increase the value of state-owned assets To operate lawfully, pay taxes according to law and create jobs 	<ul style="list-style-type: none"> To participate in the making of relevant policies and implement them To welcome inspection and supervision To report actively and deliver themed reports To carry out strategic cooperation
Communities 	<ul style="list-style-type: none"> To protect community environment To support community welfare projects To create job opportunities for the community To promote local economic development 	<ul style="list-style-type: none"> To sign joint construction agreement To participate in community projects construction To carry out charitable activities

Information Disclosure

- The Company formulated *MCC Information Disclosure Management System*, *MCC Stock Market Information Disclosure Management Measures*, *MCC Stock Market Information Disclosure Implementing Regulations for Suspension and Exemption Business*, and *MCC Information Report Manual* at the operational level, all of which are updated and amended from time to time in accordance with the updated supervision regulations, financial conditions of the Company, actual operation conditions of the information report, and stipulated the responsibilities of organizations and personnel at various level in information collection, report and disclosure, as well as the standard and procedures of major event disclosure and collection; meanwhile, the Company established Secretary of the Board or corresponding office staff and administrative body in each subsidiary to develop information collection, report working system. The establishment of the above systems and Secretary of the Board lays a solid foundation for timely, effective collection of the Company's major event information, and real, complete, timely, orderly, effective, fair disclosure of the information.
- The Securities Affair Section of the Office of the Board of the Company centrally administers the disclosure affairs of the Company's stock market information, the Section formulates detailed, strict internal control procedures on information disclosure, actively establishes the corresponding internal control and operation norms, making checks at all levels, to ensure the reality, accuracy, integrity and promptness of the information disclosure. Before the disclosure of major event, and during the preparing and disclosure of regular reports, lay emphasis on the communication with regulatory agencies and compliance lawyers to ensure the disclosure of the information complies with the supervision regulations.
- The Company carries out internal trainings at regular intervals to continuously arouse the awareness of the public companies and awareness of investors' protection and intensify working management. In addition, the Company also intensifies secret protection training in various forms and the work on the registration of the insider of the inside information to improve the awareness to protect the inside information.
- In 2016, in strict accordance with the relevant stipulation of China Securities Regulatory Commission, Shanghai Stock Exchange and The Stock Exchange of Hong Kong Ltd., etc., the Company carefully organized the information disclosure work. One is to continuously intensify the validness of the disclosed information on the basis of compliance disclosure and intensify voluntary information disclosure on the basis of market communication. In the regular reports, we intensified the disclosure of the contents such as the Company's new strategic positioning, emerging industry and business, transforming of non-metallurgy project business, conditions of PPP Project, development achievements of science and technology, etc. so as to improve the validness of the information disclosure. We persisted in disclosure the brief reports of the conditions of the Company's newly signed contracts in form of interim announcement on monthly basis in order to let the investors to have sufficient channels to fully understand the Company's market development situation and form the pre-judgment to the Company's development in the future.



Case

MCC Interim Results Communication Meeting of 2016

On 30 August and 6 September, MCC convened the interim results communication meeting of 2016 in Beijing and Hong Kong. The Executive Directors of MCC and President Zhang Zhaoxiang attended the conference with all the Management and the principals of relevant departments and had a face-to-face communication with Huatai Securities, Morgan Stanley, Harvest Global Investments and other 80 offshore and domestic investment organizations and analysts, China Securities Journal, Hong Kong Economic Times and other 20 financial media.

Along with the implementation of new positioning strategy of the Company, "national team of metallurgical construction, the main force of infrastructure construction, the pacesetter of emerging industries, insisting on taking the road of high-tech construction in the long term", investors generally agreed the development direction of the Company and strengthened the confidence of the Company's development.



The interim results communication meeting of 2016 (A Shares)

Relationship with Investors

Strengthening communications with capital market at different levels based on the guidance of entire market investment value of the Company and centering on Theme of directional add-issuance, and actively conducting the communications of relative performances and the road shows. The Company respectively organized 2015 annual and 2016 interim results communication meetings in Beijing and Hong Kong at the end of March and August, and conducted one-to-one and face-to-face communications with several investors from Shanghai, Shenzhen, Hong Kong and the USA, etc., and conducted communications regarding the detailed conditions including the performance of the Company and private placement, etc. Otherwise, it also organized the network dividend explanation session and the reverse road show with Theme of pipe gallery businesses, the investors can deeply realize the technical strength and development potential of the Company in the professional and high-end construction field through field research on the projects, such as, Zhuhai Hengqin underground integrated pipe gallery, and thus further stabilizing the confidence of the capital market for the future performance of the Company and the long-term performance of the share price.

Continuing to perform well on daily communications and receptions for the investors, analysts and media; further strengthening the initiative of the investments, actively contacting the investors, analysts and media and conducting the research and analysis for relative schemes. In 2016, the Company received the research interviews of investor at home and abroad, attended the investment strategy meetings of famous securities trader at local and foreign, for instance, J.P. Morgan Chase & Co., the CITIC Securities and Huatai, etc. for over 50 times in accumulation, continuously communicating with the investors about the operation performances and development potential of the Company, actively guiding the interest of the investors for the private placement of A shares of the Company.

The Company emphasized on what the investors want to know, where the market hotspot is during the process of actual communications with the investors, and made a good guidance in the external communications with a definite object in view. The Company continued refining the sub plate data, and deeply researched on the business data of new industries including the PPP Project and the pipe gallery, etc., thus setting up the position of the pacemaker of an emerging industry in the heart of the investors of the capital market synchronously through large amounts of effective communications.



Take the Responsibility of the Corporate Mission Promote Innovative Development

The Company adopts “Focusing on principal Business, Building a Better MCC” as vision; whilst “being the national team of the metallurgical construction, the main force of the basic construction, the emerging industry leader, insist on taking the road of high-tech construction in long term” are the new strategic positions to “four beams of eight columns” for the business, earnestly perform economic responsibility, and vigorously improve the creation of values. MCC will unwaveringly persist in its principal business, develop the market with full energy, seek for innovation and adjust the structures, drive innovation, enhance the competitive edges in a bid to have a booming development in the Company’s businesses.

Business

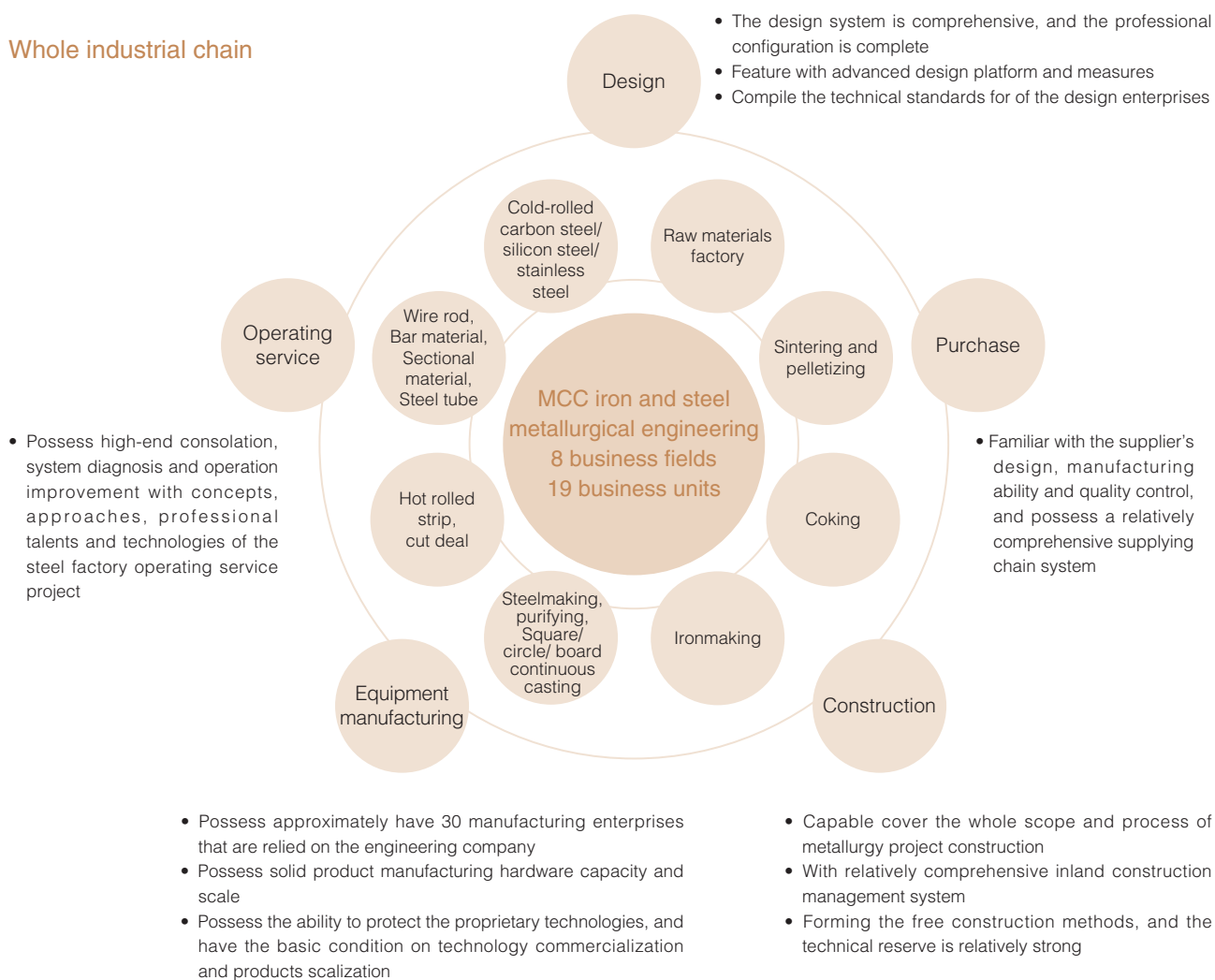




Construct National Team in Metallurgy We are Second to None

As the founder of the metallurgy industry of New China, MCC has over 60 years of technical accumulation in core technological advantages covering the steel engineering and has the most powerful core technological advantages in mine construction, mining industry development and production. Having over a hundred of the best core technologies, talented human resource reserve, continual creative ability and system integration ability of the whole industrial chain of metallurgy, MCC successively undertook the construction design of large joint enterprises including Baosteel, WISCO and Panzhihua Steel, etc. MCC accountable for 60% of the world's metallurgy market share and provides the overall design services for the iron and steel enterprises with global competitions including JFE, TATA, Gerdau and CSN, etc.

Whole industrial chain

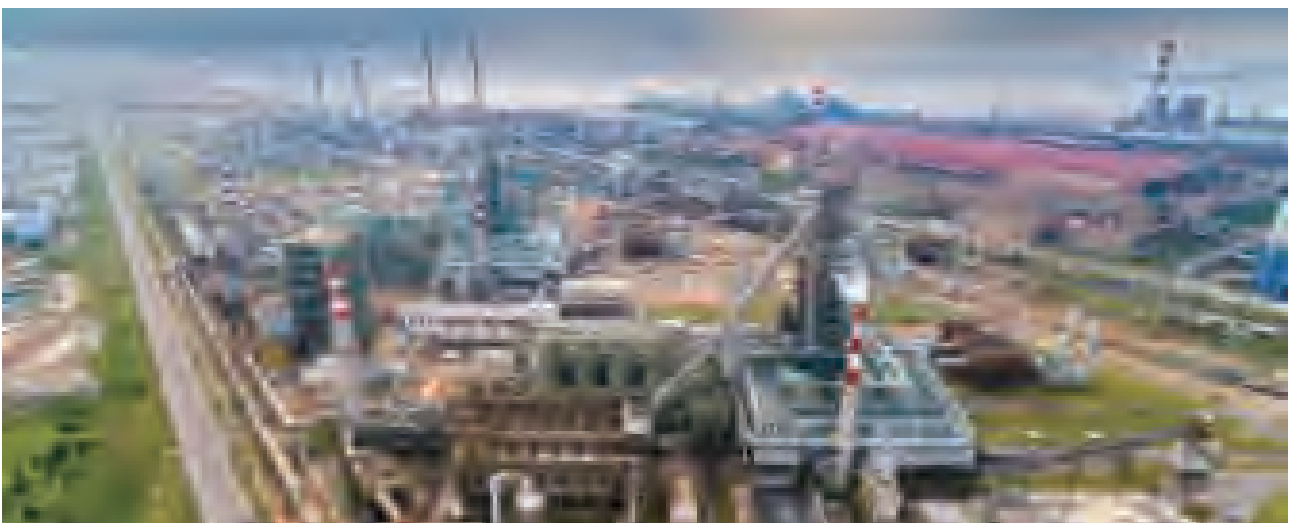


During the reporting period, the Company persisted in the principle, “national team of metallurgy construction” and promoted the completion of the top-level design scheme of “national team of metallurgy construction”. The Company compiled and published the *Action Guideline of National Team of Metallurgy Construction*. On 23 June 2016, MCC Group hosted the promotion meeting for the forging of national team of metallurgy construction and formally published the *Action Guideline of National Team of Metallurgy Construction*. The *Action Guideline* outlined a defined arrangements and deployments from the aspects of organizational structure, business system, science and technology innovation system and operating mechanism, etc., making it clear that the “slimming” and “fitness” of metallurgy construction should be developed simultaneously, retaining and matching the high-grade, precise and advanced sources to ensure the traditional advantages would be stronger, better and continually promote the competitiveness and influence in the global steel engineering and technology field. The publication of the *Action Guideline of National Team of Metallurgy Construction* was the result of the one-year application of improvement and rationalization after the implement of the top-level design scheme of “national team of metallurgy construction”, which marks the the new starting point and new period of the national team of metallurgy construction and is extremely important and meaningful to the long-term development of MCC.



On 23 June 2016, the MCC Group hosted the promotion meeting for the forging of national team of metallurgy construction and formally published the Action Guideline of National Team of Metallurgy Construction

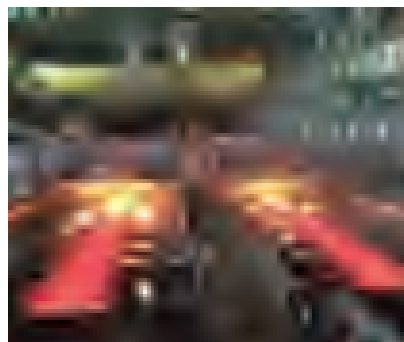
During the reporting period, the Company has gained material progress in various steel construction projects. On 15 July 2016, the No. 2 blast furnace of Baosteel Zhanjiang Steel succeeded in ignition, which marked the comprehensive completion of Phase I project of Baosteel Zhanjiang Steel with a reputation of “the world's most efficient green factory”. A large amount of green environment-protection technology that MCC owns intellectual property has been incorporated into this steel DreamWorks that is totally designed and constructed by people of MCC. Almost at the same time, the Formosa Plastics Vietnam Ha Tinh Steel Project whose system-wide, overall-process and complete-period integrated services are provided by MCC has been basically completed. This is the first time for China to display its self-owned iron and steel technologies and high-quality domestic equipment to the world and is honored as the benchmark and model project of construction of the world's steel and iron industry.



Baosteel Zhanjiang Steel No. 1 and No. 2 blast furnace are completed and put into use



Formosa Plastic Ha Tinh Steel No. 1 and No. 2 Blast Furnace



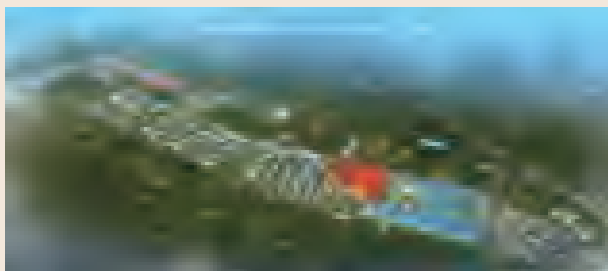
Baosteel Zhanjiang Steel 2300mm Continuous Casting was smoothly put into production

During the reporting period, the Company signed many large-scale metallurgy construction projects, for example the series of projects such as Malaysia Kuantan Industrial Park 3,500,000 ton steel engineering, Shandong Steel Group Rizhao base raw materials, steelmaking and continuous casting, and the 2030 cold rolling, etc., and the projects including Fujian Qingtuo Stainless Steel Puddling engineering and the Hebei Jinxi Steel Group large H-type Steel Engineering, etc., which further stabilized the industrial position of “the national team” in metallurgy construction.

Case

Malaysia Kuantan Industrial Park 3.5 Million Ton Steel Engineering Project

Malaysia Kuantan Industrial Park 3.5 Million Ton Steel Engineering Project is the first large-scale modern comprehensive steel factory with complete flow scheme and one-time construction in Southeast Asian area and is also a significant project of “Belt and Road Initiative” of China as well as a demonstration project of international capacity cooperation, which is attached great importance by the governments of both China and Malaysia. The CISDI Group Co., Ltd., ACRE Coking & Refractory Engineering Consultation Corporation, WISDRI, Zhongye Changtian International Engineering Co., Ltd., China Jingye Engineering Corporation Limited, MCC Overseas Ltd., China 19th Metallurgy Corporation, China 22nd Metallurgy Corporation and Shanghai Baoye Group, Co., Ltd., all are subordinates to MCC, undertook the design, equipment supply and overall contracting of construction of main business units of this project.

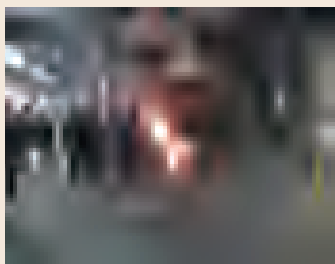


Aerial View of Malaysia Malaysia-China Kuantan Industrial Park 3.5 Million Ton Iron and Steel Combined Enterprise

Nonferrous metallurgy is an important component for metallurgical engineering for MCC. As the trailblazer and pioneer of nonferrous metallurgy in China, MCC has undertaken more than 90% of the copper, lead, nickel, tin smelting projects within the nation, leading the nonferrous metallurgical industry development direction around the globe.

Case

Baotou Huading Oxygen-enriched Molten Pool Smelting Technology Upgrading and Renovation Project



On 11 November 2016, after the oxygen bottom blowing smelting furnaces were formally put into operations on 30 June, the oxygen bottom blowing converting furnaces of Baotou Huading Oxygen-enriched Molten Pool Smelting Technology Upgrading and Renovation Project contracted by China Enfi was put into operations, which marks the first copper smelting plant that transformed traditional P-S converter with oxygen bottom blowing continual copper smelting technology was comprehensively put into production. The first success of the traditional P-S converter transformed by the oxygen bottom blowing continuous converting technology fully showing the reliability and advancement of oxygen bottom blowing continuous converting technology and the strong technological and economic advantages of it on the transformation aspect. The successful production of this project further set up examples for the transformation of aged systems and construction of large-scale clean copper smelting plants in the copper smelting industry in the future.

Case

Guizhou Zijin Shuiyindong Gold Mine 450t/d Pressurized Pre-oxidation Technical Transformation Project

The first refractory gold ore pressurized oxygen leaching production line in China designed by China Enfi – Guizhou Zijin Shuiyindong Gold Mine 450t/d Pressurized Pre-oxidation Technical Transformation Project was smoothly put into operations. The successful operation of this project means that the “Enfi technology” has realized a new open-up in the gold mine resource exploitation technology of the country. The raw materials processed in Guizhou Zijin Shuiyindong Gold Mine 450t/d Pressurized Pre-oxidation Technical Transformation Project are high-arsenic carbonic refractory gold ores with direct cyaniding gold recovery rate being only 10%, which belongs to the typical refractory gold ore. In order to deal with this kind of raw material, China Enfi cooperated with Zijin Mining to address challenges from engineering application, and it is the first case in China to apply the pressurized oxygen leaching technology in the gold smelting field in domestic. The operating temperature of the project can reach 225°C, and operating pressure can be 3.8MPa, which is the project with the most complex operating condition in the wet process smelting in China at present.



Xiangyun Feilong Lead Sulfate Skim Wet Processing Recycling Cyclic Utilization Demonstration Project

The first sulfur wet processing lead smelting engineering project designed by China Enfi – Xiangyun Feilong Lead Sulfate Skim Wet Processing Recycling Cyclic Utilization Demonstration Project has been put into operations smoothly. The International Lead Zinc Research Organization and International Zinc Industry Association have sent congratulatory telegram for the operation of the project and have given a good appraisal for this project. This project is currently the only engineering project that deals with lead sulfate skim with wet processing in the world, it adopts the lead sulfate skim wet processing lead smelting technology newly developed by Xiangyun Feilong to overcome the shortcomings of high energy consumption, serious pollution, heavy labor intensity and low recovery rate of valuable metal during the pyrogenic processing lead sulfate skim production processes, and can deal with the lead sulfate in the zinc smelting skim with high efficiency, comprehensively recover the valuable metal like lead, gold, silver and indium, etc., which can obviously reduce production cost and has a good environmental protection benefit and economic benefit. Otherwise, this technology can also be broadly used in recycling of waste lead-acid battery to realize the complex smelting of lead and zinc cyclic utilization of resources, meeting the direction of industrial transformation, low carbon and green development.



BNMC Zinc Smelting Resource Utilization Project

On 5 October 2016, the BNMC Zinc Smelting Comprehensive Resource Utilization Project 152m² roaster researched and designed by China Enfi held the accomplishment lighting ceremony in Northwest Lead and Zinc Smelting Plant. The 152m² roaster is the largest zinc concentrate fluidization roaster in the world at present, and also another core technology and equipment independently re-researched and developed by colored metallurgy industry of our country. The successful development of 152m² fluidization roaster can promote the single series of capacity of zinc smelting and roasting into the scale of 150,000 t/a. In addition to its advantages like strong bed capacity, high heat stability, strong application capacity of raw materials, stable calcined ore quality and high labor productivity, etc., the unit investment, energy consumption and functioning cost are lower, having an important demonstration effect for the zinc smelting project construction in our country in the future.



Key Players of Basic Construction We Move Forward at Full Speed

The Company extended its advantages in industrial construction in the industrial fields such as metallurgy, etc. into other construction fields. After the long term accumulation, the Company owned a multitude of international first-rate technologies in expressways upon the complex geological conditions, large-scale deep excavations under special geological conditions, super high-rise buildings, huge span buildings, huge, complex and high precision electromechanical system engineering construction fields and reached the advanced level in new materials, new technologies and new processes, etc. in construction field in China.

During the reporting period, the Company centralized its advantageous resources, followed the state strategies, actively created new commercial modes, put regions, for example, Beijing, Tianjin, Hebei, Yangtze River Delta and Pearl River Delta, etc., with developed economy and dynamics into its main battlefield to optimize and improve the market layout, create advantages in integrated industry and finance, further strengthened the ability of "high, new, comprehensive and large" projects, continually enhance the market exploitation in infrastructure construction, including high-end house construction, expressway, city flakiness development and traffic and municipal infrastructure, etc. and to strive to be the key player of the basic construction of the country and the "Belt and Road" Initiative.

Traffic and Municipal Infrastructure Field

The field in traffic and municipal infrastructure is one of the main industries in the "four beam and eight column" industrial system, and it is also the direction that has been expanded by the Company vigorously in recent years. The Company has abundant design experience and project management ability, supported with strong technical equipment and construction ability to form a strong construction service ability in the urban traffic and basic facility construction field including expressways, bridges, roads, airports, harbors and rail transit, etc., and has successfully undertaken a batch of landmark projects. During the reporting period, the Company won a batch of projects such as expressways, industrial parks and municipal administration, namely the three expressways in Guizhou contracted by MCC Traffic Engineering Technology Co., Ltd. and Guizhou Company with total investment of RMB25.7 billion, Shenzhen International Convention Centre Supporting Infrastructure project contracted by China MCC20 and CISDI Group with total investment of RMB9.6 billion, and Zhuzhou Industrial Park contracted by China MCC20 with total investment of RMB6 billion.

Case

Shenzhen International Convention Center Municipal Supporting Engineering

Shenzhen International Convention Center, located at the bay head of the Grand Bay of Guangdong, HK and Macao, is one of the 3 main buildings of "2 centers and 1 mansion" in the Shenzhen Airport New City distributed by Shenzhen Municipal Party Committee and Municipal Government. Municipal supporting engineering of Shenzhen International Convention Center includes two projects-the comprehensive pipe gallery and municipal roads, and is contracted and constructed by the China MCC20 Group and CISDI Group together. The main project includes 24 bridges, 9 sections of comprehensive galleries of 16.9 km, and totally 19 municipal roads of 29.2 km including "6 vertical roads and 13 horizontal roads", adopting the construction mode of general contracting of design, purchase and overall construction and being completed at the end of 2018 with construction period about 1,380 days.



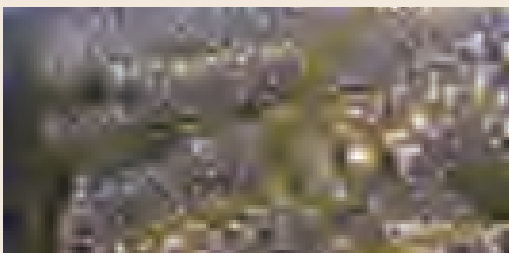
Chairman GUO Wenqing and Deputy Secretary of Guangdong Province and Shenzhen Municipal Party Secretary MA Xingrui, Mayor XU Qin, Chairman LI Jianhong of China Merchants Group and General Manager DUAN Xiannian of Shenzhen Overseas Chinese Town Holding Company, etc. dug up the first spade of soil for the groundbreaking of this project



Aerial View of Integration of Airport New City

Case

“Yangluo Heart” Project



Yangluo New City Center

The total investment of “Yangluo Heart” Project of Wuhan Yangluo Economic Development Zone contracted and constructed by China MCC20 Group is RMB3,651 million, and the main business contents of the project are to invest and finance, survey, plan, design, construct, operate and maintain the municipal infrastructure construction route with total length of 58.02 km and relevant urban comprehensive underground pipe gallery projects, the Blue Sky Necklace Ecologic Zone with a total construction area of 600,000 square meters, the massif greenbelt parks and greening construction with total planned area of 816,000 square meters and literary education facility construction with total area of 172,600 square meters, the first municipal infrastructure PPP Project of new town development category.

Case

Guizhou Ziwang Expressway Project

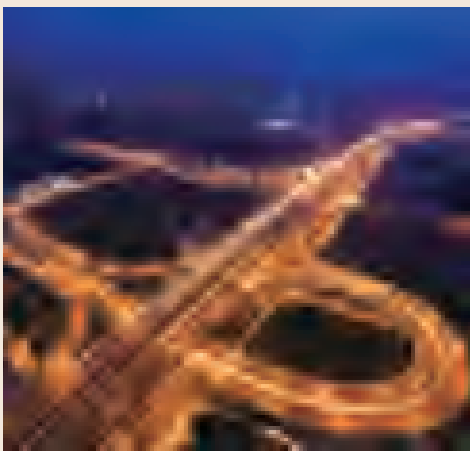
MCC Group and Guizhou Communications Construction Group Co., Ltd. have jointly invested and built PPP project with 3 highways in Guizhou, and the contracting and construction are all attended by MCC Guizhou Company. Of the project, the Ziwang Expressway covers 2 counties – Ziyun and Wangmo in Guizhou, with a total length of 73.966 km and proportion of bridge and tunnel is 61.39%, specifically, tunnels: 21.6 km / 15 tunnels and bridges: 26.7 km/85 bridges; it is predicted to be completed and put into use in 2018, and the operation term is 30 years. Along the line of the project, there are mainly villages of Yunnan-Guizhou Plateau, among which Wangmo is one of the poorest counties in Guizhou Province. At present, the project has entered its construction period of main body. MCC Group Guizhou Company has been actively participating in the public welfare in the project construction, initiatively taking on the accurate poverty relief responsibilities, building a good enterprise image in Guizhou.



Commencement ceremony of Xizuo Tunnel on Ziwang Expressway

Case

Chengdu Second Ring Road Reconstruction Project-awarded China Construction Engineering Luban Prize



The night scene of constructed Chengdu Second Ring Road Eastern Section Reconstruction Project

The Chengdu Second Ring Road Eastern Section Reconstruction Project attended and contracted by China 19th metallurgical Corporation is an important component of “two BRT, two radioactive fast passages and two overpasses” in the central urban area of Chengdu to relax the traffic jam and guarantee the smoothness, which is a significant livelihood project. The project realizes the triple unity of “two BRT”, the overhead and the high street and the coordination and unification are initiative in the country; the 3-meter hollow single-mound full pre-stressing large cantilever structure at the center of the viaduct is tender, artistic, daylighting and noise reductive; the whole line adopts the bare concrete, which shows the perfect combination of structure and landscape; the application of fire-fighting facilities on viaduct is the first time in China, making precaution measures in place; the adoption of a large amount of prefabricated parts embodies the conception of building industrialization and environment-friendly construction, making it the model of municipal project construction. The daily average flow of constructed “new second ring” can be 900,000 person-times, which realizes the “multiplication” of highway capacity and further improvement of the transportation network of Chengdu City, and boosts the social economic sustainable development of Chengdu. The project successively won the gold medal of Tianfu Cup of Sichuan Construction Project and the National Customer Satisfied Engineering, and it won the Luban Prize of Chinese Construction Engineering in 2016.

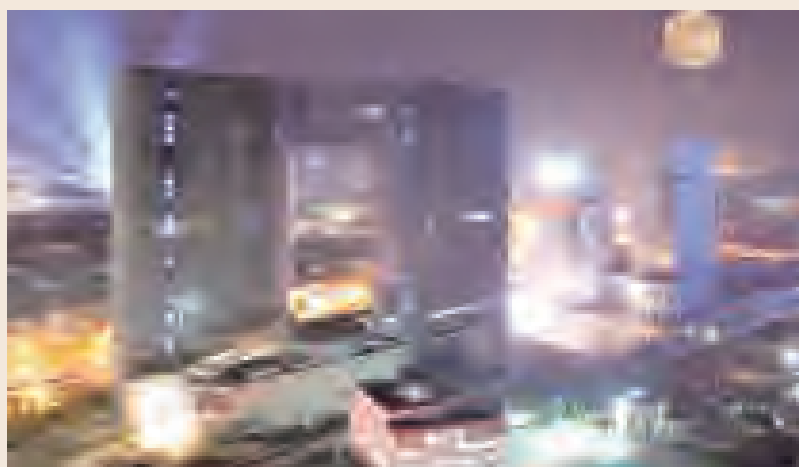
High-end House Construction Field

In the field of high-end house construction, aiming at the target market of intelligence, environment friendly and landmark, MCC builds high-end house construction business brand through continuous technology innovation in terms of super high-rise buildings, large-scale public arenas and large urban public facilities. After years of development, MCC is able to provide “one-stop service” including consultation, planning, exploration, design, construction, equipment procurement and supervision, and has obtained a number of typical project achievements, won a great deal of awards and created many breakthroughs. The high-end house construction business of MCC has a fast and healthy development.

Case

Xiamen International Trade and Financial Center

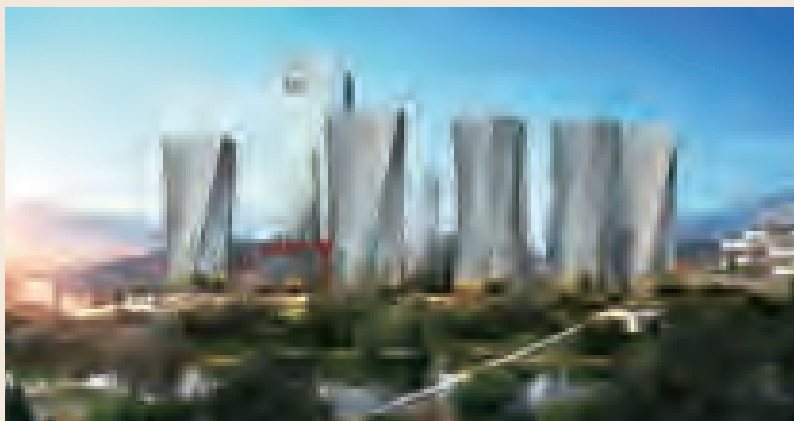
Xiamen International Trade and Financial Center, which is constructed by China MCC5 Group and composed of two slab-type buildings of 138.5m in highness and a space corridor of six floor high, which forms a unique “door-shape” architectural structure with far-reaching significance, is given the implied meaning of “Door of Haixi, Door of the World” and is a portal-type landmark building where Xiamen accesses to the world with an open mind. This project was awarded the title of “AAA Level Security and Civilization Standardization Construction Site” in 2016 by China Construction Industry Association.



Xiamen International Trade and Financial Center Project

Case

Chongqing Xiantao Data Valley Project



Chongqing Xiantao Data Valley Project

Chongqing Xiantao Data Valley is a big data industrial park which is created by Chongqing for building an internationally competitive innovative ecosystem and a major project of national-level big data and smart hardware industry. Total construction area of the project contracted and constructed by China MCC 5 Group is 404,000m², construction contents consist of commercial office building, apartment, SOHO, international primary school and Taiwan youth creative industrial park project, which total cost about RMB3.5 billion and are a distinctive project with high construction difficulty in the Chongqing Data Valley. At present, its early-stage construction has been commenced.

Medium and High-end Real Estate Field

Actively grasping opportunity of new urbanization construction, MCC mainly focuses on first and second tier cities, including Beijing-Tianjin – Hebei Region, the Pearl River Delta and Yangtze River Delta and other hot spot regions. MCC has initially formed a business system of “one body and two wings” which gives priority to the mid-to-high-end real estate development with selective expansion into commercial real estate development and property management through precise, superior and professional performance and taking a green real estate way of leading green building and concerning ecological environment. MCC has a good momentum in real estate development project.

Case

MCC Shengshi Binjiang Project

MCC Shengshi Binjiang Project developed by MCC Real Estate is located in major urban area of Nanjing, with its east stretching from south approach bridge of Nanjing Yangtze River Bridge, the south reaching Fangjiaying Road and the planned and constructed Binjiang Avenue, and the west reaching Yangtze River, the north reaching to Daqiao Park, enjoying particularly favorable geographic position. Land area of the project is about 322,900m² and overall construction area is nearly one million square meters, covering a large-scale urban complex project with a number of commercial activities, such as theme commercial street transformed from Hutchison Foreign Firm, low-density villa, subway upper cover, river-view high-rise building, commercial street of Binjiang characteristics, office building and star-rated hotel in bay area. In 2016, projects of Jinxiu Huafu and Jinxiu Jiangshan of MCC Binjiang Project won several honors, such as “China Top 100 Valuable Real Estate 2016-2017”, “Top 10 Public Praise Real Estate”, “Real Estate of Ingenuity” and “Real Estate with Sector Value”.



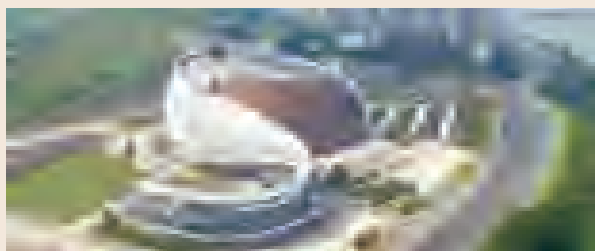
Shengshi Binjiang Project

Steel Structure Field

MCC complies with the requirements of developing steel structure business by national basic construction to strengthen the industrial steel structure. Meanwhile, MCC vigorously develops steel structure used for civil buildings and infrastructure, focuses on expanding steel structure market in the fields of super high-rise building, municipal construction, bridge, nuclear power and marine industry. Research and develop relevant technology and the technology of steel structure residence industrialisation in a bid to improve economic benefit of steel structure business and create a competitive “MCC steel structure” brand nationally and globally.

Case

Chongqing International Circus City Project



Chongqing International Circus City

Chongqing International Circus City, generally contracted by China Metallurgical Construction Engineering Group Co., Ltd., is a large-scale comprehensive cultural facility mainly for acrobats and circus show and integrating office, business production, training, culture exhibition, culture exchange, entertainment and tourism. Gross construction area of Phase I of the project is 24,816m², frame plan of underground part of main stadium is circular and its diameter is about 90m; shape of above-ground part is spherical and its height reaches 50m. Steel structure works of the project won the first batch of 12th “China Steel Structure Golden Medal” (2015-2016).

Case

Harbin Grand Theatre Project

Harbin Grand Theatre (Shanghai Baoye Group participated in its construction) is located in Cultural Center Island, Songbei District, Harbin City with gross land area of 72,000m² and gross construction area of 79,000m². As a main building in cultural center, the architectural design and theatre function orientation of Harbin Grand Theatre are first-class in China, including a grand theatre with 1600 seats, a small theatre with 400 seats, underground parking lot and auxiliary supporting house. There are 8 floors above ground and 1 floor underground (two floors for partial underground). The grand theatre is 56m in highness and 85m in maximum span, and the small theatre is 24m in highness and 48m in maximum span. Roofs of the grand theatre and small theatre, ticket lobby and stairway inside the grand theatre are made of steel structure which totally weighs 7,002 tons, including 5,842 tons for the grand theatre and 1,110 tons for the small theatre and 60 tons for the ticket lobby. The project won "Luban Awards" in 2016.

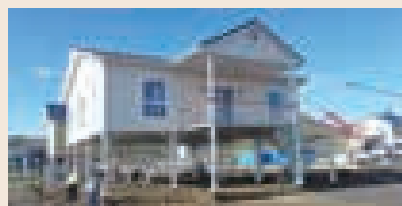


Harbin Grand Theatre Project

Case

Establishment of MCC Tiangong High-end Fabricated Construction Technology Institute

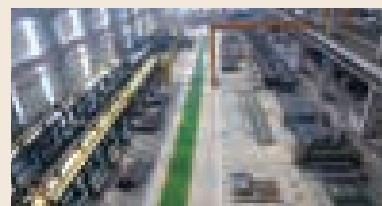
At the beginning of 2016, the establishment of MCC Tiangong High-end Fabricated Construction Technology Institute is new move in the field of fabrication undertaken by MCC Tiangong. MCC Tiangong is going to achieve industrialization goal of "design standardization, production factorization, construction fabrication and decoration integration" through research & development, design, production and construction of steel-structure fabricated architectural products. At present, MCC Tiangong has applied steel-structure fabricated architectural products in several projects, such as Tianjin Jinghai Ziya Shanglinyuan white-collar modular architecture project and Papua New Guinea civil servants' housing modular villa project.



Papua New Guinea civil servants' housing modular villa project



Tianjin Jinghai Ziya Shanglinyuan white-collar modular architecture project



Equipment Manufacturing Base Modular Workshop Production Line

Pioneer of Emerging Industry We Lead the Way

Based on the technical experience of past 60 years, MCC will extend its industrial construction technology advantages in water, power generation and natural gas business from metallurgical industry to civil and municipal field, to obtain the dominant position in the market by constructing urban underground utility tunnel, sponge city, beautiful village and smart city and large theme park. In addition, to strengthens the competitiveness in emerging industry through transformation of resources reassignment, technical progress and marketing strategy. During the reporting period, MCC made a breakthrough in some emerging industries, such as urban underground utility tunnel, special theme project, sponge city, beautiful village and smart city, water environment and treatment, healthy and aged care industry and theme park to consolidate position of "pioneer of emerging industry".

Case

Member of State Council, WANG Yong investigated and mentored in Central Research Institute of Building and Construction Co., Ltd.

8 September, the State Councilor WANG Yong conducted research and direction in Central Research Institute of Building and Construction Co., Ltd., and gave great praise to the accomplishments in technology innovation and emerging industry achieved by Central Research Institute of Building and Construction Co., Ltd. and encouraged Central Research Institute of Building and Construction Co., Ltd. to continue making efforts to constantly create success and make more contribution to the society and the people!

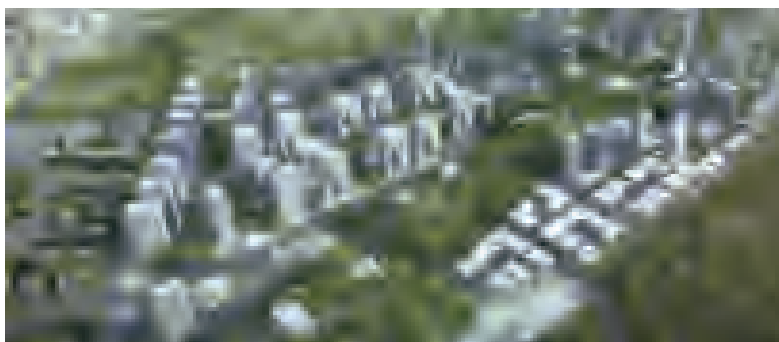


The Chairman YUE Qingrui of Central Research Institute of Building and Construction Co., Ltd. made report about the major results of technology innovation to WANG Yong

Underground Utility Tunnel Field

As an essential component of the national economic growth concerning the current and the future, urban underground utility tunnel construction has become an important strategy of the national urban construction. As the pioneer of underground utility tunnel, MCC seizes the key strategic opportunity of promoting underground utility tunnel construction, elaborately plans for the top-level design, continually innovates new mode of urban utility tunnel, strives to be an undertaker of the national mission, a pioneer of market development and an explorer of scientific research and development in the field of utility tunnel and dedicates to building a brand of "MCC Utility Tunnel". During the reporting period, MCC won the bidding of 39 projects of underground utility tunnel PPP and general construction contract in Xi'an, Lanzhou and other cities. The mileage of the winning projects is 508.4km and investment amount is RMB50.132 billion; the mileage involved in new consulting and design projects is 314.88km; and the planning projects is 995.23km². MCC continues to maintain its leading position in domestic utility tunnel market.

Among utility tunnel projects won by MCC, gross investment amount of Lanzhou project contracted by CISDI Group Co., Ltd. and China MCC17 Group Co., Ltd. is RMB5.4 billion, total investment amount of Xi'an project contracted by China MCC17 Group Co., Ltd. and Capital Engineering & Research Incorporation is RMB8.3 billion, and total investment amount of Hengshui project of MCC Tiangong is RMB5 billion. Shenzhen Apollo Future City contracted by China MCC20 Group Corp., Ltd. and WISDRI is the first large-scale project integrating two elements of underground utility tunnel and spongy city in first-tier cities. Several indexes of MCC, such as market share and construction mileage, continue to be the first place at home and maintain the leading position in the domestic utility tunnel market.

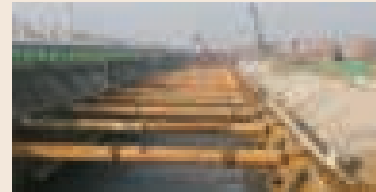


Shenzhen Apollo Future City Planning Graph

Case

Xi'an Underground Utility Tunnel Project

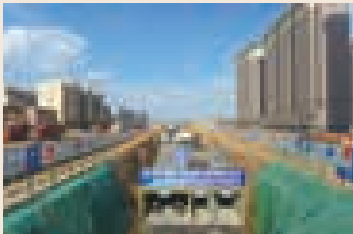
MCC China MCC17, Capital Engineering & Research Incorporation and CCB Trust Consortium won the bid for the second section of underground utility tunnel project and the new trunk line utility tunnel in Xi'an City which are 73.13km long in total and the cable utility tunnel totaled 182.5km, is the country's largest integrated utility tunnel project now. The project is implemented by PPP mode. It is a program that integrates financing, investigation, design, construction and operation and planned and designed by Capital Engineering & Research Incorporation. The China MCC17 is responsible for the EPC construction, operation and maintenance of the project, the cooperation period is 30 years (including the construction period of 5 years), reflecting the overall strength of MCC in the field of underground utility tunnel.



Steel sheet pile support

Case

Gansu Baiyin underground Utility Tunnel Project



Construction drawing of Baiyin underground utility tunnel project

Baiyin city in Gansu province was identified as one of the first batch of ten pilot cities to carry out national underground utility tunnel after the review and competitive review by the Ministry of Finance, Ministry of Housing and Urban-rural Development in April 2015. The project in Baiyin city, Gansu province also is the first one project to start the construction among the ten cities, which received wide attention from all sectors of society. Leaders of the Ministry of Housing and Urban-rural Development and municipal leaders visited the scene several times to observe the research. This project is planned to build 26.25km underground utility tunnel in seven roads in Baiyin City in close cooperation with the transformation of the old city, road upgrading and new urban construction. The project can radiate the center city and Yinxin new area, covering an area of 40 square kilometers, benefiting 350,000 people and having important practical significance and far-reaching influence for promoting economic and social development, building a livable city and enhancing the carrying capacity and quality of life.

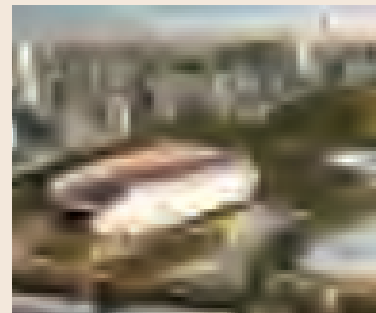
Sponge City Construction Field

In the construction field of sponge city, MCC has the full process of planning and design capability based on the core technology of sponge city, the construction capacity with refinement construction technology as the core, standardized operation and maintenance management capabilities, multi-level and various kind of patented products, which can meet the overall demand of the project for materials, equipment and facilities, at the same time, the Company embraces powerful capital strength and abundant disposable funds, high-quality credit and financial support, rich experience in large projects to ensure the funding sources for the development and construction of the sponge city. It also able to provide the system-wide integrated solution with the core technology of sponge city as the basis to assist China's urbanization and improve the urban living environment.

Case

Wuhan Optics Valley Center City

Optics Valley Center City is located in the core area of Wuhan East Lake Independent Innovation Demonstration Area. It is a modern city featuring fashion, business, vitality, comfort and ecology and boasting high-quality life and working environment. Starting from city planning, WISDRI organized spatial form and layout of main facilities by making use of current nature system, terrain characteristics, retained the majority of mountain to form open space system and guided rainwater flow to lake by taking terrain into consideration. At the same time, large-scale dynamic water system for rainwater transmission and purification was established by using and transforming most of the current rivers and drainage system and rainwater was stored through open space system for the purpose of landscape, entertainment and irrigation to build sponge optical valley center city. Innovative ideas of sponge city and integrated design were used in the project to prepare the overall design of top of municipal infrastructure and special design of road, landscape, integrated management, underground space and intelligent city was integrated into the planning of sponge city and the design and construction of road network, water network, green network, pipe network and intelligent network were coordinated based on overall situation to realize harmonious unity of effective use of urban construction and rainwater and ecological and environmental protection.



Wuhan optics valley center city special city planning and design project

Case

Shenzhen Deep Bay Reclamation Area North Area Municipal Road Project

WISDRI carries out the "low impact development concept" in the municipal road project in north area in reclamation area of deep bay of Shenzhen. Zonal ecological grass ditch was set on both side of the road and sand sediment trap was set in the low-laying green section and the central park road river landscape water body was introduced and sea tide and flood season was used to replenish water for river channel ecology. The river sediment was carried out of sea by the tidal movement to reach the purpose of clean the river to ensure the landscape. At the same time, municipal roads were designed in accordance with low impact development model and the concept of sponge city was effectively implemented in the construction of municipal roads in Shenzhen by adopting previous concrete cycling and pedestrian system. Control rate of road runoff reach 70% through various technical measures.



Shenzhen deep bay reclamation area north area municipal road project

Beautiful Village and Smart City Construction Field

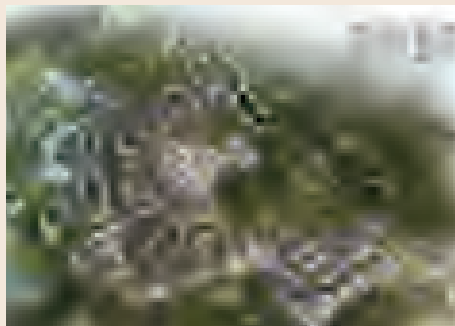
Beautiful village and smart city field is an important support business in the emerging industry. The Company actively carries out the construction of new rural and intelligent cities by depending on the resource advantage and strong technical reserve and combing the needs of rural resources and urban development. Besides, the Company is committed to improve the environment for rural residence, protecting and transforming the folk-custom scene through systematic and in-depth research on rural resources evaluation system, rural development and operation management, rural public service and infrastructure construction intelligent city information technology, intelligent energy and environmental protection, intelligent transportation hub and intelligent park and promote rural economic development, create a harmonious interaction between cities and residents by integrating information technology into the construction and operation of city, which quickly opened the market and successfully implemented a number of representative typical projects like Yunnan Yanjin region-based tourism and beautiful village construction projects and international tourism health original rural resort planning and design projects in Luohu peninsula of Sichuan province and becoming an important force for beautiful rural and intelligent city.

Case

Yunnan Yanjin Region-based Tourism and Beautiful Village Construction Project

MCC established MCC beautiful village and smart city technology research institute by the end of 2015 with CISDI as the supporting institution. The institute put a lot of resources to research the beautiful rural policies and market demand, to develop product and market. It also put forward complete solution for integrated and region-based beautiful rural – "county – town – township" as the overall thinking for the construction of beautiful rural by China Metallurgical. For the development project in Yanjin County of Yunnan, the institute developed the region-based tourism and beautiful rural tourism planning for Yanjin County on the basis of full investigation; made clear the industrial layout and economic development model in Yanjin County, planned Yanjin Luoyan town characteristics program by combining the development of distinctive agricultural products and beautiful rural tourism, built large health and large tourism products with feature high quality natural resources and feature culture resources, planned Dousha ancient town program, Youyang peach blossom river Tujia compound Project and built Yanjin paddy field new town with the concept of smart city, sponge city, sustainable development. At the same time, the institute created "1 + X + Y" business model and core value chain services of "scenic development – scenic construction – scenic financing – scenic investment – scenic operation" core value chain services by giving full play to the advantage of central enterprises and integrating the upstream and downstream resources, providing long-term strategic guidance and beautiful blueprint for the development of region-based tourism of Yanjin county.

At present, Yanjin County, under the guidance of region-based tourism and beautiful rural tourism planning for Yanjin County prepared by MCC beautiful rural and intelligent city technology research institute, is carrying out the construction work, of which, CISDI successfully won the bid of the EPC general contract project of comprehensive construction in Shuitian new district of Yanjin county. This project is also the largest EPC project that CISDI won in the emerging business area such as beautiful villages and smart cities, which has provided strong support for the transformation and development of the CISDI and its effort to lead the new business.



Yanjin Luoyan town West area

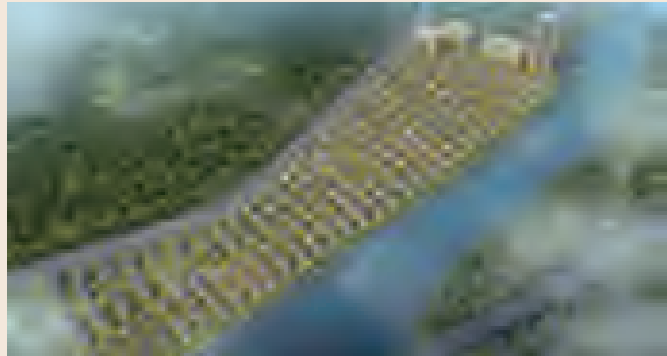


Yanjin region-based tourism planning

Case

Zhejiang Sanmen "Beautiful Village" Project

The "Beautiful Village" Project constructed by China 19th Metallurgical Corporation in Shiyan Village, Haiyou Sub-district, Sanmen County, Zhejiang Province is the new village in Zhejiang province for promoting urban-rural integration, developing population agglomeration of Sanmen county and industry intensification, and is also one of the projects for creating beautiful village that is livable, workable and fitted for traveling. Since the construction started in June 2016, the project has gained continuous media attention. Xinhua News Agency reporters consecutively interviewed and reported several reports focusing on the progress of the project. Central enterprises directly participating in village-level squatter settlement and construction is a helpful exploration for accelerating the reform of the investment and financing circulation system and project construction mode innovation.



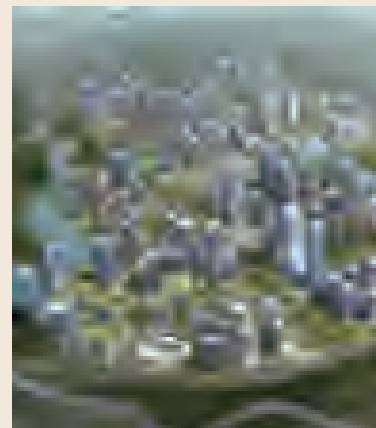
Aerial View of Zhejiang Sanmen "Beautiful Village" Project

Case

Guiyang Big Data Makers' Wisdom Park Project

Guiyang High-Tech Zone Big Data Makers' Wisdom Park is located in the functional zone in front of the new passenger depot in Guiyang, with a planned area of 2.34 square kilometers. Based on the five centers (Technology Business Centre, Technology R&D Center, Innovation Incubation Center, Information Software Center, Capital Operation Center), establishing a high-end service system centered on developing modern logistics, modern finance, software information, modern culture, and business service and so on, and supplemented by real estate, hotel and catering and so on, so as to make Jinyang High-Tech Industry Park into an important golden trade area and service industry development highland in Guiyang and even in Guizhou Province.

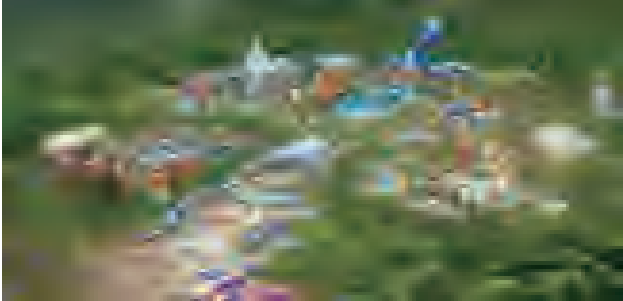
In this project, the planning and design of the wisdom park is from CISDI. Master planning contents include the layout planning of industry space, accessory facilities planning, living facilities planning, supporting industries planning, data and display platform planning, etc. The project now is at its preliminary design phase, meanwhile, it is synchronously pushing forward key projects data management and scheduling center, smart parking and so on in the wisdom park. The project aims at creating characterized soft and hard environments in the park, developing favorable innovation & entrepreneurship, technology R&D atmosphere, gathering industry high-end talents, accelerating the transformation of science and technology into achievements, boosting the growth of settled enterprises, thus creating a world leading, intelligent big data industry city.



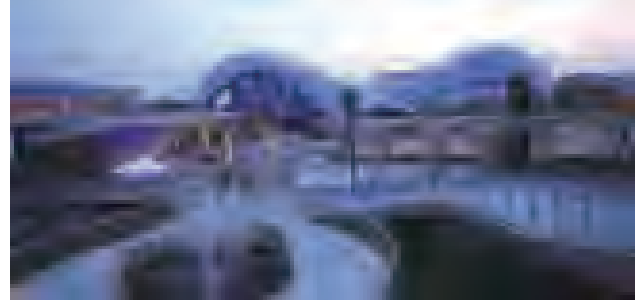
Aerial View of Guiyang Big Data Makers' Wisdom Park Project

Featured Theme Engineering Field

During the construction of featured theme parks, MCC gave full play to the advantages and core competence of subsidiaries, actively integrated resources, coordinating management, consistently developing full industry chain mode, thus forming a strong, organic and holistic strategic collaboration. As the biggest contractor in the field of theme park construction in the world, MCC has the only professional design institute of theme park in China, and is the only enterprise with the general contracting qualification of theme park design and construction. It has developed a high standard construction team including Central Research Institute of Building and Construction Co., Ltd., MCC TianGong, Capital Engineering & Research Incorporation Limited and Shanghai Baoye Group Corp. Ltd., etc., and they are emerging in the field of theme park, having undertaken and built Resorts World Sentosa – Universal Studios Singapore, theme park "Journey to the West" in Jiangsu Huaian, Shanghai Disney Resort, Chimelong Ocean Kingdom in Zhuhai, Wuhan Central Cultural District Movie Entertainment Park, Tianjin OCT Happy Valley Project and other domestic leading representative projects. Some projects have been awarded with Luban Awards, National Quality Engineering Awards, Singapore Innovation Gold Award, Green Building Gold Award, Shanghai Magnolia Award and Jin Gang Award, etc.



Zhuhai Chimelong Ocean Kingdom Project contracted by Central Research Institute of Building and Construction Co., Ltd.

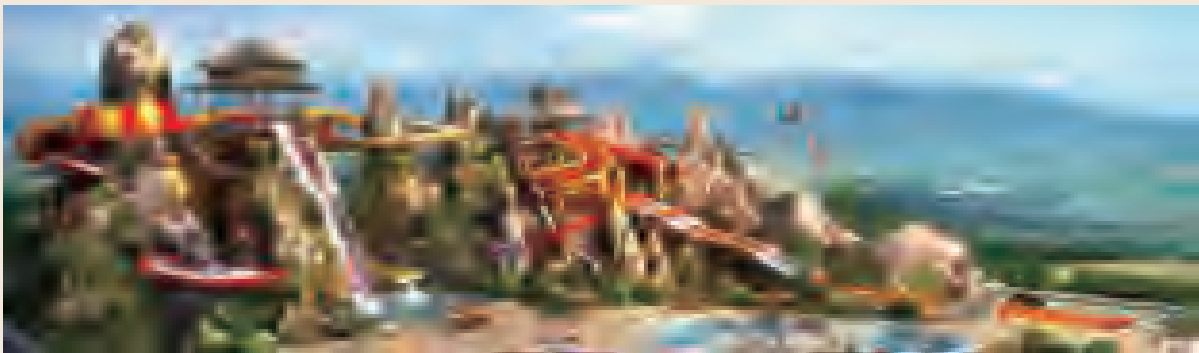


Shanghai Disney core resort - Tomorrow Land contracted by Shanghai Baoye Group Corp., Ltd.

Case

Hainan Ocean Flower Island Water Park

15 November 2016, Central Research Institute of Building and Construction Co., Ltd. won the bidding of Ocean Flower Island Water Park construction project. Ocean Flower Island is located in Danzhou City, Hainan Province, the Ocean Flower Island Water Park is a world top cultural tourism resort invested and built by the Evergrande Real Estate Group combining water park playground, large international shopping center, arts center and international film and TV production base, gold coast line and real estate, committing to building a "ceaseless ocean feast", among which the water park project is the water park construction project with the largest number of rockeries, the most innovative creativity, and the most complicated construction difficulty. Total area of the project is 110,093m², including snow mountain slide zone, family zone, whitewater river area, wave deducing area, ultimate slide area and so on. Its core landscape architecture is a 65m-high snow mountain, with Theme landscape on the mountain fitting in the over 10 recreational facilities, and a built-in theme restaurant, and once completed, it will be the largest theme park rockery landscape and the first special-shaped architecture complex in China.

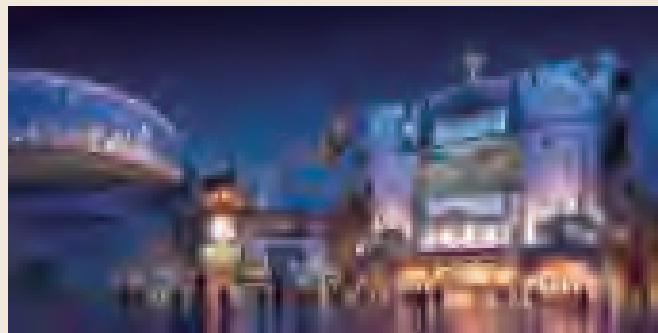


Effect Picture of Ocean Flower Island Water Park Construction Project

Case

Shishi Shimao Theme Park Project

Shishi Shimao Theme Park, the largest indoor and outdoor theme park combined with commerce in Haixi Area, is undertaken by Central Research Institute of Building and Construction Co., Ltd. in cooperation with Shimao Group. They have contracted to build the most difficult Spirit Stones city in the core area, Dinosaur World, and the indoor and outdoor theme scene modification and effect creating projects of Castle in the Sky. The project passed completion acceptance criterion on 16 September 2016. The Company helped to make Shishi Shimao Theme Park into the first original new IP theme park brand with its high standard construction management and supreme theme park construction technology, and also distinctively created a new name card of indoor theme park construction.



Shishi Shimao Theme Park



Keep in Mind with the Environmental Responsibility Committed to Green Development

The 18th National Party Congress brought ecological civilization into the “Five-in-One” general layout of socialism with Chinese characteristics, and ecological civilization construction has ascended to a new height of national strategy. As an important practicer in the development of the new energy and environmental protection industry and the leader in emerging industry in our country, MCC actively promotes the concept of environmental protection, exerts technical advantages, devotes into environmental improvement and protection, and has made a significant contribution to our country’s green, harmonious and sustainable development.

Environment





The Company perfects the organizational and management systems of energy saving and emission reduction and further strengthens energy saving and emission reduction management work in line with *Environmental Protection Law of the People's Republic of China* and according to the applicable requirements of *Interim Measures for the Supervision and Administration of Energy Conservation and Emission Reduction at Central Enterprises (GZW Decree No. 23)*. MCC Group and its subsidiaries have established the leading group of energy saving and emission reduction, formulated *MCC Interim Measures for the Supervision and Administration of Energy Conservation and Emission Reduction*, *MCC Measures for Environmental Protection and Resource Saving Administration*, *MCC Energy Saving and Emission Reduction Working Manual* and other mechanisms to guide and standardize the work of energy saving and environmental protection management. *Key Tasks on Safety and Quality, Energy Saving and Emission Reduction* was issued during the reporting period, and annual review and evaluation was carried out on accomplished work.

Exert Technical Edges Devote into Environmental Improvements

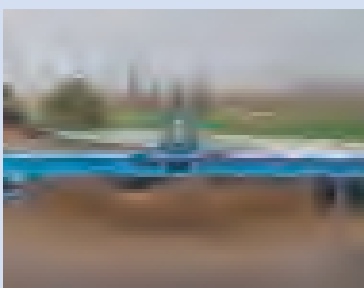
Wastewater Treatment

Case

Centrifugal Self-Priming Hybrid Inverted Umbrella-type Aerator



Centrifugal Self-Priming Hybrid Inverted Umbrella-type Aerator Application in Xuancheng, Anhui Province



Centrifugal Self-Priming Hybrid Inverted Umbrella-type Aerator Application in Laian, Anhui Province

The environmentally friendly water treatment equipment, Centrifugal Self-Priming Hybrid Inverted Umbrella-type Aerator, developed independently and originally by Huatian Engineering & Technology Corporation, MCC has been awarded with USP. This is the only international patent received by our originally developed aerator. It completely solved the global technical problem of "aeration and oxygenation of deep sewage cannot be made by surface aerator". This indicates that we have got discourse power in the water treating core equipment. This patented technology has been awarded with Patent Gold Award of Anhui Province in 2015 and the 18th China Patent Excellent Award in 2016.

Case

Production Sewage System Intensified Conversion Project in Tianjin Iron & Steel Group Co., Ltd.

The production sewage system intensified conversion project in Tianjin Iron & Steel Group Co., Ltd. undertaken by Capital Engineering & Research Incorporation limited involves a sewage treating capacity of 236 m³/h, primarily conducts the optimization, upgrading and renovation on existing production sewage recycling system. Utilizing original miscellaneous reverse osmosis concentrated brine to prepare new water for production, it allows concentrated brine to be used more effectively and resourcefully. The processing technology adopts a special nanofiltration to separate organic matters and automatically removing the hardness of fluidized-bed crystallizer, MBBR biological treatment and so on. The patented and exclusive technology developed by the Company can save 1,800,000 m³ tap water per year, creating significant economic, environmental and social benefits, after the project being put into operation.



Production Sewage System Intensified Conversion Project in Tianjin Iron & Steel Group Co., Ltd.

Air Treatment

Case

Baosteel Iron Works Three Sintering Renovation Project Flue Gas Purification Project

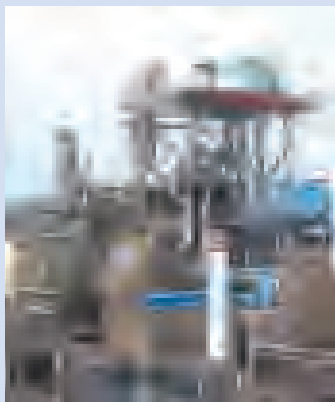
15 November 2016, the world's largest sintering flue gas comprehensive management project contracted by Zhong Ye Chang Tian International Engineering Co., Ltd. – Baosteel three sintering renovation project flue gas purification project was put into operation. The project adopts two grades of “activated carbon flue gas purification process” for flue gas purification, and in addition to treatment of variety of pollutants, high denitration efficiency, low ammonia consumption, recycling sulfur resources, stable system operation and other technical features applies various advanced technologies researched and developed by Zhong Ye Chang Tian International Engineering Co., Ltd. such as flue gas temperature control and waste heat utilization technology, multi-channel gravity adsorption tower technology with controlled speed, multi-point fabric technology, analytical tower analysis and cooling integration technology, resource diversification technology and so on, which is the world's largest sintering flue gas comprehensive treatment project and represents the advanced level of sintering flue gas treatment and the direction of development.



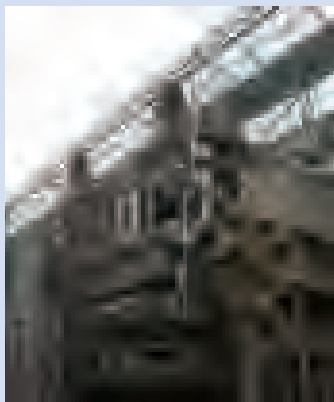
Baosteel Iron Works Three Sintering Renovation Project Flue Gas Purification Project

Case

A Special Gas Supply Device for Dry and Extinguishing Furnace



CokeDry Quenching National Demonstration Project by MCC Maanshan



4x140 Tons CokeDry Quenching by MCC Baosteel Zhanjiang Branch

In 2016, A special gas supply device for dry and extinguishing furnace of ACRE (Patent No.: ZL200710158949.4) won the 18th China Patent Gold Award, which is the only gold medal of 2016 for metallurgical and construction central enterprises. The patented technology has solved the key technical problems of restricting the large-scale, efficient and low-cost operation and longevity of coke dry quenching and realized the domestication, serialization and large-scale of coke dry quenching technology and equipment, saving construction investment and running cost. At present, the technology has been successfully applied to more than 100 sets of coke dry quenching at home and abroad, coke processing capacity of 115,000,000 tons per year. Coke dry quenching recovery waste heat can produce 63,000,000 tons high temperature and pressure steam per year, save 62,000,000 tons water and reduce discharging out 13,000,000 tons carbon dioxide and 130,000 tons sulfur dioxide and 25,000 tons oxynitride.

Case

Collection and Treatment Project of Wuhu Xinxing Pipes Coke Oven Dissipation Smoke Dust

ACRE Coking & Refractory Engineering Consultation Corporation independently developed ‘Collection and Treatment Device of Coke Oven Dissipation Smoke Dust’ (Patent Application No.: 201611046395.4) through massive field research, theoretical analysis and process comparison. The technology has been applied to the coking project of Wuhu Xinxing Pipes for the first time; the technology, targeted to solve the air pollution problems for furnace top smoke dust (containing benzopyrene) of coke oven, is China's major breakthrough for furnace top smoke dust pollution control of coke oven. After the completion of the project, the coke oven uncontrolled emission smoke dust is changed into controlled emissions for the first time, which has greatly reduced emission rate of smoke dust (containing benzopyrene) and improved the plant environment greatly. At the same time, it solves the problem of out-of-limit benzopyrene because some coking plants are too close to the surrounding residence. The technology is a major milestone breakthrough in China's coking field for atmospheric controlling.



Collection and Treatment Project of Wuhu Xinxing Pipes Coke Oven Dissipation Smoke Dust

Solid Waste Treatment

Case

Expansion project of house refuse incineration power generation plant in Haikou City



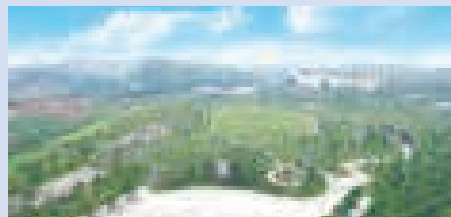
Completed expansion project of house refuse incineration power generation plant in Haikou City has achieved acceptance criterion

The completed expansion project of house refuse incineration power generation plant in Haikou City designed by China Enfi has reached acceptance criterion and entered the official operation phase. Designed to process 1,200 tons of house refuse daily and equipped with two 12 MW Steam-turbine generator units, it is a "classic" with technological innovation and industry influence.

Case

The Phase I Project of Heavy Metal Electrolytic Manganese Residue and Tailings Treatment in Xiangtan Manganese Ore Area

The Phase I Project of Heavy Metal Electrolytic Manganese Residue and Tailings Treatment in Xiangtan Manganese Ore Area EPC constructed by Zhong Ye Chang Tian International Engineering Co., Ltd. won the "First Prize of 2016 National Metallurgical Industry Outstanding Project". The project belongs to the "Hunan Xiangjiang River Basin Pollution Treatment Project", mainly for cleaning and centralized treatment of about 1,077,240 cubic meters of electrolytic manganese residue and tailings except the Xiangtan electrochemical electrolytic manganese residue and Xianglin manganese ore residue to reduce the bad influence of garbage field for the surrounding environment and the residents health, which is known as the "Model Project of Hunan Province Waste Residue Treatment Project".

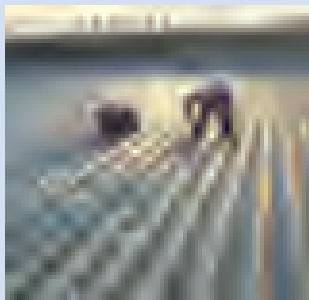


The Phase I Project of Heavy Metal Electrolytic Manganese Residue and Tailings Treatment in Xiangtan Manganese Ore Area

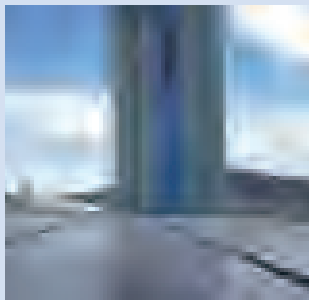
Clean Energy

Case

Baosteel Golden Sun Photovoltaic Power Generation Demonstration Project



Baosteel Golden Sun Photovoltaic Power Generation Demonstration Project



Phase I and Phase II Project of Baosteel Golden Sun Demonstration Project constructed by Shanghai Baoye Group Corp., Ltd. are the world's largest roof photovoltaic power generation project currently. The project's annual recycling of solar energy can generate about 70,224,000 kWh, converting into 32,800 tons of standard coal, reducing the emissions of 114,200 tons of carbon dioxide and 1716 tons of sulfur dioxide. The annual electricity can serve 28,000 households; the annual reduction of carbon dioxide is equivalent to the amount of carbon dioxide absorbed by 44,000 trees a year. At the same time, solar panels array installed on the roof directly absorbs solar energy, lowers the roof temperature rising, reduces the air conditioning load of building and reduces enterprise's energy consumption and production costs.

Case

Shenzhen Bao'an District Laohukeng Waste Incineration Power Plant Phase III Project

The Shenzhen Bao'an Laohukeng waste incineration power plant, located in Laohukeng Environmental Garden, Bao'an District, Shenzhen, is built by WISDRI. It plays an important role in garbage harmless disposal in Shenzhen. The first and second project has been completed, with daily processing capacity reaching 1,200 tons/day and 3000 tons/day respectively. The daily processing capacity of third project to be built is 4250 tons/day. The total processing scale will reach 8450 tons/day under standard conditions and the maximum processing capacity is up to 9,000 tons/day, and the total waste disposal will account for nearly 50% of the entire Shenzhen garbage disposal capacity; the plant will be the Asia's largest waste incineration power plant. After completion, Bao'an waste incineration power plant will become the mainstay of Shenzhen city harmless garbage disposal, garbage reduction and garbage recycling.



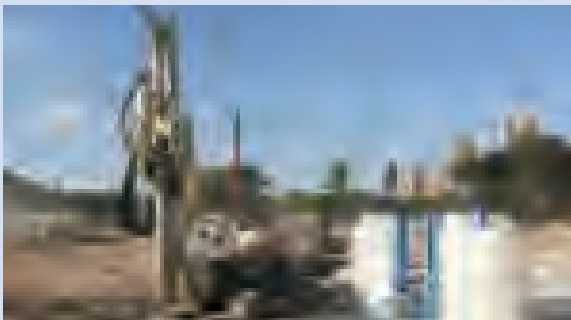
Lateral view of Shenzhen Bao'an District Laohukeng Waste Incineration Power Plant

Soil Remediation

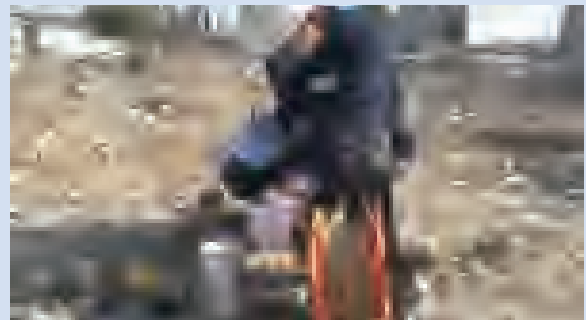
Case

Comprehensive Treatment Project of Soil and Groundwater Pollution in Guangzhou Baihua Block

The comprehensive treatment project of soil and groundwater pollution in Guangzhou Baihua Block of WISDRI is the first groundwater pollution restoration project in Guangzhou. The project covers the remediation of contaminated soil and groundwater, with a total remediation area of 3,949 m² and a total earthwork 11,847 m³. After the remediation, the groundwater pollution factor can reach the acceptance criteria, which can effectively protect local groundwater environment and achieve secondary development and reuse of industrial land.



Vertical compression injection system



Test of field data

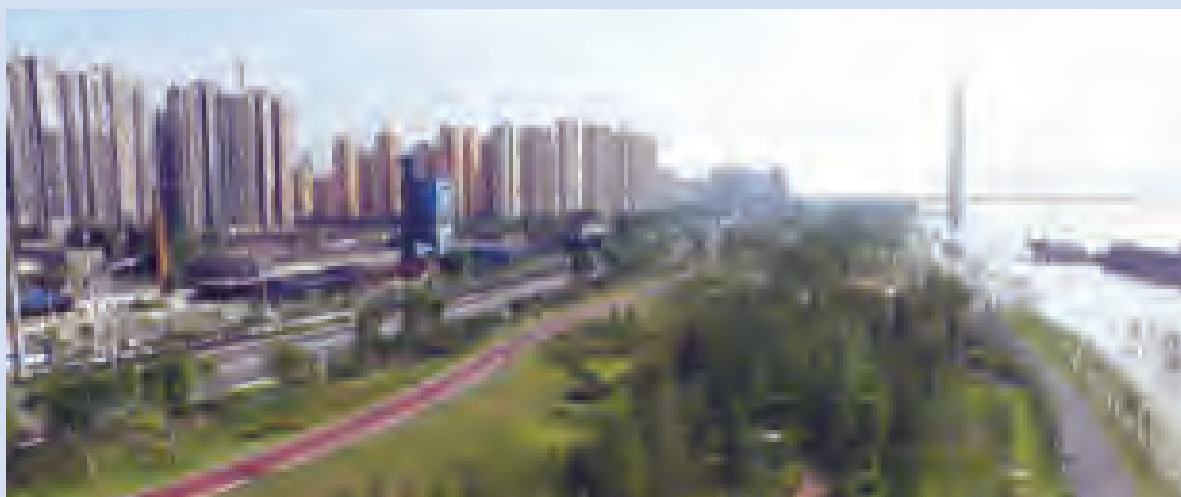
Proactively Implement Green Construction Diligently Protect the Environment

Create Demonstration Projects

Case

Comprehensive Transformation Project of River Beach, Wuqing Embankment, Wuhan City

The Comprehensive Transformation Project of River Beach, Wuqing Embankment, Wuhan City, contracted to be built by China First Metallurgical Group Co., Ltd., is the key project along the riverside landscape belt of "Two Rivers & Four Shores" built by Wuhan City. China First Metallurgical Group has taken the protective construction measures of the original riverbank trees, green vegetation and special buildings, taken such methods as change of design and construction scheme and successfully reserved the original over 800 metasequoia glyptostroboides, and for the first time, adopted the gentle slope ecological embankment. At the same time, to ensure the flood control function, garden squares, river-side platforms, ecological wooden sheds, bicycle green paths and other such facilities are designed and constructed, realizing perfect fusion of the grand embankment flood control into the ecological green landscapes. After the transformation, the riverbank has become green with a vegetation coverage rate as high as 80% and the project has been evaluated as the Green Construction Demonstration Projects of the National Construction Industry and the Standardization Site of National AAA Safe and Civilized Construction.

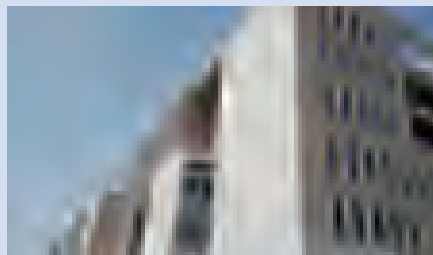


Comprehensive Transformation Project of River Beach, Wuqing Embankment, Wuhan City

Case

Section II of Phase I Project (Xiayuan) of the Chinese University of Hong Kong (Shenzhen)

The Phase I Project of the Chinese University of Hong Kong (Shenzhen), contracted to be built by Shanghai Baoye, is the fifth batch of listed projects of Demonstration Projects of Green Construction of the National Construction Industry. It is located in Longgang District, Shenzhen City. The total construction area contracted to be built by Baoye Company is about 117,000m². The shear walls of the exterior facade are shaped once by adopting the as-cast finish concrete structure without rendering, coating or facings and other such chemical products, reducing much construction waste and saving the timber, it is conducive to protection of the environment.



30-M High Dry Wall of the South Facade of Office Building A

Efficient Use of Resources

Case

Key Technology and Application to the High-efficiency Low-consumption Ultra Large Blast Furnace

The project of "Key Technology and Application to the High-efficiency Low-consumption Ultra Large Blast Furnace", with CISDI participating in, has won the honor of second prize of the National Prize for Progress in Science and Technology. The result of the project has reached advanced international level and has been applied to 16 ultra-large blast furnaces of our country, occupying 70% of the market shares. The technology has also been promoted to 5 overseas projects with major international influences, including the 5,870m³ blast furnace of TATA of India. Reduction of annual fuel consumption alone creates over RMB1.2 billion of energy saving benefit for the iron and steel enterprises, reducing emission of over 2.93 million tons of carbon dioxide, significantly promoting the energy saving and emission reduction and facilitating the use of resources in metallurgical industry.



Zhanjiang No. 1 Blast Furnace (5,050m³)

Case

Method and Device for Use of Residual Heat of Exhaust Gas of Sinter Coolers

The "Method and Device for Use of Residual Heat of Exhaust Gas of Sinter Coolers", independently developed by Zhong Ye Chang Tian International Engineering Co., Ltd., has won the first prize of Patents of Hunan Province and Excellence Award of the Eighteenth Chinese Patents. This technology can help make high-efficiency use of the residual heat sources to the maximum extent, raising the residual heat utilization rate by over 12%. Moreover, the energy consumption of the recirculation fan reduces by over 4% and the occupied engineering area reduces by over 35%. At present, the patent technology has been successfully applied to 20 residual heat power generation engineering projects at home and abroad.



Sinter Residual Heat Power Generation Project of Baosteel Zhanjiang Iron and Steel Base

Strictly Control the Energy Conservation and Emission Reduction

Case

The Project of 1# Generating Set of 3# Gas Power Station of Guangxi Shenglong Metallurgical Co., Ltd.

Upon entrustment of Guangxi Shenglong Metallurgical Co., Ltd., WISDRI formulated the detailed energy plan. Surplus gas of various kinds is brought into control and collected through improvement of the production process and adjustment of the energy consumption of all process. This part of surplus gas is used as the fuel by the advanced miniaturization power generation technology to realize the zero emission of gas, saving large amount of secondhand energy, enhancing the power self-supply capacity, and reducing the purchased amount of electricity by about 5.4 million kWh per day and 1,620 tons of social coal consumption per day. While realizing the purpose of energy saving, this technology has improved the air quality and optimized the local ecological environment.



Full View of Guangxi Shenglong Gas Power Station Site



Protection of the Environment

Case

Employees of China and Pakistan volunteers to participate in tree planting activity

MCCT Sindak Project is located in the desert hinterland with extremely harsh natural environment. Since commencement of the project operation, full attention has been paid to environmental protection and reshaping of the environment. Tree planting activity is implemented every year. What is more, the employees of China and Pakistan are required to build up their awareness of environmental protection even during their daily life. During the past fourteen years of operation, the environment of the region where the project is located has been greatly improved. There are green trees and grass inside the project area, with flocks of birds flying here. Even the local residents close to the project village say that the nearby wind sand has diminished and the annual rainfall has increased than before.

On 12-13 March, "Closer Bond, Greener Block" was the theme for MCCT Sindak Project and launched the activity of tree planting which the employees of China and Pakistan volunteered to join. Over 60 China and Pakistanis employees planted over 200 different kinds of plants in the living area.



Case

The Company advocates employees to participate in environment protection actively



Public Benefit Activities of Picking up garbage in Guangyang Island

ISDI encourages and guides its employees to join in the activities of protecting the environment actively and start with every minor affair around themselves, including saving a piece of paper, one kWh of power, a grain of rice, and classification and recycling of the garbage. It has organized the "Energy Saving Contest", "Office Environment Decorated in an Eco-friendly Manner" and other such activities. Employees are hereby called to stick to low-carbon Eco-friendly life. The young employees are actively organized to conduct public welfare activities of picking up garbage, and 25 young volunteers went to Guangyang Island in Chongqing to pick up garbage, thereby to advocate more people to protect the environment and jointly build green homes.



Practise Social Responsibilities Persist in Sharing Development

Pursuing sharing development, namely sharing the result of development with enterprise related parties, is not only an important code for the Company to fulfill social responsibilities, but also a magic weapon leading to victories summed up in the long-term development and practice by the Company. Over the past year, the Company took the implementation of five major development concepts put forward by the Party Central Committee as an opportunity, took the creation of harmonious future as its goal by taking a series of measures, made great efforts in employee development, win-win cooperation and social satisfaction, achieving fruitful results.



Society





Care for Employees People as Basis

The greatest advantage and wealth of MCC is its employees. To create “ideal heights which young people are yearning for, platform where middle-aged people promote their career development, harbor where the old people rehabilitate” is what all employees of MCC have been yearning for and pursuing. Employees are the most important resources for an enterprise and driving force for enterprise development, therefore, only when employees' personal development and dream are combined with enterprise's development and vision can huge positive energy be formed to promote the development of the enterprise, achieve the employees' dreams and reflect personal values of employees in the process of enterprise development.

Protection of Interests and Rights

The Company strictly abides by the labor laws and regulations, pursues the equal and non-discriminatory labor employment policies, opposes forced labor and eliminates the use of child labor. In 2016, the labor contract signing rate reached 100% in the Company. The salary system with external competitiveness and internal fairness has been established in accordance with the principle of “making salary according to post, taking reward according to performance”; social insurances and housing provident funds are paid in full and on time for employees. The Company formulated the *Metallurgical Corporation of China Ltd. Management Approaches for Gross Payroll*, *Metallurgical Corporation of China Ltd. Interim Provisions of Salary Payment* and *Metallurgical Corporation of China Ltd. Implementation Approaches for Flexible Working Hour System and Comprehensive Working Hours Calculation Working System in Partial Posts* in strict compliance with national laws and regulations and related policies, and implemented according to the systems.

Case

Structure of Age and Education Background of the Company

Proportion of employed staff under 35 years old	%	42.76
Proportion of employed staff aged between 36-40	%	12.18
Proportion of employed staff aged between 41-45	%	14.27
Proportion of employed staff aged between 46-50	%	15.61
Proportion of employed staff aged between 51-55	%	11.38
Proportion of employed staff aged 56 and above	%	3.8
Proportion of employed staff with Master's degree and above	%	9.21
Proportion of employed staff with Bachelor's degree	%	41.26
Proportion of employed staff with junior college education	%	18.85
Proportion of employed staff with senior high school, secondary school and technical school education	%	18.21
Proportion of employed staff with junior high school education and below	%	12.47

42.76 %

Proportion of employed staff under 35 years old

41.26 %

Proportion of employed staff with Bachelor's degree

The total employees in the Company as of 2016

120,144

The number of the emeritus and retired personnel

131,111

The number of on-post employees

100,290

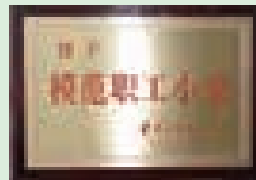
Women's proportion account for among on-post employees

21.57%

Case

Huaye Labor Union was awarded with the title of “National Model Home of Workers”

In March 2016, in the All-China Federation of Trade Unions' Decision about Commendation of National Model Home of Workers, National Model Small Home of Workers, National Excellent Workers of Labor Union, China Huaye Group Labor Union, MCC Group Anhui Branch Labor Union Branch were awarded the honorary title of “National Model Home of Workers” of 2015, “National Model Small Home of Workers” of 2015 by All-China Federation of Trade Unions respectively.



China Huaye - National Model Small Home of Workers



China Huaye - National Model Small Home of Workers

Development of Employees

Proactively creating job opportunities

In 2016, subjected to the Company's target of employee control, 3009 of the best fresh graduates were employed. In order to promote the continuous improvement of the Company's human resources structure and satisfy the actual needs of the Company's operation development and business transformation, 4294 of management and professional talents were introduced from the society urgently. In 2016, the Company will continue to strengthen the coordination with the labor subcontracting enterprise to further satisfy the Company's construction production needs. Meanwhile, to provide employment opportunities for a large number of farmers and achieve a stable labor supply and a harmonious development of labor relationship. It committed the heavy duty of the country's basic construction, at the same time fulfilled the social responsibility of a large national enterprise.

Case

Actively Carry Out Campus Recruitment

China Metallurgical Construction Engineering actively introduces fresh graduates through campus recruitment to help the country to bear the social responsibilities of solving college students' employment. The Company determines the target recruitment colleges according to the needs of overseas business development, and selects target students in line with the requirements of enterprise development through improved personnel selection system; the Company has achieved phased achievements in its 2016 campus recruitment work through detailed and complete preparation and deployment and obtained the recognition of society and industry. And the Company obtained two honors – "The Fourteenth Best Employer of College Students" and "The Best Employer of Real Estate Construction Industry" awarded by ChinaHR in December 2016.



Case

Recruitment of Foreign Students



Recruitment of foreign employees

In May 2016, China Metallurgical Construction Engineering Group Co., Ltd. selected 18 foreign students to take up the internship in the Company through interview of 68 foreign students from 6 countries, and half of them were hired through the practice assessment, among which, 5 students are sent to overseas company to work and 4 students are going to work overseas after obtaining the graduation certificate. In addition to domestic recruitment of fresh foreign students, the Company's overseas units actively carried out the localization work and recruited a group of experienced social talents.

Continuous Improvement of the Employment System

The Company has planned to carry out the organized selection, open competition for recruitment and other works in accordance with the organization establishment and post allocation, combining with daily performance, performance evaluation and occupation development requirements of employees.

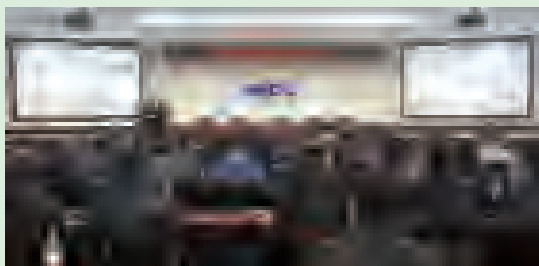
In the selection of cadres and daily management, the Company encourages cadres to do practical work, and punishes the cadres who do not work, and guides the cadres to finish the work, and the Company pays great attention to the grassroots-orientation, and decides things based on performance. In 2016, the Company paid more attention to the selection and training of young cadres according to the Company's regional development strategy and new business transformation development strategy, and nearly 1/3 cadres of the subsidiaries' leadership team members and Headquarters' cadres above the deputy title of department who were newly promoted in 2016 were born after 1975.

Proactively carry out Training of Employees

In 2016, the Company continued to follow the hierarchical management mode and vigorously carries out education and training work for managers, professional and technical personnel and skilled personnel, etc. In 2016, there were 46,962 employees participating in the Company's education and training and it has 104,633 employees in the training program.

Case

Forum of Central Research Institute of Building and Construction



Site of Central Research Institute Forum

Central Research Institute of Building and Construction Co., Ltd. ("Central Research Institute") carried out the activity of Central Research Institute Forum, and the speakers' lecture contents were in various forms, simple but profound. The forum aimed at letting specialized talent share the outstanding achievements accumulated in the long-term process of practice as well as advanced experiences and thoughts about the development of Central Research Institute and also provided the opportunity for the majority of young science researchers to unearth themselves. Not only did this activity broaden the employees' thoughts and vision, but also provided practical guidance for the further development of related work in the future.

Case

Pioneering to Create the Team of "Internal Training Managers"

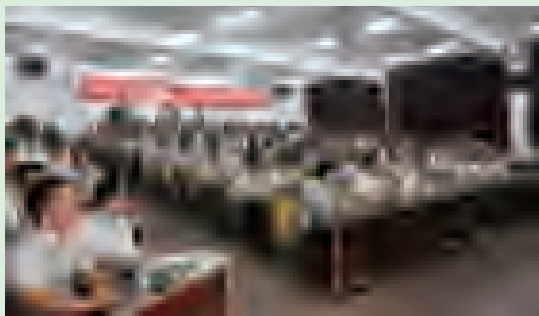
In 2016, Zhong Ye Chang Tian strengthened training and innovated in the management of training. Zhong Ye Chang Tian strengthened the management link in the organizational structure, and went into branches and subsidiaries deeply as well as each business units and professionals to establish "Concerns about Professional Growth", and set up a team of "Internal Training Managers", to assist with the leader of each unit to arrange and manage professional knowledge. This is the pioneering work of Zhong Ye Chang Tian in the field of industry, which has become a hot topic of training field in Hunan Province and won the recognition and active attention from professional and authoritative training lecturers.



Zhong Ye Chang Tian established "Concerns about Professional Growth" and pioneered in creating the team of "Internal Training Managers"

Case

Shanghai Baoye "Three 100" Training Courses



Shanghai Baoye set 2016 as human resource structure optimization year and talents training year. The Company has issued relevant policies successively, to promote the implementation of all measures related to the reform of the supply side of human resources, and established talent training multi-track and employee growth and development multi-approach mechanism, and took a series of measures for the talent construction. Human Resources Department actively did the researches and carefully planned, jointly promoted "Three 100" shortage talents training project (100 project managers, 100 chief engineers of the project, and 100 chief economists of project) with Education and Training Center, Project Management Department, Quality and Technology Department and Contract Budget Department and other departments.

Success in Cultivating Talents

At the end of 2016, there have been 50,616 workers with bachelor or higher degrees among the staff, taking up 50.47% of the employees. Now the Company has 64,394 professionals, of whom 13,567 professionals are with senior title, and 26,806 technical personnel, of whom 11,589 personnel are seniors workers or higher. At the moment, MCC has 1 academician from Chinese Academy of Engineering, 13 engineering and investigating designers of national project, 4 experts from National Key Talents Project, 1 Chinese Skills Award winner, 1 World Skills Competition golden medal winner, 45 national technical experts and 27 central enterprises technical experts.

Employees with bachelor or higher degrees among the staff of the Company

50,616

Professionals

64,394

Professionals are with senior title

13,567

Technical personnel

26,806

Case

Three National Nonferrous Metals Engineering Designer title winners

In the fourth "National Nonferrous Metals Engineering Designers" selection activity, CHEN Dexi, QI Baoming and CAI Youzhong, workers of ENFI have won the title of "National Nonferrous Metals Engineering Designers". Now ENFI has strong talent strength including 3 national investigating designers and 13 national nonferrous metals engineering designers.



Case

Participate the 44th World Skills Competition



In the 44th World Skills Competition, The Ministry of Human Resources and Social Security of the People's Republic of China will let MCC and China Association of Engineering Construction Welding train the national team to compete in the field of the welding and construction metal structure. The training basis is built in Central Research Institute of Building and Construction Co., Ltd. As of the end of 2016, the national welding team has finished the 10 to 5 competition and all of 5 contestants are from MCC; the 10 to 5 competition of construction metal structure has not been taken but 5 of the 10 are also from MCC.

Occupational Health

The Company pays high attention to the management of each worker's individual protection awareness and means. We equip every worker with quality labor insurance supplies and organize occupational health check-up for them regularly. We pay attention to the ventilation of those occupational dangerous work places, utilize safe equipment that do not cause occupational hazardous factors and regularly change the workers' jobs so as to avoid occupational diseases or other occupational harm caused by working environment and other objective adverse factors. Meanwhile, we often carry out emergency exercise activities so as to furthest reduce the personal injury and financial loss caused by production safety accident.

Case

Care the Workers' Physical and Mental Health

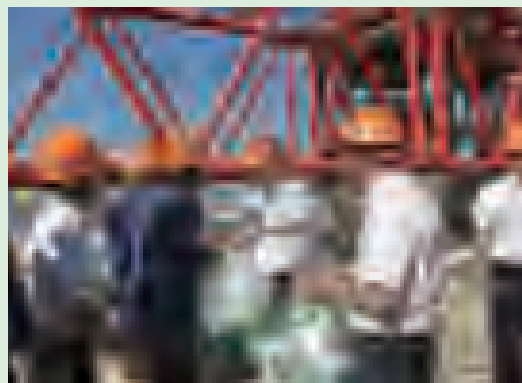
Northern Engineering & Technology Corporation, MCC invites students from the Tuina Commission of Dalian University through communication and coordination with Youth League Committee of Dalian University to offer free shoulder and neck massage for workers to release their neck and shoulders ache caused by working at desk. The activity fully reflected the people as basis management concept of the Company and our meticulous care to the employees.



Northern Engineering & Technology Corporation, MCC invites students from the Tuina Commission of Dalian University to offer free shoulder and neck massage for workers

Case

Carry out Refresher Outreach Activity



China MCC17 Group carries out "Refresher Outreaching" activity

During the hot summer, the Labor Union of China MCC17 Group carried out "Refresher Outreaching" activity, offering heatstroke preventing solatium and supplies valued more than RMB200,000 for front-line workers, fully implementing the heatstroke preventing measure, ensuring the construction safety under the continuous high temperature weather and frontline employees' physical and mental health.

Respect Talents

Case

Chairman of MCC visited senior experts of ENFI

GUO Wenqing, the General Manager and the Deputy Secretary of the Communist Party Group of China Minmetals Corporation, the Chairman and the Secretary of the Communist Commission of MCC Group and the Chairman of MCC, took a visit to Nonferrous Metals Institute and visited the senior consultant of company, the academician from Chinese Academy of Engineering YU Runcang, and the senior consultant of the Company, the national engineering and investigating designer JIANG Jimu, and gave the best wishes to them during the Spring Festival.



GUO Wenqing visited YU Runcang, the academician from Chinese Academy of Engineering and the senior consultant of ENFI



GUO Wenqing visited JIANG Jimu, the national engineering and investigating designer and the senior consultant of ENFI

Recreational Activities

The Company organized various recreational activities with the purpose of improving the artistic appreciations and energizing the cultural life of the employees as well as strengthening the Company's cohesive force. The Company actively carried out healthy and optimistic activities to continuously enrich the employees' spiritual and cultural life.

Case

Holding Singing Assembly celebrating the 95th anniversary of the founding of the Party and the 80th anniversary of the victory of the Red Army's Long March.



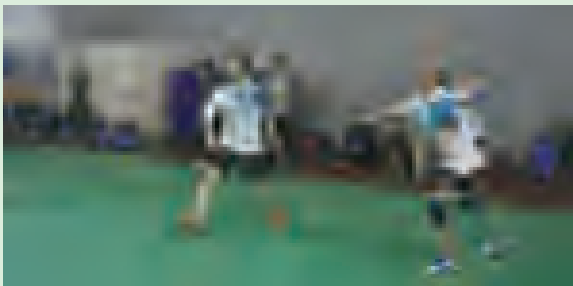
MCC Group's Singing Assembly celebrating the 95th anniversary of the founding of the Party and the 80th anniversary of the victory of the Red Army's Long March

In May, the Party Committee of the Company called on the subsidiaries to carry out theme activities using singing as a main form. These activities should be organized with regard to every subsidiary's respective situations of production, operation and features of employees' recreational activities to celebrate the 95th anniversary of the founding of the Party and the 80th anniversary of the victory of the Red Army's Long March. It was also regarded as an important measure to implement the "learning Communist Party's program and the important speeches given by General Secretary, XI Jinping and be qualified as communist" policy. Party organizations at every levels were required to recommend songs to employees, carrying out seminars on chorus, organizing singing, performing competitions in order to review the magnificent road of the Party leading revolution to its victory and eulogize the accomplishments that the Party has made during the socialism construction such as the realization of a wealthy nation and a strong army. These activities played an important role in stimulating the confidence and determination of the employees to follow the steps of the Party, to realize the "Chinese Dream" of achieving the rejuvenation of the Chinese Nation and to strive for building a beautiful MCC.

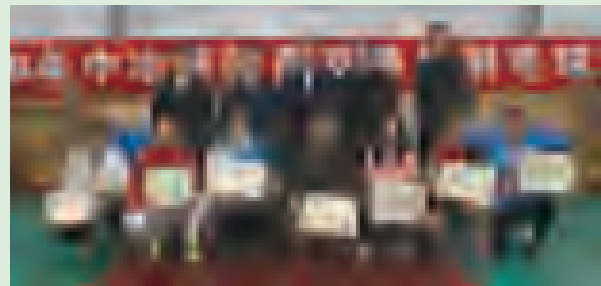
Case

Holding Beijing Group Badminton Competition

On 26 October, the 2016 Beijing Group Badminton Competition ended successfully. This competition was organized by the Trade Union of the Company. Ten teams with approximately 100 employees participated the competition. The ten teams came from the Headquarters Office, Central Research Institute of Building and Construction Co., Ltd., Beijing MCC Equipment Research & Design Corporation Ltd., Capital Engineering & Research Incorporation Ltd., China ENFI, MCC Communication Construction Group Co., Ltd., MCC Overseas Engineering Co., Ltd., MCC Tongsin Resources Limited, MCC Real Estate Group and the Asset Management Corporation. The players came from various groups including both employees more than 60 years old and young people who just recruited by the Company. It shows that badminton is a widely appreciated sport among the employees of MCC.



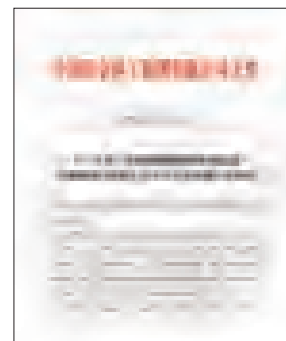
Badminton Competition of the Company



Focus on Construction Safety First

Create Demonstration Projects

The Company compiled and issued the *Responsibility System for Production Safety in Headquarters Functions and Staff from MCC Group and MCC*, which further defined the responsibility among functions and staff in production safety. It also compiled and issued *Standardized Inspection Grading Manual of Engineering Site Quality Management of MCC*, and industry, housing construction, municipal transportation infrastructure and mining engineering were involved in the inspection content which improved the quality management system and standardized quality management of engineering sites.



Emphasize Supervision and Inspection

In 2016, the Company conducted safety inspection on 18 subsidiary company headquarters and 74 engineering sites related to 20 subsidiaries by all means. The Company proposed rectification opinions on the problems that found. All potential accidents needed to be rectified required comparative rectification pictures before and after which ensured complete rectification and closed-loop management.



Safety inspection at construction site



Conference of MCC Group's 2016 interim conclusion on safety inspection of city flakiness

According to the requirements of Construction Safety Branch of China Construction Industry Association, the MCC Group conducted a national-wide recommendation and selection of “AAA Level safe and civilized standardization sites”. In 2016, 8 projects won the honorary title of “AAA Level safe and civilized standardization site”, setting the benchmark for the safe and civilized standardization site of the Group.

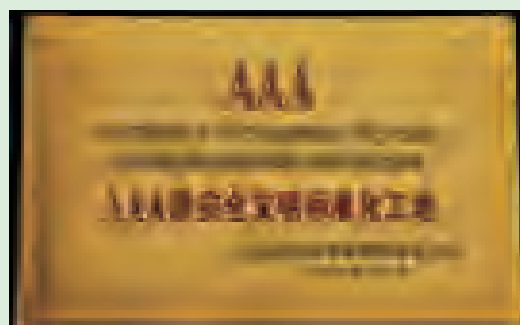
Case

In 2016, 8 projects of MCC won the honorary title of national “AAA Level safe and civilized standardization site”

- The four main projects of GC-5 section park of Shanghai Disneyland contracted to be built by Shanghai Baoye Group Corp. Ltd.
- Qixian Project in Tianjin New Badali Area contracted by MCC TianGong Group Co., Ltd., Tianjin MCC 20 Construction Co., Ltd. and China 22MCC Group Beijing Tianrun Construction Co., Ltd.
- 1-3F, 1-3H block project on Yongning Street in Nanjing Yangtze River International Navigation Service Center contracted to built by China MCC 17 Group Co., Ltd.
- China international trade and financial service center contracted to be built by China MCC 5 Group Co., Ltd.
- A block of Fancheng Hengzhuang affordable housing functional area project contracted to be built by China First Metallurgical Group Co., Ltd.
- Xinhua Star Scientific Research and Production Base contracted to be built by China MCC 5 Group Co., Ltd.
- Tianjin University of Technology and Education new-built comprehensive gymnasium project contracted to be built by MCC TianGong Group Co., Ltd.
- A and E group project of Tiaodeng “Xingfu Huating” pubic rental housing project (Phase III) contracted to be built by China Metallurgical Construction Engineering Group Co., Ltd.

Case

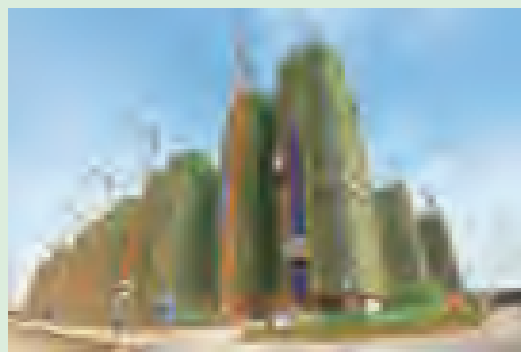
Qixian Project in Tianjin New Badali Area won the honorary title of “AAA-level safe and civilized standardization site” in 2016.



Case

Fancheng Hengzhuang Affordable Housing Project in Hubei won the honorary title of “AAA Level safe and civilized standardization site” in 2016

The affordable housing project of Hubei Fancheng Hengzhuang contracted to be built by China First Metallurgical Group Co., Ltd. is the largest in Xiangyang City with the most complete supporting facilities. There are 14 high-rise buildings in all, including seven 33-floors buildings and seven 30-floors buildings fully-equipped with public facility like kindergarten and shopping mall. The construction land area of the project is 80,000 square meters, and the floor area is 300,000 square meters.



Fancheng Hengzhuang Affordable Housing Project in Xiangyang City, Hubei Province



won the honorary title of national “AAA Level safe and civilized standardization site”

8 AAA Level

Creating Cultural Atmosphere

MCC strictly implemented the spirit of the documents from various ministries and commissions, organized the "safe production month" activities, strengthened the education and propaganda and implementation of the safety work of the subsidiaries, and used the cultural propaganda to comprehensively improve the staff's emergency response capability.

Case

"Safe Production month" special edition on the Company's internal publications

Through the internal publication China Metallurgical CISDI, CISDI Electric Technology Co., Ltd. issued "Safe Production month" special edition for the staff to introduce safety knowledge; timely released Quality and Safety Briefing to all subsidiaries and departments to convey relevant laws and regulations; through accident cases, staff at all levels were warned to attach importance to safety production and safety awareness.



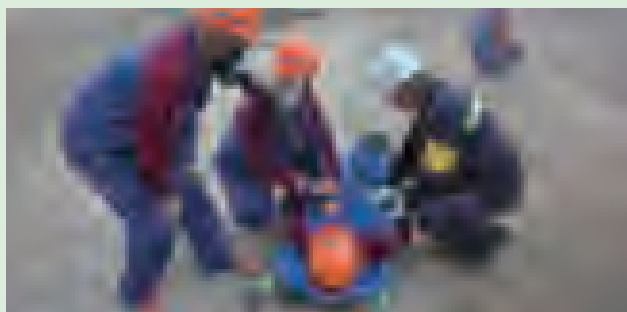
China Metallurgical CISDI, safety month, special edition

Improving Emergency Response System

The safety production emergency management systems were established in the Company's headquarters, subsidiaries and the project departments' construction sites to clearly define corresponding responsibilities and ensure that emergency work responsibilities and interface are explicit, resources are available and command is effective.

Case

Conducting a series of review and inspection on emergency management



Emergency drill site

The subsidiaries of the Company conducted a series of inspections on emergency management. This special security inspection was conducted mainly from seven aspects including the emergency management organization system of the construction sites, emergency rescue team, emergency goods and equipment, emergency plans, emergency drills, emergency training and emergency response. Aiming at the improvement of emergency response mechanism and the implementation of emergency security guarantee, etc., the Project Department also gave guidance as per the nature and features of the project to further improve the emergency response mechanism to ensure that in the event of accidents, rescue can be effectively organized, response can be rapidly made to minimize losses at maximum extent.

Sincere Cooperation Realize Win-win Situation

MCC attaches much importance to establishing a wide range of strategic cooperative alliance with local governments, domestic and foreign enterprises and institutions to share resources and complementary advantages and achieve common development. The Company has established cooperative relationship with more than 30 provinces and autonomous regions, over 20 large-scale enterprises and signed 59 strategic cooperation agreements, which has built a high level cooperation platform for its subsidiary's market development, contracted a large number of major and comprehensive construction projects and driven the local economic development and common development of its cooperative enterprises, realizing a mutually beneficial win-win situation for customers and enterprises.

Cooperation with the Government

In 2016, the Company further strengthened its design and operation featuring "broad environment, major customers and large projects". Based on specific projects, the Company pursued the principle of "equal consultation, mutual benefit, win-win cooperation" during cooperation with governments to actively build high level market development platform for its subsidiaries and regional companies.

Case

MCC Group was invited to attend the Open and Cooperation Promotion Event of Dianzhong New Area, Kunming City, Yunnan Province.

The promotion event of Dianzhong New Area, Kunming City was held in Beijing on 1 March. LI Jiheng, Secretary of Yunnan Provincial Party Committee, and CHEN Hao, Provincial Governor attended the event. GUO Wenqing, Deputy Secretary of Party Group, Chairman of China Minmetals Corporation, Secretary of Party Committee and Chairman of MCC Group and Chairman of MCC, was invited to attend the meeting. ZHANG Zhaoxiang, General Manager of MCC Group, Secretary of Party Committee of MCC signed strategic cooperation agreement with Kunming Government and Management Committee of Central area of Yunnan on behalf of MCC Group.



GUO Wenqing, Chairman of MCC Group, is received by LI Jiheng, Secretary of Yunnan Provincial Party Committee and CHEN Hao, Provincial Governor



Signing ceremony site

Case

The Company was invited to attend the "13th Five-Year Plan" strategic cooperation meeting of state-owned enterprises in Guangdong Province.



Talks between GUO Wenqing, Chairman and WEN Guohui, Mayor of Guangzhou

Guangdong Province - the "13th Five-Year Plan" strategic cooperation meeting of state-owned enterprises was held in Guangzhou on 27 February. HU Chunhua, Secretary of Guangdong Provincial Party Committee, Governor, ZHU Xiaodan and State Council SASAC Secretary ZHANG Yi, Director XIAO Yaqing attended the meeting. GUO Wenqing, Deputy Secretary of Party Group, Chairman of China Minmetals Corporation, Secretary of Party Committee and Chairman of MCC Group and Chairman of MCC, was presented by invitation. He also had talks with WEN Guohui, Deputy Secretary of Guangzhou Municipal Committee, Mayor, LIU Xiaohua, Secretary of Zhanjiang Municipal Party Committee and other leaders from local governments and state-owned enterprises. On behalf of MCC Group, ZHANG Mengxing, President of MCC, signed a cooperation agreement with Guangdong Province.

Case

GUO Wenqing met with CHEN Xiangqun, member of Hunan Provincial Standing Committee and Executive Vice Governor of Hunan Province

On 1 December, GUO Wenqing, Deputy Secretary of Party Group, Chairman of China Minmetals Corporation, Secretary of Party Committee and Chairman of MCC Group and Chairman of MCC, met CHEN Xiangqun, member of Hunan Provincial Standing Committee, and Executive Vice Governor in Beijing Metallurgical Building. They carried on in-depth exchanges on the development of traditional industries and urban integrated corridor, three-dimensional parking, Dongting Lake governance and other urban infrastructure constructions, and environmental protection industry.



Talks between Chairman GUO Wenqing and Vice Governor CHEN Xiangqun

Case

MCC signed strategic cooperation agreement with Qingdao Municipal government

On 7 September, GUO Wenqing, Deputy Secretary of Party Group, Chairman of China Minmetals Corporation, Secretary of Party Committee and Chairman of MCC Group and Chairman of MCC, met the Shandong Provincial Standing Committee and Qingdao Municipal Party Secretary LI Qun and other people in Beijing Metallurgical Headquarter. The two sides held talks and exchanged their views deeply in a cordial and friendly atmosphere on further strengthening cooperation in fields such as underground integrated corridors, municipal infrastructure, road transport, technological innovation, logistics industrial parks, beautiful villages and financial services, to name but a few. They both witnessed the signing of the strategic cooperation agreement between MCC Group and Qingdao Municipal People's Government.



Signing ceremony of strategic cooperation agreement by and between MCC Group and Qingdao Municipal People's Government ceremony site

Cooperation with the Enterprises

Case

Close cooperation between MCC and Indonesian MNC Group

On 31 October, GUO Wenqing, Deputy Secretary of Party Group, Chairman of China Minmetals Corporation, Secretary of Party Committee and Chairman of MCC Group and Chairman of MCC, met Harry Tanoesoedibjo, CEO of Indonesian MNC Group. The two sides exchanged in-depth views on accelerating the construction of Indonesian theme park project, further strengthening the cooperation in the fields of real estate, finance and mineral etc. in a sincere atmosphere.



President GUO Wenqing held talks with Indonesia MNC Group CEO Harry Tanoesoedibjo

Case

MCC develops a close cooperation with Belgian BESIX Group



President ZHANG Mengxing is meeting the Belgian BESIX Group CEO Johan Beerlandt

On 31 October, ZHANG Mengxing, President of MCC met Johan Beerlandt, CEO of Belgian BESIX Group at Beijing Metallurgical Building. The two sides exchanged in-depth views on the Memorandums of Understanding on Cooperation to be signed in China under the witness of Belgian Prime Ministry. Signing ceremony held in the Great Hall of the People is one of the six projects witnessed by the leaders of both countries. Both sides expressed that they would take this opportunity to further maximize the advantages of both sides to explore the Middle East, African and European market.

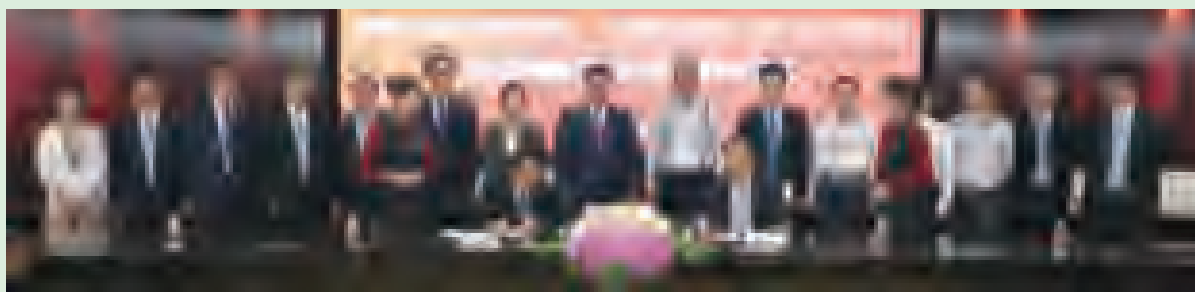
Cooperation with the Banks and Enterprises

The Company keeps long-term and friendly cooperation with various financial institutions such as bank, insurance, security and foundation etc. With the principle of "mutual benefits and all-win strategy", the Company cooperates with financial institutions to develop new products, explore new markets and reduce the Company's financing cost; to reduce the Company's debt ratio and increase the contract quantity of main business through financing patterns such as PPP. In 2016, MCC further expanded the scope of cooperation with financial institutions; enhance mutual understanding by high-level visits; establish strong strategic partnership by signing strategic cooperation agreement.

Case

MCC signed strategic cooperation agreement with Ping An Group

On 5 August, MCC Group signed the comprehensive strategic cooperation agreement with Ping An Group. MCC Jianxin Funds Management Corporation signed the RMB100 billion industry funds cooperation agreement with Ping An Trust. According to the agreement, by the principle of "integrity and stability, promoting development, equality and mutual benefits, win-win cooperation", MCC Group will strengthen the cooperation with Ping An Group in the field of strategic emerging industry investment, bank, insurance, trust, lease and project financing etc. to achieve cooperation between two giants.



Signing ceremony of comprehensive strategic cooperation agreement between MCC Group and Ping An Group

Cooperation with the Associations and Enterprises

Case

China Steel Structure Association Theme Park Construction Branch was established

On 5 May, China Steel Structure Association Theme Park Construction Branch Founding Conference and Member Congress was held in Beijing, which is launched by China Jingzhi and more than hundreds of research institutes such as China Academy of Building Research, Institute of Architectural Design, Tsinghua University etc., enterprises and public institutes involving theme park industry participated. The establishment of Theme park construction branch is a significant move to promote Theme park industry development. MCC Engineering signed the University and Enterprise Cooperation Framework Agreement with Xi'an University of Architecture and Technology to strengthen communication with targeted universities and participate in cultivation of talents in university and enjoy cultivation results by selecting the undergraduates who have the intention to develop their career abroad.



Opening ceremony of the theme park construction branch

Cooperation with the Universities and Enterprises

The Company vigorously promotes the cooperation with colleges and universities. China MCC 20 Testing Center in collaboration with Shanghai Jiao Tong University researched the topic of Research and Application of Foam Concrete on Raw Soil Preparation with Conditioned Type Based in Deep Excavation, declared "Technological Innovation's Special Funding Project in 2016" and obtained special funds after being appraised by specialists. Through signing the University and Enterprise Cooperation Framework Agreement with Xi'an University of Architecture and Technology, MCC Engineering strengthened communication and contact with targeted universities, selected the students who have the intentions to develop their career abroad, participated in the university talent training and enjoyed the training benefits.

Case

MCC Engineering signed the University and Enterprise Cooperation Framework Agreement with Xi'an University of Architecture and Technology

Through universities and enterprises cooperation activities, China Metallurgical Construction Engineering Group Co., Ltd. strengthened communication and contact with targeted universities, selected the students who have the intentions to develop their career abroad, and launched directional training activities. In certain sense, it not only financially helped part of students with their study and life, but also participated in the university talent training and enjoyed the training benefits. On the afternoon of 28 April, YAO Jinchuan, Chairman of the China Metallurgical Construction Engineering Group Co., Ltd. visited SU Sanqing, President of Xi'an University of Architecture and Technology in Shaanxi. Both sides exchanged in-depth views on resources sharing, joint development, mutual benefits and win-win strategy, and signed the University and Enterprise Cooperation Framework Agreement. YAO Jinchuan also accepted the invitation as part-time Professor of Xi'an University of Architecture and Technology. President SU Sanqing awarded the Letter of Appointment in person.



Signing ceremony

Contribute to the Society Being Ardent to Public Welfare

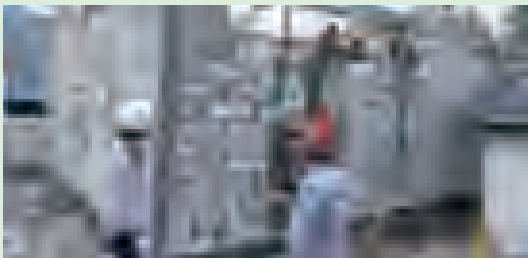
The Company uses its own edges, always keeps in mind its mission and positively fulfills its responsibility as global enterprise citizen; supports the construction of livelihood projects and promotes the development of local communities; actively participates in social welfare activities and tries its best to achieve continuous and harmonious development between enterprise and society.

Support the Construction of Livelihood Projects

Housing is the necessity for people and also the foundation of social harmony. Construction of security housing affects millions of families, which is not only a livelihood project but also a popularity-winning project. Security housing construction has the characteristics such as huge amount of work, a wide range of areas involved, a large amount of capital needed and long construction period, which directly influences the interests of thousands of people. The livelihood project construction carries the dreams of tens of thousands of families having houses to live and solemn commitment of government for the people's welling being. As a responsible central enterprise, MCC has been willingly undertaking the responsibility and playing a key role in the aspects of national and social development, economic construction and people's livelihood improvement. As of the end of 2016, the total investment of affordable housing projects which are on hand, amounted to RMB52.534 billion, where the cumulative investment reached RMB47.245 billion, together with planned construction area of 17.6389 million square meters.

Case

Housing project for poverty-relief in Liangshan prefecture



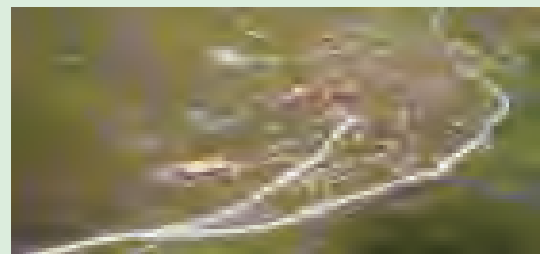
Housing for poverty-relief in Liangshan prefecture is under construction

626 sets of steel structure housing project in Sichuan Liangshan prefecture contracted by China MCC 19 Group Co., Ltd. is one of the major poverty-relief projects designated by government in Sichuan area. The construction is distributed in the 9 populated townships of the Li nationality in Yinchang Town, Xichang City. The construction started in October 2016. During the construction, the constructors overcame terrible environment of remote mountains, high altitude and cold weather, stony desertification and threats of endemic disease. It has the paid-off houses with 263 households, steel structure delivery to the site of 187 households, completion of steel structure installation of 120 households. After the completion of the project, the living condition of the people of Li nationality will be greatly improved.

Case

Rural highway smooth project in Seda County, Ganzi, Sichuan

Seda County is the populated township of the Tibetan nationality and the state-level poverty-stricken country. During the project construction, China MCC 19 Group Co., Ltd. overcame the various difficulties, such as high altitude anoxia, terrible weather, lack of power and water, no network, lack of health care, threat of hydatid disease etc. to build the roads. The project helps Tibetan people to shake off poverty and improve the livelihood of the Tibetan people. During the construction under tight schedule, the Project Department freely built a cement road with the length of 550m in the Dazhang Town and provided construction materials for building activity rooms of Villager Committee without charge. The constructors are affectionately called the "NiYABU" which means nice people in Zang language.



Highway smooth project in Dazhang Town, which is 90 kilometers away from the Seda country

Striving to be Global Enterprise Citizen

The Company actively promotes the economic and social development of the communities where overseas projects operate; respects the local customs; supports the infrastructure construction of the communities; helps the improvement of community education and health care; provides the employment opportunity for local citizens; improves public life quality; shares the development achievement with the community and wins widely recognition of the people where business operates.

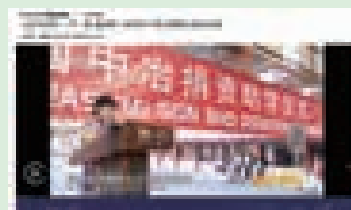
Promote Local Economic and Social Development

Based on the country's foreign policy, resources and international production-capacity cooperation strategy, facing the development opportunity of international infrastructure market, the Company develops bilateral or multilateral cooperation, strengthens the interconnection, and develops the area market involved in "Belt and Road" initiative. The Company further develops important target markets and implements focusing marketing.

Case

Column team of CCTV program Remote Home – Belt and Road Initiative interviewed MCC Malaysia branch

In 2016, the column team of CCTV program *Remote Home – Belt and Road Initiative* interviewed MCC Overseas Malaysia Company. In order to respond to the Belt and Road Initiative national strategy of, CCTV column team of *Remote Home – Belt and Road Initiative* visited the overseas enterprise to advertise its big projects. At present, the CCTV 4 has broadcasted four featured programs of MCC Overseas Malaysia Company, including *Malacca Impression*, *Story at the Twin Tower*, *Goodbye Kuala Lumpur* and *Penang: Penang Islands with Antique Flavors*.



Screenshot of CCTV documentary program Remote Home – Belt and Road Initiative

Promoting Diversified Cultural Exchange

The Company's overseas operation enhances the communication in cultural, technical fields etc., which demonstrates the enterprise image and country style. It specially uses the engineering and technical communication as a link to facilitate international communication.

Case

China First Metallurgic Group established the "the Chinese and Foreign Youth Clubs of overseas China First Metallurgic Group"

Considering political and cultural differences among countries, it is not suitable to launch the Chinese and foreign youth learning and communication activities in the name of the Communist Youth League. In order to better promote the international development and culture integration of the Company, China First Metallurgic Group established the Chinese and foreign Youth Clubs when the Communist Youth League was founded as 94th year, enlarging the activity and learning scope of grassroots group, promoting the cultural communication and integration between Chinese and foreign youth.



Culture exchange between Chinese and Foreign Youths

Actively participating in Projects Involving the People's Livelihood

The Company makes use of local resources, enlarges procurement on local resources and materials, goods; attaches great emphasis on the construction of overseas people's livelihood project, exerts its utmost efforts to improve local people's livelihood.

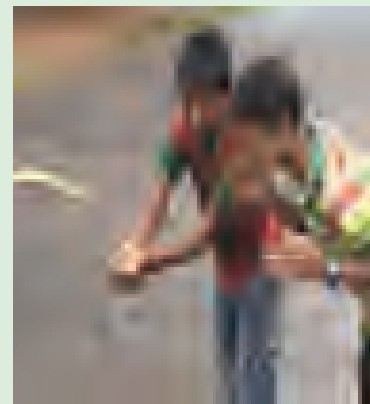
Case

Water supply project from underground water pipe net of Dhaka, Bangladesh

Underground Pipe net Water Supply Project in Dhaka, Bangladesh contracted by China First Metallurgical Group on was started on 30 May 2012 and was completed on 31 December 2015. The project was totally handed over to employee on 26 January 2016. The project belongs to the typical people's livelihood project, adopting advanced District Metered Area management technique (DMA), which reduces the leakage rate of water supply net from the previous 40% to the present 7%. It not only saves water but also guarantees the water quality, which effectively relieves drinking water demand pressure of 12,000,000 residents in Dhaka. In 2006, the project was awarded as "Pilot Engineering in South Asia" by Asia Development Bank (ADB).



Construction site of water supply project from underground water pipe net



Local children are using the clean water source

Case

President of Cote d'Ivoire Allah Sana Vata is presenting at the ribbon-cutting ceremony of second phase project's completion

Border road's bituminous pavement engineering of BOUNDIALI-TENGRELA-MALI contracted by China MCC 17 Group Co., Ltd. starts at BOUNDIALI, northern part of Cote d'Ivoire and terminates at the borderline of Cote d'Ivoire and Mali, whose total length is about 135 kilometer (including branch lines), generally abbreviated as 130 Road. Since the beginning of the project, it has been drawing the attention from all fields of Cote d'Ivoire. Many important members of government such as President, Speaker, Ministers from Cote d'Ivoire, Commander of United Nations Peacekeeping Forces, Chinese Ambassador in Cote d'Ivoire, Councilor and etc. came to site to inspect successively, making highly appraisal on project progress and quality.



Allah Sana Vata, President of Cote d'Ivoire, is presenting at the ribbon-cutting ceremony of Bruner-Mali boundary road

Constructing Harmonious Community

The Company actively promotes the infrastructure construction of community where the operating place locates, helps the community improve education level, provides medical service to local villagers without charge, improves villagers' lives quality and shares enterprise's development fruits with community.

Case

MCC Ruimu carried out Christmas Community Visits Activity and expressed regards

Before Christmas, MCC Ruimu went to the surrounding neighborhood to visit the tribes and express regards to Gaulau villagers and presented presents and festival greetings. MCC Ruimu has been putting great emphasis on harmonious relationship between enterprise and the public, establishing communication system with project's surrounding communities, carrying out overall development works such as timely assistance to the poor, community education, husbandry development, medical facilities construction and etc., fulfilling the workers' responsibility for overseas image of central enterprises, creating sound and harmonious surrounding environment for project's healthy and stable operation.



Ruimu team is warmly welcomed by villagers

Case

Renovation project on road between Arnold Punaro, Namatanai, atn District, New Ireland Province, Papua New Guinea and Moran Sarraute.

During the construction period of renovation on road between Arnold Punaro, Namatanai, atn District, New Ireland Province, Papua New Guinea and Moran Sarraute, as per the requirement from baptism missionary school along the road, China MCC 19 Group Co., Ltd. leveled the ground for school without charge using its construction machines during spare time, creating conditions for school's further expansion of construction, winning good reputation in local area.



A photo of some students, teachers with the project members from leveling ground group

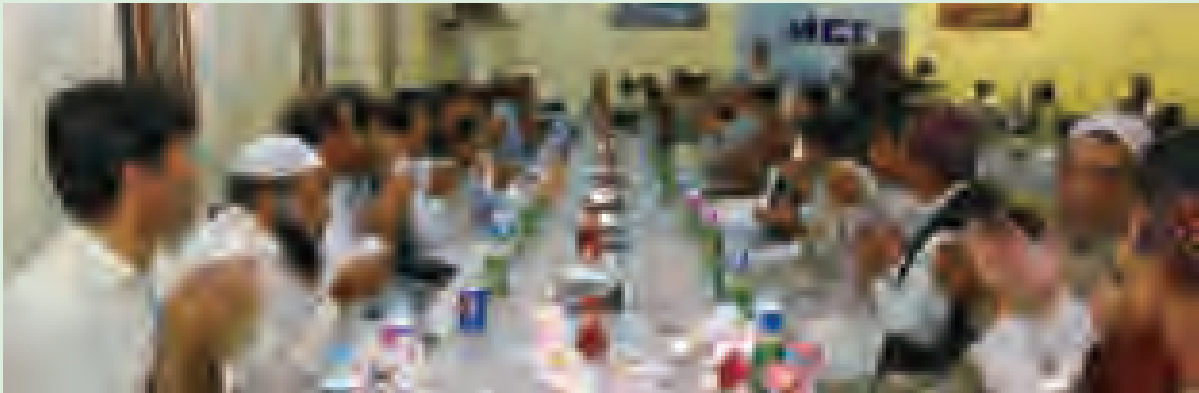
Respecting Local Customs and Religious Faith

The Company pays full respect to the religious faith of places where the overseas engineering locates, paying attention to the national festivals of each friendly unit and sincerely congratulating on the festivals of the friendly units.

Case

Chinese from MCC Tongsin Saindak Pakistan project and Pakistan were celebrating Lesser Bairam together

The team of MCC Tongsin Saindak Pakistan project attached importance to the participation of major Pakistan festivals. Whenever there were major Pakistan festivals, the Company visited and sent care to border guards for the project, police, police in reserve, tribe police, customs officers, EPZ and local tribe members and invited them to celebrate festivals together.



Chinese and Pakistan were celebrating Lesser Bairam together

Being Ardent to Public Welfare and Contribute to the Society

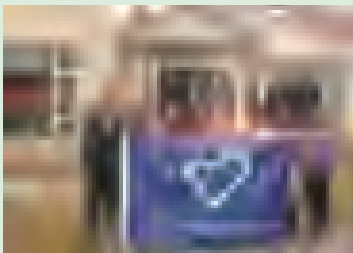
The Company is enthusiastic about social public benefits, widely conducts voluntariness service, donates blood without payment, gives donation and student assistance, using its practical action to pay back society and bring benefits to society.

Voluntary Service

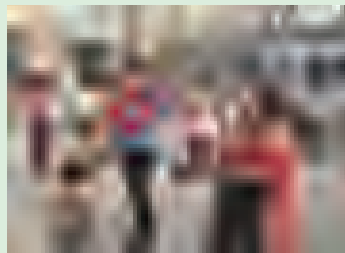
The Company has been taking mutual care and serving society as its target, always putting the public benefit as the first place.

Case

Chinese Enfei volunteers to conduct voluntary activity of "Home of angels"



Chinese volunteers' voluntary activity of "Home of angels" is conducted at Beiqijia Town, Changping District



In order to respond the call of theme activity "Love from Central Enterprise" in 2016 from State-owned Assets Supervision and Administration Commission of the State Council, Civilization Office, with the support of the Company's Labor Union, Youth League Committee, Chinese Enfei Youth Volunteer Committee actively conducted voluntary activity of "Giving Care to Vulnerable Children" "Home of angels". Home of angels for orphan fosterage place is an institute that provides operation, rehabilitation, nursing for orphans and a folk public benefit organization oriented at accepting nationwide orphans with disease.

Case

MCC Changtian GUO Mingyi Loving Group conducted loving contribution activities

On 6 July, MCC Changtian GUO Mingyi loving group came to Zuojiatang Geracomium of Changsha City to conduct the loving contribution activities. Loving group came to Zuojiatang Geracomium, distributed sentimental items to the old in Geracomium, chatted with them, gave them thoughtful attention, and conducted interactive performance with the elderly.



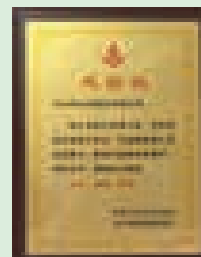
Zhongye Changtian GUO Mingyi loving group conducts loving contribution activities

Voluntary Blood Donation

Case

Huatian Engineering & Technology Corporation, MCC has been actively participating in the activity of Ma'anshan blood donation without payment

Huatian Engineering & Technology Corporation, MCC has the fine tradition of actively participating in voluntary blood donation, devotion of love. The Company has been participating in activities of voluntary blood donation for successive 18 years since Ma'anshan Government issued *Citizen Denoting Blood Measures of Ma'anshan* in 1998. Employees donated blood actively and many of them have been donating blood voluntarily for many years. And the number of voluntary donations reached 896 with the total donation blood volume over 200,000 milliliters.



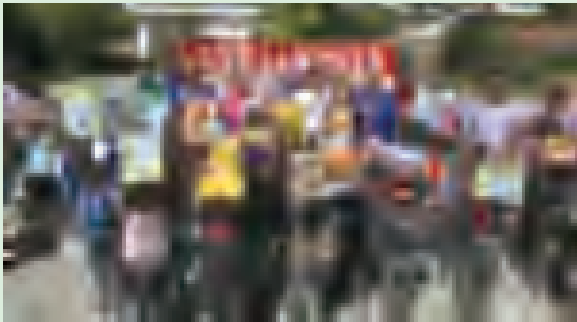
Loving Donation

Employees from the Company are concerned about the production and life of people in financial difficulties. They contributed their strengths to help people in financial difficulties solve life difficulties and children with difficulty in enrollment in school by the way of donating winter clothes, stationery and teaching tools.

Case

China MCC5 conducted loving activities for children living in Liangshan

Baibaiding Village and Dajing Village of Anha Town are villages in poverty recorded in archive by State, after knowing the actual situation of children in these two villages, China MCC 5 came to Baibaiding Village and Dajing Village, Anha Town, Xichang City, Liangshanzhou to conduct donating activity in primary school and kindergarten. The donating activity has provided 74 school primary students and kids with required clothes, rain-shoes, writing boards, paper, pens, toys, etc.



Employees from China MCC5 are concerned about Liangshan children



Loving Activity to Assist in Learning

The Company has been paying much attention to education for a long time. Company has been donating money for students to improve social education level and make contribution to the harmonious coexist of people from various countries and sustainable development.

Case

MCC Tongsin overseas loving activity assist in learning

MCC Tongsin managed Pakistan Saindak school and has made over 600 students who live around the project area receive free education. It provided funds to Saindak school for distributing salary to the teachers and assumed daily expenditures and other expenditures of purchasing books and so on; supplied water and electric to school without charge, and deliver students to school and back home by means of the purchased vehicles; the young employees of the project from China also provide the Chinese training for students in Saindak school with their own language advantage; besides, the project team renovated the school dormitories for two villages around the project and provided chairs, desks and other teaching facilities.



The director of the project is participating in the opening ceremony of school



School's panorama

Assist in Emergency and Disasters Being the Mainstay of Providing Relief

Affected by the bad weather conditions, many cities in home has suffered attacks from successive heavy storm rain, and the pressure of preventing flood and disaster was unprecedented. The subsidiary of China Metallurgical actively made respond to requirement of Local Government and Municipal Flood Command Department, and rapidly rushed to the front line of rescuing emergency and fighting against flood, manifesting the responsibilities of central enterprises. Central and local media such as CCTV, Xinhuanet, China Network, Hubei Daily, Yangzi River Daily, etc. and the famous websites such as Sina, Sohu, PhoenixNet conducted continuous track report on the subsidiary of China Metallurgical participating in flood-fighting and emergency rescues.

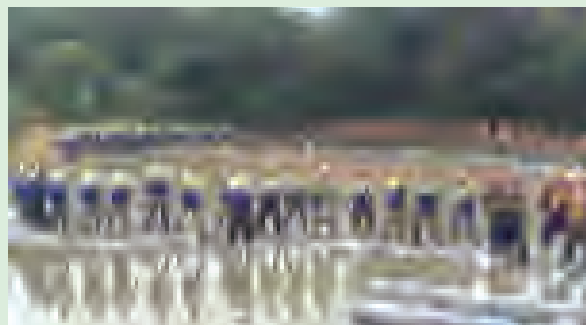
Case

China First Metallurgical Group participates in rescuing emergency and fighting against flood activity

China First Metallurgical Group put emphasis on politic, and undertook responsibilities with courage, actively assumed emergent, difficult, risky, and heavy tasks, played strong mobilizing ability and fighting capacity, without afraid of risk and difficulty, strived with strong will, fought continuously, firstly fought against Daokou Lake and followed wre Wuqing Dam, Xunsi River and Tongshun River, resisted attack of storms and flood with local army and people, with over 7,000 people participated in flood-fighting and emergency rescues, presenting the responsibilities of central enterprise with practical action. Premier, LI Keqiang shook hands with employees from China First Metallurgical Group who participated in flood-fighting and emergency rescues, when he was commanding the activity of flood-fighting and emergency rescues in Daokou Lake of Wuhan. He praised China First Metallurgical Group for flood-fighting and emergency rescues.



Consolidate protective embankment and rescue emergency of Tongshun River



The moment that encircling weir of Daokou Lake



Premier LI Keqiang visits and sends care to employees from China First Metallurgical Group

Case

China 22MCC Group donates materials to Hebei Xingtai

On 19 July, rainstorm attacked Hebei Xingtai. On 26 July, ZHANG Huiqing, Chairman and Secretary of the Party from China 22MCC Group Co., Ltd., arranged related matters about relief materials and transporting matters, etc. in person. After the tight and orderly preparation, LIU Xiaobin, Assistant of General Manager and Executive Vice Chairman of labor union, led company donating working group to transport relief materials (representing the care and love from all employees of China 22MCC Group Co., Ltd.) to Donate Center of Xingtai City by driving through the night, which taking over 8 hours. ZHAO jie, Vice Director of Xingtai Civil Affairs Bureau and LIU Xiaobin jointly participated in and witnessed the materials handover moment. Besides, China 22MCC Group Co., Ltd. donated pure water, instant noodles, ham sausage, towel coverlet, tooling and other materials to people in disaster area in need, with total value of over RMB160,000.

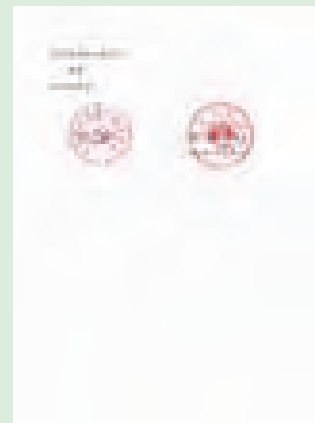
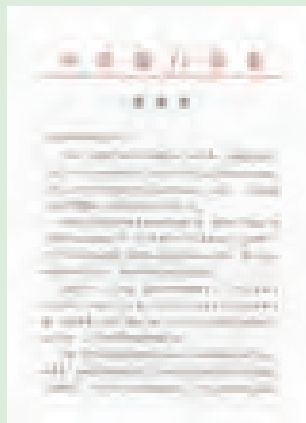


The relief materials of China 22nd Metallurgic Group is transported from company office

Case

Shanghai Baoye participates in works of Xiamen fighting disaster

On 15 September 2016, super typhoon "Meranti" landed in Xiamen from its frontage. It was the strongest typhoon landed in southern Fujian since 1949. After attacked by "Meranti", the roads in Xiamen were mostly under paralysis. Xiamen Branch of Shanghai Baoye carried forward the simple and sincere spirits of "no delay, nonfeasance" of MCC, actively conducted self-rescue, and at the same time, it rapidly made respond to the call from Xiamen Government to organize rescue team at the first time to come to the disaster area site, participated the rescue work of Xiamen, which won favorable comments from society, fully manifested central enterprise image. Shanghai Baoye received the letter from Xiamen Municipal Party Committee and Municipal Government about thanking for Shanghai Baoye's participation in disaster reconstruction work of Xiamen with its actual action after being attacked by super typhoon "Meranti".



Target for Poverty Alleviation Realize Well-off Altogether

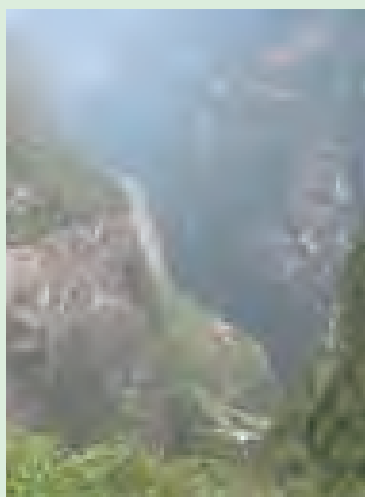
Getting People in Need Registered and Cared

All the subsidiaries of MCC actively engaged in the poverty alleviation jobs of their locations and areas where the projects locate. In 2016, the invested funds totaled up to RMB1,195,900 and the donated materials can be converted to RMB60,700. Through the constant efforts in industry development, plant relocation, education, health and ecological protection, etc., MCC has assisted 2,132 registered people in need got rid of poverty.

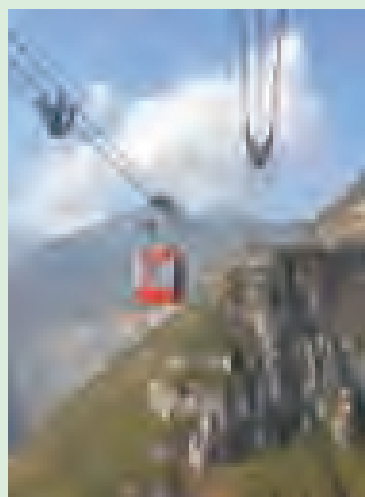
Case

Build “new roads” for Gulu Village; paint the blueprint for targeted poverty alleviation

In November 2016, the construction of the cableway of Gulu Village, Hanyuan County, Sichuan Province with the design and materials provided by ENFI had been basically completed. The project of station room, foundation construction and equipment installation had been fully completed. The cableway of Gulu Village spans the “U” type canyon of over 600 meters in depth and the horizontal length of the cableway is about 746 meters. The type of the cableway is the passenger cableway with double bearing, single traction, and three line reciprocating. The hanging box can carry 40+1 people a time. The successful construction of the cableway of Gulu Village is the successful practice of ENFI cableway technology in solving inconvenient transportation in rural areas, and helping villagers become better off and get rid of poverty. It is also the specific action of responding to instructions of the Party on targeted poverty alleviation.



“U” type canyon crossed by the cableway



Cableway Line

Dispatch Backbone to Reside and Overcome Difficulties

Case

One of the corporation employees was evaluated as the First Secretary of Excellent Village of Guizhou Province



Visit stay-at-home children



Honor Certificate

In 2016, MCC continued keeping close contact with the designated poverty alleviation contact units Guizhou Province Yanhe Tujia Autonomous County and Dejiang County. ZHOU Peicheng, the first secretary of Dejiang County, Jian Cha Zhen Chong Hua Cun, was selected and dispatched by MCC, was evaluated the First Secretary with excellent village work in overall well-off of Guizhou Province. Before the end of December, the second batch of two designated poverty alleviation titular leaders were confirmed and to take office in early 2017.

Centralize Procurement Save Cost and Increase Effectiveness

Standardize Procurement Management

The Company's bidding procurement center was prepared since November 2012 and was officially established in 2013. MCC Group's overall procurement level has been comprehensively improved. MCC Group's procurement management organization mechanism, and rules and regulations are constantly improved. The procurement price and quality of equipment and materials is constantly optimized. The centralized procurement is deeply promoted and the bidding behavior is constantly standardized. The cost-saving and profit-increasing results are remarkable. Main benchmarking indexes including open procurement rate, centralized procurement rate, and online procurement rate, etc. have reached and exceeded State-owned Assets Supervision and Administration Commission of the State Council's "advanced level" of procurement management and promotion of benchmarking. In the *Notice on Release of 2015 Results of Promoting Bench-marking of Central Enterprises' Procurement Special Management* released by SASAC Reform Bureau in November 2015, the MCC Group ranked second among eight central construction enterprises. In 2006, MCC Group also ranked second among the above enterprises in the comparison of bench marketing and the rank was as same as the rank in 2015. Firstly, it established a comparatively perfect procurement management mechanism. Secondly, it set up the unified and efficient electronic procurement management platform with complete functions and high resource sharing. Thirdly, it established the supplier management system with "unified management, information sharing, dynamic check, and preferential selection". Fourthly, it established the MCC Group's two levels of bidding management system and the centralized bidding of the headquarters achieved remarkable results. Fifthly, it carried out the MCC Group's requirement of "play integration advantage and rebuild the internal market", coordinated and maintained the internal buying and selling market.

Case

Obvious decrease of procurement cost

The centralized procurement of equipment and materials and online procurement was deeply promoted. Also, the work of improving project subcontracting procurement management was started. In the whole year, the bidding procurement center organized 64 headquarters centralized bidding projects. Compared with the bidding budget, the procurement fund of RMB491,775,200 was saved. 33 main subsidiaries' total procurement fund of equipment and materials is RMB45,376 million, with year-on-year growth of 23.85%. The online procurement rate is 91.6%. The central procurement rate is 90.6%. The bidding procurement rate is 62.21%. Procurement fund was saved nearly RMB1,775 million by centralized procurement and bidding procurement. The fund saving rate is 3.91%. At present, MCC Group's procurement management level of equipment and materials has reached the "good general standard", and part of indexes such as online procurement rate, etc. have reached the "advanced level". In the SASAC Reform Bureau's assessment of promotion of special projects of enhancing procurement management for central construction enterprises in 2016, MCC Group still kept good achievement.

Standardize Procurement Management

MCC Group's Bidding Procurement Center performed the strict supplier management system, and established the whole process management of suppliers from the four main links including examination and approval process, process management, regular examination, and hierarchy of bonus and forfeit. In the examination and approval process, supplier should submit audit materials like business license, staff qualifications, enterprise qualification, and credit checking, etc. It made specific demands to supplier's legal qualification from bidding requirement. In the respect of material coding, bidding procurement center made procurement material coding strictly in accordance with national standards, which ensured the types and quality of material procurement were in accordance with national relevant stipulations. In the actual procurement, it encouraged enterprises to purchase nearby goods at the same price and same quality, and save logistics cost. It also encouraged enterprises to purchase energy-saving and environmental protection products.



Responsibility Vision of 2017

We will usher the opening of the Nineteenth National Congress of the Communist Party of China in 2017. It will be the important year during which we solve problems, consolidate foundation, and make transformation and upgrading. We will faithfully perform the social responsibilities of enterprise as usual.

We are determined to be the national metallurgical construction team, the main force of the infrastructure, the leader of emerging industry, and will pace the road of high-tech construction in the long-term.

We deeply know that we need to take more social responsibilities to realize such ideals.

—— We will insist on legal operation. We will exemplarily comply with laws and regulations, save intellectual property, faithfully perform contracts, adhere to the commercial credit, and completely forbidden commercial corruption.

—— We will insist on promoting development. We will be guided by the strategies, perfect corporation's management, and development strategies, reasonably distribute resources, strengthen core competence, make enterprise stronger, better and bigger with confidence, improve the enterprise vitality and influence and have the capacity for preventing risks.

—— We will keep first-rate service. We will constantly improve the quality of projects and products with the attitude of excelsior and make efforts to create more value for customers.

—— We will keep protecting environment. We will take energy conservation and emission reduction responsibilities, develop circular economy, improve the efficiency of comprehensive utilization resource, decrease pollutant emission and carry out cleaner production. We will also keep the harmonious development of enterprise and society.

—— We still insist independent innovation. We increase research and development input, and improve the high-tech innovation ability. We strengthen the intellectual property protection awareness, and develop core technology and well-known brands with proprietary intellectual property to play a leading role in enterprise upgrading and structure optimization.

—— We will still insist safe production. We strengthen safe production management. We strictly carry out safe production responsibility system, build complete emergency management, constantly improve emergency management level and ability of coping with unexpected incidents. We provide safe and healthful work conditions and life environment for staff to ensure staff's occupational health.

—— We keep legally hiring staff. We legally sign and perform labor contracts with staff. We treat staff with fairness without discrimination of gender, racism, religion, and age, etc. We strengthen career training and create fair development opportunities.

—— We will still insist giving back to society. We actively participate in community construction, engage in social enterprises including charity, and donation, etc., support welfare service including education, culture and health service, etc.

We believe that there is no free lunch in life. Only arduous efforts can realize our ideals. We will keep promoting the simple and sincere spirit of MCC Group "no sluggish everyday". We will be down-to-earth and do solid work. These are concrete actions from MCC Group to perform social responsibilities. We will spare no pains without end.





Readers' Feedback Form

MCC is highly concerned about your valuable opinions on this annual social responsibility report. We would appreciate your comments or suggestions that will help us to improve this report.

Please complete the following form and fax it to +86-10-5986 9646 or mail it to Enterprise Strategy and Management Innovation Department, Room 3206, MCC Building, No. 28, Shuguang Xili, Chaoyang District, Beijing.

1. Did you find what you want to know from the report? If not, please specify the information you would want to get from the report.

2. Which part of this report are you most interested in?

We'd like to know more about you (optional):

Name: _____ Profession: _____

Organization: _____ Address: _____

Postal code: _____ Email: _____

Tel: _____ Fax: _____

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