



2020 Sustainability Report

China Minmetals Sustainability Report 2020

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You may also read the PDF version of the Report in Chinese and English as well as the dynamic information related to CSR activities of the Corporation under the tag of "Social Responsibility" on the homepage of the CMC official website.

Official website: <http://csr.minmetals.com.cn/>



Environmental considerations for the publication of the report

Paper: printing paper in compliance with FSC certification and ECF certification
Ink: soybean oil ink for lesser air pollution
Designed by: Pengtu Design

China Minmetals



About This Report

Reporting Period

This report covers the period from January 1 to December 31, 2020, and some parts may concern significant years in the development of the Corporation.

Reporting Cycle

The Corporation publishes the sustainability report annually and this report is the 14th sustainability report since 2007.

Reporting Scope

This report covers the information related to the headquarters and subsidiaries of China Minmetals Corporation. In view of the different business of subsidiaries, there will be slight differences in the boundary and range of specific topics and explanations will be provided in corresponding paragraphs of this report.

References

For readability, China Minmetals Corporation is referred to as "China Minmetals", "the Corporation", "the Company" and "we".

Preparation Basis

The report is prepared in compliance with the requirements of the *Guideline on Fulfilling Social Responsibility by Central State-owned Enterprises* released by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC of the State Council), and in accordance with the *GRI Sustainability Reporting Standards (GRI Standards)* issued by the Global Sustainability Standards Board (GSSB). It also refers to the international standard *Guidance on Social Responsibility (ISO 26000:2010)*, Chinese national standard *GB/T 36000-2015 Guidance on Social Responsibility*, the *Ten Principles of the United Nations Global Compact*, and *Guidelines for Social Responsibility in Outbound Mining Investments* issued by China Chamber of Commerce of Metals, Minerals & Chemical Importers & Exports.

Data Sources

All data contained herein are from the Corporation's official documents, statistics reports and financial statements as well as its sustainability practice information collected by sustainability information management system of the Corporation and reviews by the functional divisions and subsidiaries.

Report Availability

This report is available in both Chinese and English. Please contact us for a hard copy. You may also view the PDF version of this report in Chinese and English as well as the dynamic information related to CSR activities of the Corporation under "Social Responsibility" on the homepage of the China Minmetals' official website.

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Statement



Centering on the sustainability philosophy of "cherishing limited resources and pursuing sustainable development", the *China Minmetals Sustainability Report 2020* is to convey the message to the public that we are committed to creating the greatest value for stakeholders, and to make known what we have done and achieved to build a valuable, innovative, safe, green, happy, win-win and harmonious image. Stakeholders are the most important resources for the Corporation's sustainable development. We adhere to the main theme of "cherishing stakeholders and making every effort to create unlimited value for them", and strive to disclose to the stakeholders the information about our CSR practices and performance as much as possible in an accurate, truthful and objective manner. By doing so, we hope to achieve the most effective communication with our stakeholders on an equal, comprehensive and in-depth basis, to enhance mutual trust and cooperation with them for common progress.

A third-party assurance engagement on this report has been performed by TUV NORD. The statement of assurance is attached hereto as an appendix.

China Minmetals Corporation
June 2021

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Message from the Chairman



Chairman and Party Group
Secretary of China Minmetals
Corporation

Tang Fuping

The *China Minmetals Sustainability Report 2020* has been officially released. It is the 14th sustainability report released by us in succession, and it is also a special report that records the dedication of 200,000 employees of China Minmetals in the scientific fight against COVID-19 and the orderly resumption of production and work in the extraordinary year of 2020. Through this report, we hope to have an all-around communication in the field of sustainable development.

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The year 2020 was such an extraordinary year. Facing the outbreak of COVID-19 as well as a complicated and challenging domestic and international business environment, China Minmetals resolutely implemented the major decisions and deployments of the CPC Central Committee on fighting COVID-19 and advancing economic & social development. We attached equal significance to COVID-19 containment and business development, and responded to unprecedented challenges with extraordinary measures. With the virus under control, we recorded the highest-ever revenue in 2020. We also contributed to the realization of the SASAC's goal of "striving for sustained and rapid growth in the benefits of most central SOEs and achieving positive growth in the overall benefits of central SOEs," as well as to the "stability on the six fronts" and "security in the six areas."

Looking back at 2020, for the 200,000 employees of China Minmetals, the most exciting and inspiring thing must be the visit of Chinese President Xi Jinping to the Yanqing National Sliding Centre constructed by the China Minmetals. The Chinese President's recognition for the project and the construction team is the greatest encouragement to us, as well as our highest honor.

The year 2020 was also the concluding year of the 13th Five-Year Plan period (2016-2020). Looking back on these five years, China Minmetals has insisted on thoroughly implementing a series of decisions and deployments of the CPC Central Committee on promoting the development of the state-owned economy and SOEs. Focusing on the goal of building a world-class powerhouse in the metals and minerals industry, we have advanced the strategic restructuring to enhance the Company's competitiveness, and realized the goal of "two doublings in

three steps." As a result, we have significantly improved some key indicators, including scale, business revenue, asset quality, and operational efficiency. The Company's main business has become more solid, risk control has become more effective. Our SOE reform has been gradually deepening, and social contributions have become more prominent. Over the past five years, China Minmetals has upheld the Party leadership and strengthened Party building by comprehensively implementing the general requirements of Party building in the new era with special actions. All these efforts have enabled us to write a new chapter of Party building in the new era.

The year 2021 is the centenary of the Communist Party of China, and also the opening year of the Company's new journey of the 14th Five-Year Plan period and building a world-class powerhouse in the metals and minerals industry. We will thoroughly study the important speech made by Chinese President Xi Jinping during his visit to the Yanqing National Sliding Centre, and follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. We will keep in mind the mission of becoming a main force to ensure the security of resources and a national team to upgrade the metallurgical industry. We aim high while adopting a very down-to-earth attitude, and will fully integrate into the new development pattern, accelerate the promotion of reform and innovation, continuously improve the quality of development. We will move forward with sheer endeavor to accelerate our transition into a world-class powerhouse in the metals and minerals industry, so as to commemorate the centenary of the CPC with more remarkable achievements, and make greater contributions to fully building modern socialist China.

Message from the General Manager



General Manager and Deputy Party
Group Secretary of China Minmetals
Corporation, Chairman of China
Metallurgical Group Corporation

Guo Wenqing

In 2020, facing the sudden outbreak of COVID-19 and the severe global economic recession, China Minmetals thoroughly implemented the important instructions made by Chinese President Xi Jinping, and advanced COVID-19 response and work resumption simultaneously. We overcame difficulties, bucked the trend of global recession, and achieved our highest-ever revenue. We steadily improved the quality of development, and delivered an excellent answer to both the Party and the people with practical actions.

In 2020, facing the sudden outbreak of COVID-19 and the severe global economic recession, China Minmetals thoroughly implemented the important instructions made by Chinese President Xi Jinping, and advanced COVID-19 response and work resumption simultaneously. We overcame difficulties, bucked the trend of global recession, and achieved our highest-ever revenue. We steadily improved the quality of development, and delivered an excellent answer to both the Party and the people with practical actions.

We secured a victory in COVID-19 fight and achieved our business goals. In the face of the raging pandemic, we promptly completed the design, construction and renovation of 34 hospitals and quarantine sites for pandemic containment. In early April 2020, all subsidiaries under the Company resumed work and production. The Company achieved operating revenue of RMB 703.9 billion in 2020, up 15% year on year, and saw a 36% net profit increase from the previous year. With our net operating cash flow reaching RMB 39.4 billion, we successfully achieved the goal of "two doublings in three steps."

We have made more solid progress in promoting high-quality, innovation-driven and green development. We actively explored intelligent and green mineral extraction, vigorously developed the trade in various minerals at the Caofeidian International Ore Trading Center, steadily built the eco-friendly Longjiang graphite mine demonstration project and orderly eliminated outdated non-ferrous metal smelting capacity. We led the green development of China's steel industry by vigorously facilitating the relocation of domestic large and medium-sized steel mills, energy conservation and emission reduction, and other strategic upgrading projects. We kept pressing ahead with the innovation-driven development strategy, and have launched long-term pilot incentive programs for tech start-ups to stimulate scientific and technological innovation. In 2020, we invested RMB 16.3 billion in research and development, won 194 national science and technology awards, and became the only company in China which has won the gold awards of the China Patent Award for three consecutive years and also the only one that boasts two national technological standard innovation bases.

We have more firmly committed to our social responsibility as a central SOE. In 2020, we vigorously donated funds and supplies to areas at home and abroad that were severely affected by the pandemic, standing together with mutual assistance amid difficulties. We resolutely helped the seven targeted counties to win the battle against poverty, and have won the highest rating in the poverty alleviation work performance appraisal of central SOEs for three consecutive years. We actively participated in the construction of venues of the Beijing 2022 Olympic and Paralympic Winter Games, and have completed and delivered the Yanqing National Sliding Centre as scheduled, a project that was highly demanding in both design and construction, with several "China's firsts" achieved.

The year 2020 was also the fifth year since our strategic restructuring. Over the past five years, we have adhered to the strategy of "two doublings in three steps," bucked the trend of a global economic downturn, and embarked on a new journey towards high-quality, leapfrog development. In the past five years, the Company's total assets have grown by 7% per annum, operating income has increased by 11% per annum, the ranking on the Fortune Global 500 list has risen from 198th to 92nd. We have made a cumulative profit of RMB 66.5 billion, paid RMB 101 billion in taxes and fees, consolidated RMB 46.6 billion in assets, and distributed RMB 430 million to various poverty alleviation programs.

2021 marks the start of the 14th Five-Year Plan and China's new journey towards the second centenary goal of fully building a modern socialist country. We will thoroughly study and implement the important instructions and the spirit of a series of important speeches made by Chinese President Xi Jinping, especially the one delivered during his visit to the Yanqing National Sliding Centre. With a passionate belief in the Party and socialism with Chinese characteristics, we are high in spirits and will strive to write a brand new chapter of high-quality development, thus making greater contributions to realizing China's second centenary goal.

（司）文清

About Us

Company profile

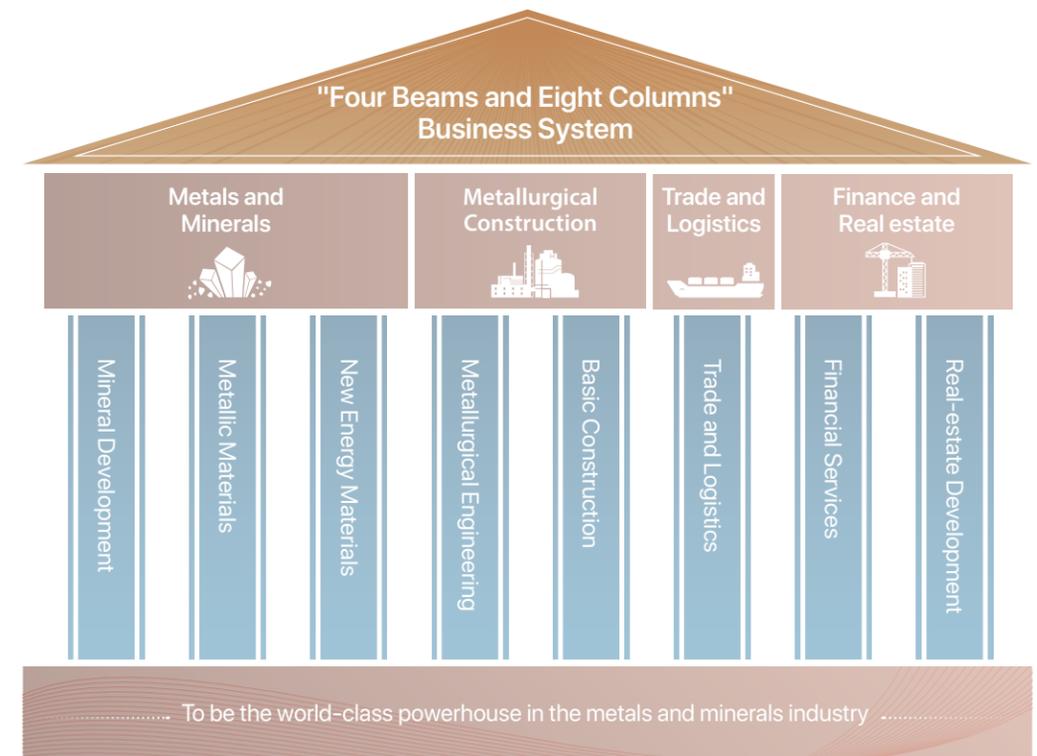
China Minmetals Corporation (China Minmetals), headquartered in Beijing, was established as the result of a strategic restructuring of two Fortune Global 500 companies – the former China Minmetals and China Metallurgical Group Corporation (MCC Group). China Minmetals, an important state-owned backbone enterprise with metals and minerals as its core business, is directly managed by the central government and a pilot enterprise of state-owned capital investment companies.

China Minmetals is a corporate group in the metals and minerals industry with 200,000 employees, a thousand of wholly-owned and holding subsidiaries, and 42 mines (27 at home and 15 overseas), and it leads the world in terms of the reserves and output of various mineral resources. The Corporation's annual revenue exceeds RMB 700 billion and its total assets are over RMB 1 trillion. Overseas organizations, resource projects, and construction projects of China Minmetals are located in more than 60 countries and regions around the world. In 2020, China Minmetals ranked 92nd in the Fortune Global 500.

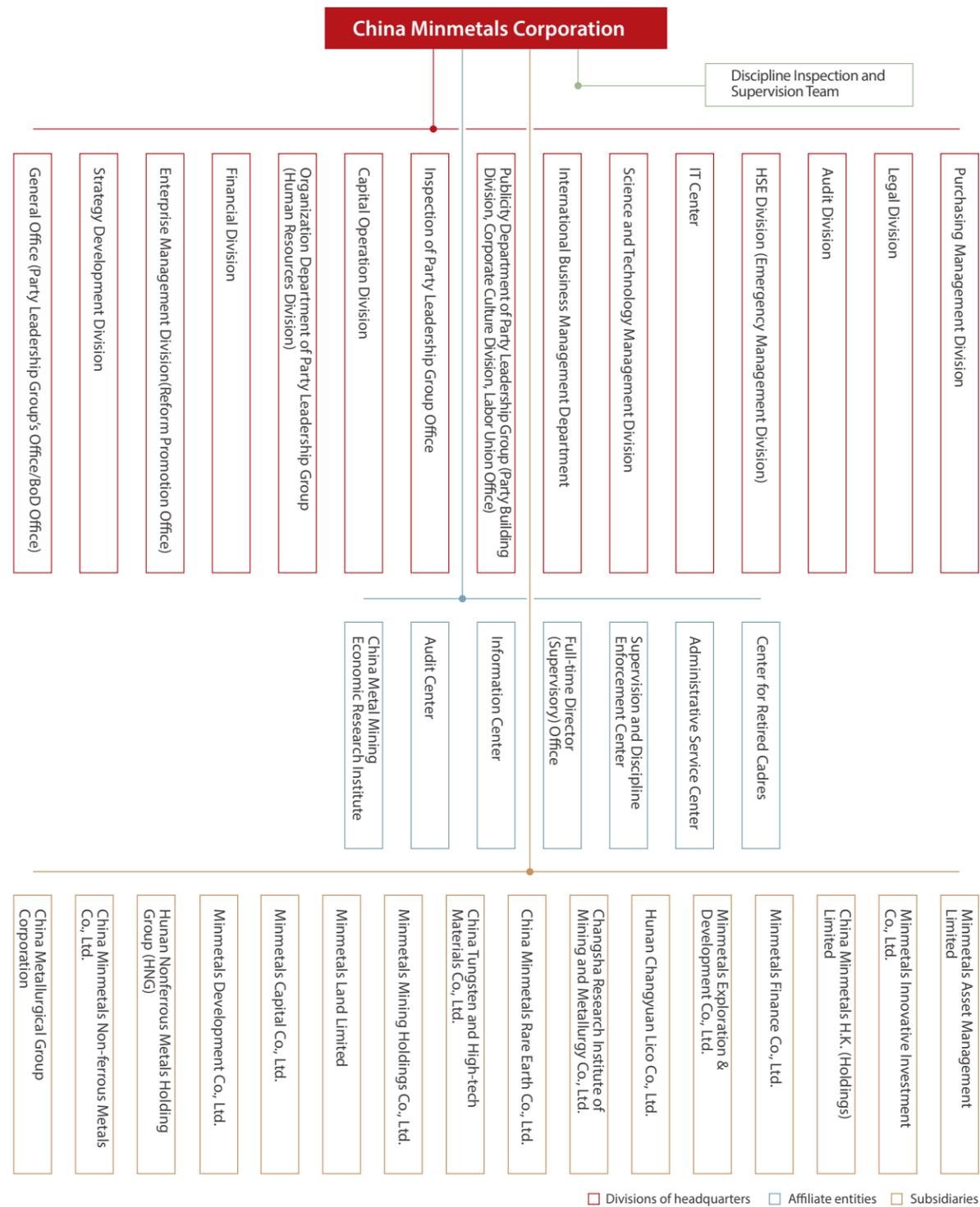


China Minmetals has eight listed companies.

Publically listed on the Shanghai Stock Exchange and the Hong Kong Stock Exchange	> MCC (601618.SH, 1618.HK)
Publically listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange	> Minmetals Capital (600390.SH) Minmetals Rare-Earth (000831.SZ) Minmetals Development (600058.SH) China Tungsten Hightech (000657.SZ) Zhuzhou Smelter Group (600961.SH)
Publically listed on the Hong Kong Stock Exchange	> Minmetals Resources (1208.HK) Minmetals Land (0230.HK)



Organizational structure



Corporate governance

China Minmetals integrates strengthening Party leadership with improving corporate governance, and implements “cross appointment” of the Party Group and the Board. Major issues are first studied by the Party Group and then decided by the Board of Directors or the General Manager’s meetings according to the authority, so as to effectively play the leading role of the Party organization, the decision-making role of the Board of Directors, and the management role of the management team. We have enhanced the building of the Board of Directors to ensure a larger number of external directors and improved the operation mechanism by formulating “three lists and one process” mechanism, which means the list of “Three Majors and One Large” matters, the list of core management and control matters, the list of decision-making matters at the headquarters, and the management process. Such a mechanism has been adopted by all directly-administrated subsidiaries and key subsidiaries of China Minmetals, effectively strengthening the governance system and capacity building of the Corporation. A total of 16 directly-administrated subsidiaries and more than 80 key subsidiaries have formulated their “three lists and one process,” contributing to a management and control system featuring “vertical integration and consistent management.”

21
Party Group meetings

35
GM's meetings

9
Board meetings

19
Meetings of special committees of the Board



Party building

7 categories

48 tasks

11 regular meetings

In 2020, adhering to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China Minmetals earnestly implemented the system of responsibility for Party building and carried out various tasks centering on “Year of Consolidating and Deepening of Party Building in Central SOEs.”

The Party Group of the Corporation released the list of key tasks of Party building work in 2020, and made rational arrangements to support the completion of these tasks. The Party Group studied and formulated the task list of implementing the regulations on the work of primary-level Party organizations of SOEs, specifying 7 categories and 48 tasks. To enhance the rules for the Party building leading group, the Party Group held 11 regular meetings throughout the year. At the “July 1” Party Building Exchange Seminar, the Party Group summarized and reviewed its Party building practices to gain a deeper understanding of Party building. In addition, it revised the *Three-Year Plan for Party Building (2020-2022)* to specify the content and measures of Party building.

China Minmetals has consistently carried out full and strict governance over the Party, enforced Party discipline, adhered to the supervision system, and fully implemented the system of responsibility for Party building. Through all these efforts, we aim to lead high-quality development with Party building.

Organization development

- We organized Party members to learn the *Trial Regulation on the Work at Primary-level Party Organizations of State-owned Enterprises (SOEs)*.
- We further standardized the selection and appointment of leading officials and improved the “cross appointment” leadership governance system.
- We implemented the “three meetings and one lecture” system to further improve the quality of activities of Party organizations.

Conduct improvement

- We compiled the *China Minmetals Table of Key Tasks of Party Style and Clean Government and Anti-corruption in 2020* to coordinate and promote targeted rectification, conduct improvement, inspection and supervision, and made sure officials don't dare to, are unable to and have no desire to commit corruption.
- To clean up undesirable work styles, such as formalism, bureaucratism, hedonism, and extravagance, we formed the *List of Tasks for China Minmetals to Continue to Clear up Formalism*.
- We implemented 3,077 on-site inspections, open and unannounced inspections, and random inspections of conduct improvement work, and examined 21,000 materials, accounts, vouchers, etc.

System building

- We compiled the *List of Main Responsibilities of the Party Group of China Minmetals in Implementing Full and Strict Governance over the Party*, revised and improved the charter of the Party Group of the Corporation, and clarified the responsibilities of the Party Group.

Theoretical foundation

- We organized the education campaign themed “remaining true to our original aspiration and keep our mission firmly in mind” and the learning of *Xi Jinping: The Governance of China* to enhance employees’ political identity.
- We held the “feeling awe and respect, upholding integrity, improving work styles” anti-corruption publicity and education campaign, organized special learning activities of laws and regulations, to strengthen the bottom-line thinking, integrity, and self-discipline of employees.

Sustainability context

Opportunities

- China leads the world in containing COVID-19, resuming work and production, and realizing economic growth. China's prospect of long-term economic improvement has not been changed.
- It is clarified in the CPC Central Committee's proposals for formulating the *14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives Through the Year 2035* that we should ensure the security of energy and strategic mineral resources.
- The development of mineral resources in countries along the Belt and Road is accelerating and the domestic mining environment is expected to be further improved.
- The national requirements for carbon emissions and carbon neutrality are urging the steel industry to pursue green and low-carbon development, which will create new space for the national team to upgrade the metallurgical industry.

Threats

- The world economy situation is faced with complex and severe situations. As COVID-19 continues, there are still great instability and uncertainty.
- Overcapacity will remain a problem in the domestic metallurgical industry in the long run.
- The rigid national requirements on carbon emissions and carbon neutrality pose new challenges to the national team to upgrade the metallurgical industry.

Strengths

- China Minmetals takes the lead in the world to build up a holistic industry chain covering resource acquisition, prospecting and exploration, design and construction, mining and mineral processing, smelting and processing, and trade and logistics.
- We have maintained a balance between asset-heavy and asset-light projects, as well as projects of long and short operating cycles, and joined the forces of professionals from different fields.
- China Minmetals sees a great development momentum with its strong technological power.

Weaknesses

- The foundation for high-quality development of the Corporation is not strong enough.
- The Corporation is not dynamic enough to promote endogenous development.
- New competitive advantages still need to be created with great efforts.

Cherishing limited resources and pursuing sustainable development

Our Actions

Under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, China Minmetals fully implemented the spirit of the 19th CPC National Congress, the 2nd, 3rd, 4th, and 5th Plenary Sessions of the 19th CPC Central Committee, the Central Economic Work Conference, and the Conference on the Heads of Central SOEs Directly Under the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). We resolutely implemented the major decisions and deployments of the CPC Central Committee on advancing COVID-19 response and economic & social development, and tackled unprecedented difficulties with extraordinary measures. We carried out pandemic control stably and improved our business performance against the trend, contributing to realizing the two goals of “striving for sustained and rapid growth in the benefits of most central SOEs and achieving positive growth in the overall benefits of central SOEs,” and ensuring “stability on the six fronts” and “security in the six areas.”

Benchmarking against the 2030 Agenda for Sustainable Development

Progress in implementing SDGs

<p>1 NO POVERTY</p>	<p>SDG1: Eliminate all forms of poverty in the world</p>	<p>By the end of 2020, we had lifted six targeted poverty-alleviation counties, one county in partner assistance relationship with China Minmetals, and 37 local poverty-alleviation counties, and won the battle against poverty as scheduled.</p>
<p>2 ZERO HUNGER</p>	<p>SDG2: Eliminate hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	<p>In poverty-stricken areas, we promoted the cultivation of mushrooms, golden silk chrysanthemum, corn, sugar cane, and apples, the breeding of ducks and pigs, the processing of cured meat, and other sectors of the agricultural industry with local characteristics.</p>
<p>3 GOOD HEALTH AND WELL-BEING</p>	<p>SDG3: Ensure healthy lifestyles and promote the well-being of people of all ages</p>	<p>We carried out rescues and disaster reliefs, and aided the construction of drinking water facilities, medical facilities, and other infrastructure projects.</p>
<p>4 QUALITY EDUCATION</p>	<p>SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p>	<p>To improve the educational infrastructure, we set up the education support program of Qilian County China Minmetals Education Scholarships and Grants and other scholarship programs, launched the "Loving Packages" campaign, "One-to-One" donation activity, and the "Mining Center" vocational education support campaign, and introduced the "Sharing a Bright Future" charity project, the Xueersi education brand, and other quality educational resources to help improve the teaching resources in poverty-stricken regions.</p>
<p>5 GENDER EQUALITY</p>	<p>SDG5: Achieve gender equality and empower all women and girls</p>	<p>We insisted on equal employment, treated employees of different nationalities, ethnicities, races, genders, religious beliefs, and cultural backgrounds equally and fairly, and developed a cloud platform for whole-process unified talent selection and recruitment management.</p>
<p>6 CLEAN WATER AND SANITATION</p>	<p>SDG6: Ensure available and sustainable management of water and sanitation for all</p>	<p>We aided the construction of drinking water projects in poor areas to ensure safe drinking water.</p>
<p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p>SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>We expanded our businesses related to materials in the anode and cathode materials of batteries and promoted the development of energy storage.</p>
<p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>SDG8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	<p>As futures have their special advantages, we issued poverty alleviation bonds for poverty-stricken areas, carried out targeted poverty alleviation projects under the "insurance + futures" model, and ensured stable income growth for more than 20,000 poor households in nine counties. Centering on the "four beams and eight columns" business system, we fully played to our strengths in the entire industrial chain, including resource acquisition, prospecting and exploration, design and construction, mining and mineral processing, smelting and processing, and trade and logistics, to achieve steady growth in production and business operation and promote the development of China's economy.</p>

<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>SDG9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>We accelerated the construction of key projects, such as the Yanqing National Sliding Centre for Beijing 2022, assisted the construction of roads, residential projects for relocated people, and other infrastructure projects, significantly improving production and living conditions in poverty-stricken areas. During the pandemic, we took immediate action to assist the construction of medical facilities, including the Leishenshan and Huoshenshan Hospitals and make-shift hospitals in Wuhan, and distributed needed supplies to affected areas to contribute to the COVID-19 fight.</p>
<p>10 REDUCED INEQUALITIES</p>	<p>SDG10: Reduce inequality within and among countries</p>	<p>We supported the development of overseas communities in places where our projects were located, and made every effort to help local communities develop the local economy, education, healthcare, agriculture, sports, and other undertakings.</p>
<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>SDG11: Build inclusive, safe, disaster-resilient and sustainable cities and human settlement</p>	<p>We built up land reserves, developed a series of high-quality housing projects, and implemented relocation projects to ensure housing security for poor households.</p>
<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>SDG12: Ensure sustainable consumption and production patterns</p>	<p>We established a progressive R&D system for basic research for application, forward-looking technology R&D, common key technology R&D, and industrialized application, overcame multiple bottleneck technological problems, and accelerated the realization of efficient, intelligent, and green development. Through consumption-driven poverty alleviation campaigns, we purchased unsalable agricultural products in poverty-alleviation areas, and facilitated the selling of agricultural products through trade fairs and online platforms.</p>
<p>13 CLIMATE ACTION</p>	<p>SDG13: Take urgent action to combat climate change and its impacts</p>	<p>We strictly abided by national standards for technological, environmental protection, safety, and energy consumption fields, and prioritized innovative environmentally friendly equipment that could help reduce energy consumption and promote energy conservation and emission reduction.</p>
<p>14 LIFE BELOW WATER</p>	<p>SDG14: Conserve and sustainably utilize the ocean, seas and marine resources for sustainable development</p>	<p>We strengthened the exploration of international seabed mining areas, carried out research on deep-sea mining technology, developed the business of acid-free treatment of metal surfaces, accelerated the development of environmentally friendly deep-sea intelligent dredging technology and equipment, and developed businesses centering on the marine mining technology.</p>
<p>15 LIFE ON LAND</p>	<p>SDG15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</p>	<p>We invested in the construction of the Qilian Mountain ecological protection monitoring system, helped Qilian County rectify violations against environmental laws and monitor wildlife activities through high-tech means, and enhanced the protection of the Sanjiangyuan National Nature Reserve. In addition, we intensified our efforts in soil restoration, air pollution control, sewage treatment, and solid waste treatment, improved the environment on roads and beaches along the Yangtze River in Fankou District, Ezhou City, and participated in the treatment of waste slopes and vegetation restoration, contributing to environmental protection.</p>
<p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>	<p>SDG16: Promote peaceful and inclusive society for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p>	<p>We strictly abided by existing laws and regulations, the United Nations <i>Convention against Corruption</i>, World Bank Group <i>Integrity Compliance Guidelines</i> and other international rules, earnestly implemented compliance requirements, resolutely resisted violations, and promoted compliance management, compliance operations, and individual compliance.</p>
<p>17 PARTNERSHIPS FOR THE GOALS</p>	<p>SDG17: Strengthen the means of implementation and revitalize the global partnership for sustainable development</p>	<p>We joined hands with external partners, including Sixianghui, Sichuan Ba Shi Chuan Zhen Food Co., Ltd., China Huadian Corporation, Chengdu Diao Pharmaceutical Group Co., Ltd., Jiangxi Energy Investment Group Limited, Jiangsu Yurun Food Industry Group Co., Ltd., Yunnan Dongyuan Coal Industry Group Co., Ltd., Yuntianhua Group Co. Ltd., and WIREKINETICS Co., Ltd. to carry out precise poverty alleviation.</p>

Sustainability Management

New Sustainability Model

China Minmetals has accelerated the integration of the UN 2030 Agenda for Sustainable Development and the diamond-shaped CSR model to create a sustainability model in the new era, and contributed to the realization of the UN Sustainable Development Goals.

About the Model

Implication: The diamond-shaped model epitomizes China Minmetals' relentless pursuit of sustainable development and firm commitment to creating the greatest possible integrated value for the economy, the society, and the environment.

Rationale: "Maximum integrated value for the economy, the society, and the environment = Maximum positive impact on stakeholders - Minimum negative impact on stakeholders"

Elements of the Model

Core values: Cherishing limited resources and pursuing sustainable development

Main resources: Natural resources, human resources and social resources

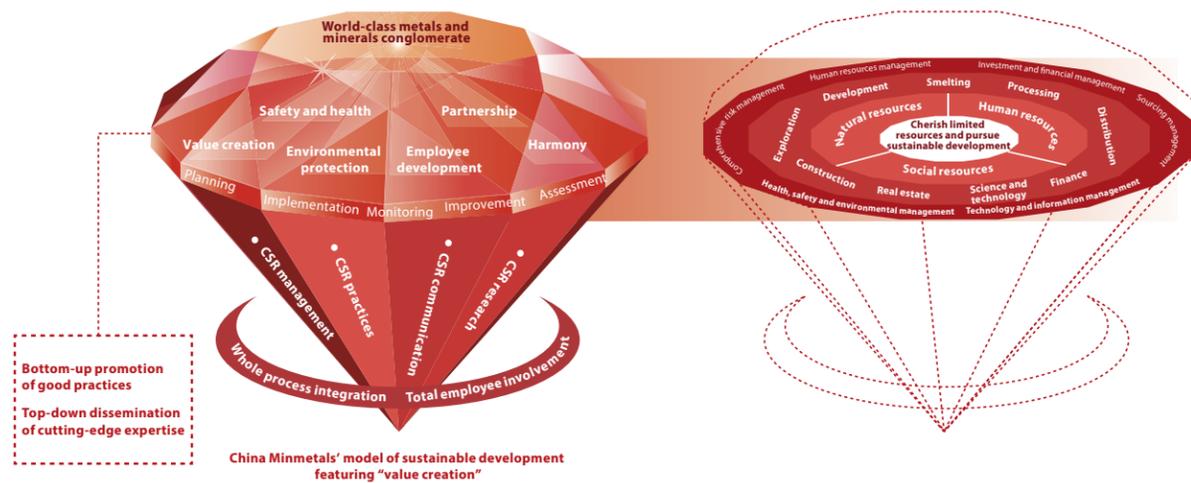
Means: Whole process integration and total employee involvement

Approaches: CSR management, CSR practices, CSR communication, CSR research

Process: Application to all areas of business and management

The Value Creation Formula of China Minmetals

$$\text{Max Comprehensive Value} = \sum_{\text{Max}} \text{Positive Effect} - \sum_{\text{Min}} \text{Negative Effect}$$



Corporate culture

In 2020, we compiled the first *China Minmetals Corporate Culture Manual* to build up a three-in-one corporate culture system composed of "the core cultural concept - cultural spirits of subsidiaries - special cultural concepts", which not only presented the profound and inclusive corporate culture China Minmetals has cultivated over the past 70 years since its establishment, but also depicted the diverse and splendid culture system formed after its strategic restructuring. Taking the 70th anniversary of the founding of China Minmetals as an opportunity, we enhanced the publicity, integration, and improvement of our corporate culture and history, promoted high-quality development of the Corporation with high-quality cultural integration, and provided strong spiritual support for building China Minmetals into a world-class powerhouse in the metals and minerals industry.

STRATEGIC VISION

To be a world-class powerhouse in the metals and minerals industry

STRATEGIC POSITIONING

A main force to ensure the security of resources
A national team to upgrade the metallurgical industry
An integrated service provider in the industry

MISSION

To ensure the security of resources supply for the nation
To transform and upgrade the industry led by innovation

CORE VALUES

Cherishing limited resources
Pursuing sustainable development

CORPORATE SPIRIT

Never delaying
Never slacking



Xikuang Antimony Mine Heritage was selected into the fourth batch of national industrial heritage list

Minmetals Rare Earth has engaged in the mining of the Xikuang Antimony Mine Heritage for 123 years. The heritage site records every bit of the hard work of the older generation in the "capital of antimony" and is an important part of Hunan's industrial civilization. In December 2020, the Xikuang Antimony Mine Heritage became the first antimony mine to enter the national industrial heritage list. Taking this as an opportunity, China Minmetals promoted the industrial spirit, explored the cultural value of Xikuang Antimony Mine, facilitated the transformation, upgrade, and high-quality development of the mine, further contributing to the development of the national antimony industry.

CSR communication

China Minmetals is committed to building an effective CSR communication mechanism to gain an in-depth understanding and respond to the expectations and demands of stakeholders. In this way, we strive to urge all relevant parties to participate in the Corporation's decision-making and operation, ensure their rights to know, supervise, and participate, to achieve common development.

China Minmetals has established a sustainability reporting mechanism with 14 sustainability reports. On this basis, qualified subsidiaries are encouraged to issue their independent reports, the overseas performance reports and the sustainability reports of major projects, forming a three-dimensional reporting model of the company, subsidiaries and project-oriented reports.



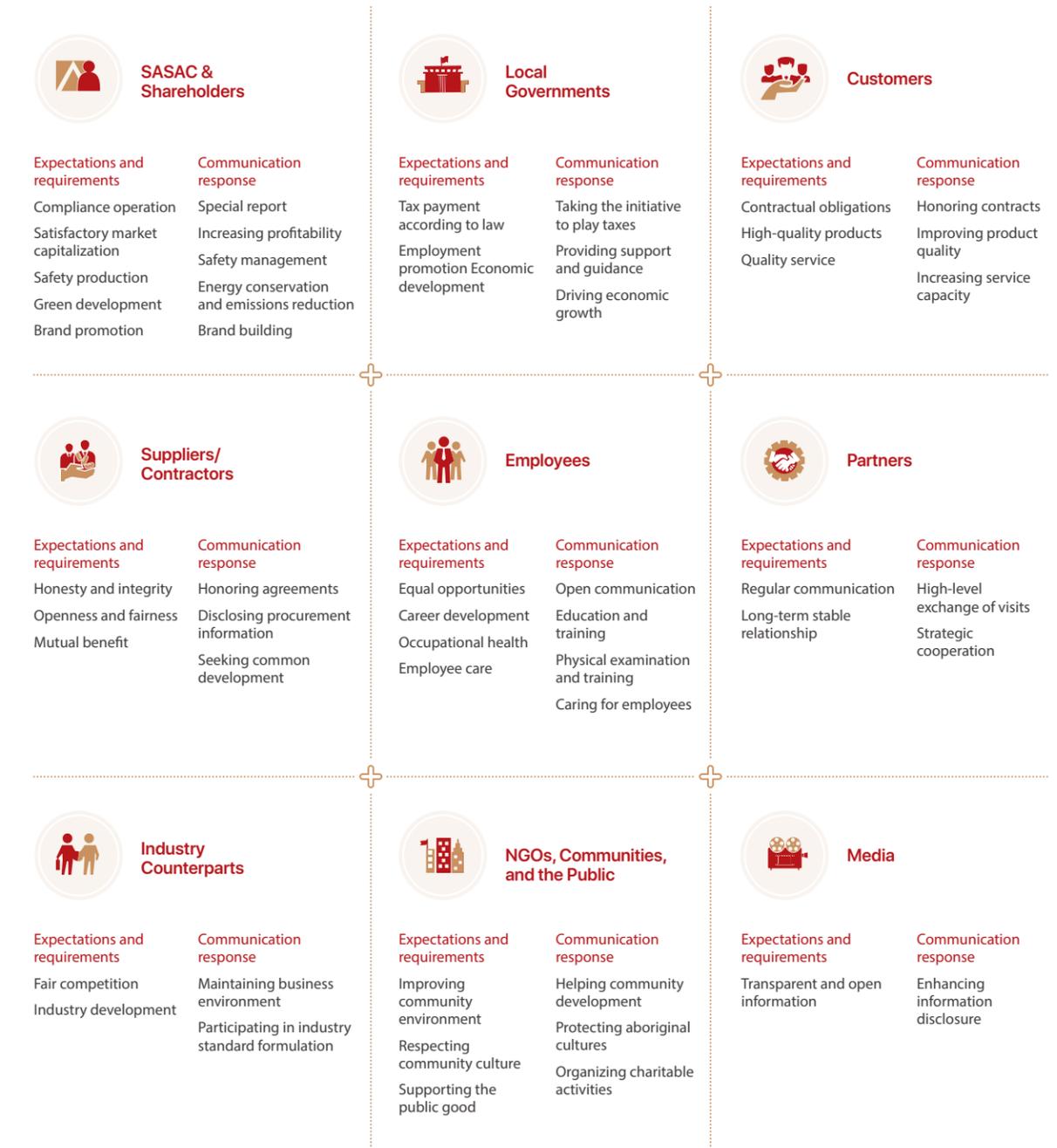
China Minmetals Sustainability Report 2019 won the GoldenBee Excellent CSR Report 2020 • Evergreen Award with Two Stars. Its two cases, "Putting agricultural products in the 'safe' – The 'insurance + futures' poverty alleviation model of China Minmetals" and "Building a 'small and beautiful' demonstration base to help the Miao people get rid of poverty and become rich" were selected into the *Unlocked and Solved--GoldenKey Sustainable Development Solution Case Collection*.

In addition to annual sustainability reports, a social responsibility column is set up on the Company's website to disclose information on the understanding of social responsibility by the top leadership, the management philosophy of the Company, our CSR organizations and stakeholders.



Stakeholder engagement

Based on the Corporation's actual operation and business, we seek to develop new modes of stakeholder communication and interaction, proactively identify key CSR topics, respond to stakeholders' concerns, and keep improving our CSR performance to grow together with all stakeholders.





Feature 1

EMBARKING ON A NEW JOURNEY THROUGH UNTIRING STRUGGLE

During the 13th Five-Year Plan period, China Minmetals thoroughly implemented a series of decisions and deployments of the CPC Central Committee on promoting the development of the state-owned economy and SOEs, and enhanced its competitiveness by advancing the strategic restructuring with a focus on the goal of becoming a world-class powerhouse in the metals and minerals industry. Having given full play to the role of central SOEs as the "ballast stone" of the national economy and the "pillar" in the implementation of national strategies, we have achieved leapfrog development and contributed our strength to the building of a moderately prosperous society in all respects.



Carrying forward strategic restructuring for the new journey during the 13th Five-Year Plan period

Progressive development strategies

In June 2016, China Minmetals Corporation was established as the result of a strategic restructuring of two Fortune Global 500 companies - the former China Minmetals and China Metallurgical Group Corporation (MCC Group). The new China Minmetals has strengthened the top-level design, and progressively implemented development strategies.

- 2016

The Company set the general requirement of stopping losses within two years and making profits within three years, and successfully turned losses into profits that year.
- 2017

The Company upgraded the general requirement to development path and goal of "two doublings in three steps," and achieved a high level of consistency among its strategic paths, corporate responsibility, industry status, and national mission.
- 2018

The Company established the business structure featuring the "four beams and eight columns" to further highlight its main business and responsibilities.
- 2019

The Company built the "eight first-classes" and developed a number of industry leaders and high-profit subsidiaries and projects
- 2020

The Company completed all tasks of ensuring the "stability on the six fronts" and the "security in the six areas," won a victory in fighting COVID-19 and achieving its business goals, and successfully achieved the goal of "two doublings in three steps."

Being more determined to fulfill our mission and responsibility

Ensuring the supply and security of national metal and mineral resources is the glorious mission and main responsibility of China Minmetals. The Company takes becoming "a main force to ensure the security of resources, a national team to upgrade the metallurgical industry, and an integrated service provider in the industry" as its strategic positioning, and has established the business structure featuring the "four beams and eight columns."

Main responsibility and main business in the field of metals and minerals

Thoroughly implementing the philosophy of independent management at mines at home and abroad, and becoming China's No. 1 force for ensuring the security of resources.

By the end of 2020, China Minmetals

<p>Owned</p> <p style="font-size: 2em; font-weight: bold;">42</p> <p>mines at home and abroad</p>	<p>Las Bambas Copper Mine in Peru, Dugald River Zinc Mine in Australia, Ramu Nickel and Cobalt Mine in Papua New Guinea are among the world's top 10</p>	<p>A world leader in terms of the output of tungsten, bismuth, crystalline graphite, antimony, cemented carbide</p>
<p>Of which</p> <p style="font-size: 2em; font-weight: bold;">15</p> <p>mines overseas</p>	<p>Among the world's biggest mining companies of copper, lead, zinc, nickel, and beryllium</p>	<p>Among China's top producers of iron, lithium, cobalt, indium, scandium, fluorite, rare earth, and cathode materials</p>

At the same time, we have taken comprehensive measures to improve old industrial areas to vigorously reduce low-end, low-efficient supply, and expand green, high-end supply, thereby promoting the transformation and upgrading of the non-ferrous smelting industry.



Metallurgical construction

With leading core technology, continuous innovation, and irreplaceable integrated advantages in the entire metallurgical industry, we assume the national responsibility of leading China's metallurgy to a higher level. We are a major player in the domestic and global markets, and play an irreplaceable role in pushing China to become a global steel powerhouse from a major steel producer. We have completed the construction of a number of steel projects which have attracted worldwide attention, including the Zhanjiang Iron and Steel Industry Base of Bao Steel, the Formosa Ha Tinh Steel project in Vietnam, the Fangchenggang Steel Base Project of Liuzhou Steel Group, Malaysia's Kuantan united steel project, and undertaken a number of demonstration projects embracing cutting-edge green and intelligent technologies, such as the integrated intelligent steelmaking control center of Maanshan Iron & Steel of China Baowu Group and the hydrogen energy exploitation and utilization project of HBIS Group. We have conducted strategic upgrading projects for the majority of large and medium-sized steel mills in China, such as their relocation for environmental purposes and projects for energy conservation and emission reduction. With our high-tech strengths in the field of metallurgical construction acquired over the years, China Minmetals has completed the development and construction of multiple new urban districts, and has become a well-known provider of comprehensive solutions for urban construction in China.

Trade and logistics

According to the guiding principle of "putting suppliers and users on the world market, preventing the risks at both ends with contracts, large-scale import & export, and promoting closed-loop circulation," we have reshaped the resource trading system by building the 100-million-ton Caofeidian International Ore Trading Center, as well as a number of physical trade projects such as the industrial parks in Mayong Town (Dongguan), Luoqing Town (Shanghai), and Wuxi (Jiangsu Province).



Note: the data above are compared from 2015 to 2020

Finance and real estate

China Minmetals is the holding company of eight licensed financial institutions and three financial firms without financial services licenses. With total assets under management reaching RMB 906.5 billion, we have become one of the most influential listed financial holding companies directly under the central government. We have grown from a real estate developer to a city operator, and have built a number of high-quality projects such as towns with local characteristics and industrial real estate projects. The steady development and sustained profitability of our financial services and real estate business have contributed strong support to our response to changes in the metal mining industry.

New industries

We create a closed-cycle industrial ecosystem of new energy anode and cathode materials to foster new areas of growth, so that we can occupy an advantageous position in the new round of global energy revolution. We have made major breakthroughs in the research and development of key technologies and equipment for marine mining, and have developed and expanded in a number of emerging areas such as energy conservation and environmental protection and the construction of theme parks, sponge cities, utility tunnels, and smart cities.

◆ Significant improvement in business performance

During the 13th Five-Year Plan period, we significantly improved a number of key indicators, including business scale, business revenues, asset quality, and operational efficiency. In 2020, our ranking on the Fortune Global 500 rose to 92nd, and we ranked 24th on the list of the top 500 Chinese enterprises.



◆ Pursuing high-quality development by improving quality and efficiency

With the new development concept as the pioneer, China Minmetals is steadily promoting high-quality development, pushing the Company's development process to a new stage and raising the level of development to a new height.

◆ Comprehensively deepening reforms to accelerate high-quality development

In 2016, China Minmetals became a pilot enterprise of state-owned capital investment companies. From then on, we have forged ahead with the organic combination of top-level design and practice in primary levels, and pursued breakthroughs in key areas while comprehensively advancing state-owned capital investment. Besides, we carried out in-depth reforms in line with the market economy, the characteristics of state-owned enterprises, and the actual condition of the Company, and actively explored the management system with a focus on capital management and the optimization of the distribution of state-owned capital.

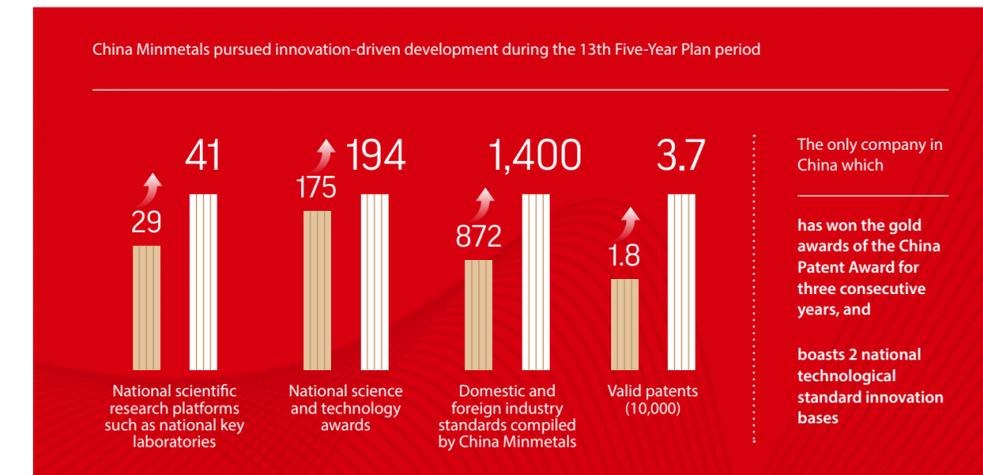
Among all central SOEs, we are the first to include the overall requirements of Party building into the Company's articles of association. We have comprehensively revised the discussion and management rules involving the general meeting of shareholders, the Board of Directors and the Board of Supervisors, and dynamically optimized the "three lists and one process." These efforts have enabled us to continuously improve the corporate governance system.

We have achieved remarkable results in promoting supply-side structural reform. We continued to streamline our structure, strengthened the full life-cycle management of the Company, and reduced 325 juridical entities. We eliminated "zombie companies" and companies suffering hardship, and separated secondary lines of business from core business. At the same time, we promoted innovation-driven development, and have been rated Enterprise with Outstanding Contribution to Technological Innovation by the SASAC.

To create synergy among the four aspects of institution, management, industry, and personnel, we made coordinated efforts to promote restructuring to create a capable, authoritative and efficient headquarter, a unified management system and a professional industry platform. We firmly grasped the market complementarity, and have creatively proposed the 100 billion internal market. Our collaboration model is constantly enriched, and the collaboration space is constantly expanding.

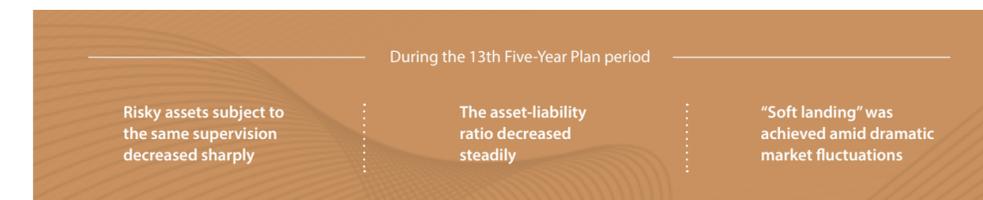
We continue to improve contractual management, and have built the China Minmetals model featuring a market-oriented operating and management mechanism. We have built top-down systems to further promote the systematic coordination of planning, budgeting, assessment and compensation, as well as contractual management covering management, operation and investment.

◆ Pursuing innovation-driven development and fostering new growth drivers



◆ Strengthening risk management and control to ensure high-quality development

China Minmetals always prioritizes risk prevention and resolutely guards against major risks. We focus on high-risk fields such as investment, debt, finance, trade, and overseas business, and work tirelessly to resolve long-term risks in a targeted manner. At the same time, we attach great importance to the construction of risk management, internal control and compliance systems to avoid new risk events.



◆ Strengthening the training of personnel to consolidate the foundation for high-quality development

We regard personnel as our primary resource, and focus on training versatile officials who are "loyal to the Party, endeavoring to reform and innovation, adept in corporate governance, hard-working to prosper the enterprise, upright and clean," and are competent in both business management and Party building. We vigorously promote craftsmanship, entrepreneurship and the scientific spirit while supporting the development of high-caliber officials and personnel. As a result, the income of our employees has grown steadily, and they have become more enthusiastic about work and more satisfied with the Company.



Continuing efforts to boost internal momentum for development

Ensuring the security of energy and strategic mineral resources has been specified in the CPC Central Committee's proposals for the 14th Five-Year Plan period. We regard satisfying the needs of the country as our strategic mission and the original intention of our corporate development. Keeping in mind the overall interest of the Party and the country, we carry on our sacred mission and accelerate the building of a world-class powerhouse in the metals and minerals industry by deepening the SOE reform, ensuring the security of resources, and providing strategic support for the development of the state-owned economy.

During the 14th Five-Year Plan period, the guiding ideology of China Minmetals includes: Follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era; implement fully the spirit of the 19th CPC National Congress and the 2nd, 3rd, 4th and 5th plenary sessions of the 19th CPC Central Committee; thoroughly implement the important speeches and instructions made by Chinese President Xi Jinping on the reform and development of state-owned enterprises and on Party building; accurately grasp features of the new development stage, thoroughly implement the new development philosophy, and deeply integrate into the new development pattern; focus on the goal of becoming a "world-class metal mining group" while continuing to promote high-quality development and enhance competitiveness; comprehensively boost forces driving development and strengthen new drivers of growth, and unremittingly strengthen, expand, and increase returns on state capital.



Launching strategies and actions to promote innovation-driven development

We leverage our technological advantages and the institutional strength of concentrating resources to get things done, improve systematic coordination, and highlight independent innovation in an effort to accelerate the development towards the high end of the industrial chain and value chain, and build a high-level competitive edge.

Launching the three-year action plan for SOE reform to stimulate reform

We continue to deepen trial reforms in state capital investment companies, fully implement the key tasks of the three-year action, and create an upgraded version of the "China Minmetals Model." We scientifically grasp the timing, methods, and pace in steadily promoting reforms, so as to fully stimulate enthusiasm and creativity to create an independent market entity.

Implementing restructuring and integration strategies to enhance synergy

We steadily advance internal integration to build a professional, efficient and standardized industrial platform, and actively promote external mergers and acquisitions and restructuring to achieve the continuous growth of the industrial system.

Taking actions to enhance competitiveness and exploit business potential

With a scientific indicator system for contractual management, we regard improving the efficiency of personnel and things as a key measure to enhance competitiveness. We regard "cost reduction" as the long-lasting theme of competitiveness enhancement, and continue to tap potential and increase efficiency to foster competitiveness with a focus on key indicators.

Implementing capital operations strategy to stimulate the vitality of capital

We enhance our awareness of being an industrial investor and a capital manager, and make full use of the "two engines" of industrial management and capital operations. We take advantage of the capital market to achieve a virtuous circle and orderly expansion of industry and capital, and realize the overall circulation and interaction of assets and capital through capital operations.

Implementing the strategy for developing high-caliber personnel and stimulating the vitality of talents

We attach great importance to the strategy for developing high-caliber personnel, and regard it as a major and urgent task. We are committed to building a contingent of competent personnel and a more reasonable personnel structure to support the implementation of the Company's development strategies during the 14th Five-Year Plan period.

Looking back, China Minmetals has lived up to expectations, and achieved results that satisfy both the Party and the people. In the future, China Minmetals will build on past achievements, stepping up to its mission of developing a strong enterprise that supports the country to become stronger. All China Minmetals employees will join together as one and unite their efforts to stride towards the goal of building a world-class powerhouse in the metals and minerals industry!



Feature 2

FIGHTING COVID-19 AS A RESPONSIBLE CENTRAL SOE

In 2020, when COVID-19 raged across the world, China Minmetals thoroughly studied and mastered Chinese President Xi Jinping's important instructions on winning the COVID-19 battle and resolutely implemented the decisions and deployments of the CPC Central Committee and the State Council. We earnestly fulfilled our political, social, and corporate responsibilities for scientific pandemic control and orderly resumption of work and production.

"The pandemic will eventually be defeated by us. Our days will go on, and we will continue to climb up more mountains and travel more roads." We responded and developed a plan promptly, worked with the whole nation to fight all difficulties, and assisted domestic and overseas pandemic containment and resumption of work and production. We demonstrated a great sense of responsibility during the extraordinary period with practical actions, and fully played our role as a pillar for national development.

THE FIRST STAGE

The early wave of the COVID-19 outbreak

from January 20 to 27, 2020

- We issued the *Urgent Notice on Effectively Preventing and Controlling Novel Coronavirus Pneumonia* in the first place;
- On January 24, two medical staff from Shanghai Zhongye Hospital rushed to assist Wuhan;
- On January 26, China First Metallurgical Group Co., Ltd. (CFMCC) took immediate action to produce 4,800 structural steel workpieces for Leishenshan Hospital.

THE SECOND STAGE

The fast spread period of COVID-19

from January 28 to February 18, 2020

- We issued 11 internal notices, established an infection reporting mechanism for overseas staff, and made overall arrangements for pandemic containment work for overseas staff;
- We released the *Guidelines for Handling Legal Issues of Enterprises During COVID-19* to coordinate research on pandemic prevention and production and operation;
- We held a special meeting on guaranteeing the supply of preventive materials at the Corporation level;
- We donated RMB 30 million;
- MCC Group successively led or participated in the construction of 34 designated COVID-19 hospitals and isolation sites;
- China Tungsten Hightech Materials Co., Ltd. (China Tungsten) immediately submitted the application for the continued operation of the entire PCB bar production line to relevant departments of the local government to ensure the supply of parts and components for infrared medical thermometers urgently needed in various regions.

THE THIRD STAGE

The critical pandemic control period

from February 19 to March 8, 2020

- MCC Group issued the first tranche of 2020 ultra-short-term financing instruments (COVID-19 response bond) of RMB 2 billion at an interest rate of 1.95%. It was the first "COVID-19 response bond" in the construction industry;
- China Minmetals established the "Minmetals International Trust - Sanjiangyuan Pandemic Relief and Containment" series of charitable trusts to contribute to the fight against COVID-19; Minmetals Securities issued the first corporate bond for COVID-19 response to provide financial support for the anti-virus fight;
- The precision tools branch under Nanchang Cemented Carbide Limited Liability Company, a subsidiary of China Tungsten, realized 100% production capacity with less than 58% staff in place through optimization of the organization and management;
- We held a special meeting for the Corporation to make full use of national policies to effectively reduce risks associated with the pandemic;
- We held a video conference on promoting the COVID-19 response and further planning for the resumption of work and production.

THE FOURTH STAGE

The period of preventing the coronavirus from re-entering China to cause a new pandemic

from March 9, 2020 till now

- We convened special meetings on the overseas COVID-19 response and production & operation of China Minmetals, through which we put forward strict requirements for stable operation, strict risk control, regular dispatching, tightened management of staff entering China and going abroad, and steady trade activities;
- We strengthened the analysis of pandemic situations and COVID-19 response policies of the countries and regions where our overseas companies were located, and reported on cross-border movements of our employees and the pandemic situation on a daily basis;
- Overseas companies made emergency arrangements for enclosed semi-militarized management of mines and accelerated the construction of projects;
- CFMCC accelerated the construction of the domestic waste incineration power plant project in Hanoi, Vietnam, which can incinerate 4,000 tons of waste per day, during the COVID-19 fight; Wuhan City Environment Protection Engineering Limited Company put the thermal power project in Indonesia into operation at a record-breaking speed;
- Minmetals International Trust Co., Ltd. continued to explore ways to strengthen its businesses related to copper ore concentrates and obtain sources from third parties.



Guarding the nation against COVID-19

Faced with the outbreak of COVID-19, China Minmetals established four major mechanisms of command, implementation, health management, and mobilization, made proper arrangements for COVID-19 response, and shouldered major rescue, construction, and supply tasks. We rushed to assist seriously affected regions and guarding the nation against the pandemic with a great sense of responsibility.

Timely Response

On January 21, 2020, Chinese President Xi Jinping gave important instructions on pandemic containment. Following the decisions and instructions of the CPC Central Committee, the Party Group of China Minmetals responded quickly, and employees took the initiative to stick to their posts during the Spring Festival to ensure efficient COVID-19 response. We had a conference call on pandemic prevention among our subsidiaries in Wuhan and worked with them to win the battle against COVID-19.

Strengthened leadership and unified command

China Minmetals immediately held a special meeting to arrange for COVID-19 response. We set up a pandemic control leading organization, formulated meticulous prevention plans, guaranteed the implementation of responsibilities at all levels, ensured smooth communication channels, implemented grid management of communities, improved security protection measures, and implemented targeted policies by category. More than 10,000 officials and employees defended the frontline of the anti-pandemic battle and all members of China Minmetals united as one against the pandemic.

Undertaking the mission to quell the crisis and weathering times with concerted efforts

While COVID-19 was still raging in China and medical supplies were urgently needed, China Minmetals kept the big picture in mind and joined the frontline of the fight against COVID-19 at the fastest speed with the highest efficiency and greatest efforts. By overcoming all difficulties caused by the hard transportation conditions, inconvenient communication facilities, and restricted distribution of needed supplies, China Minmetals rushed to assist the construction of Leishenshan and Huoshenshan Hospitals, make-shift hospitals, etc. in Wuhan, and delivered sufficient materials and equipment in time to guarantee the smooth completion of the projects. More than 4,600 workers from seven design and construction subsidiaries of China Minmetals completed the high-quality design, construction, and renovation of 34 designated COVID-19 hospitals and isolation sites at the highest speed, guaranteeing strategic achievements in the fight against the pandemic. At the same time, we provided strong support for numerous front-line medical staff and immediate assistance to affected regions through donations and the distribution of urgently needed supplies.



Building Ezhou Leishan Hospital



Delivering boundless love and fighting in solidarity

In the nationwide COVID-19 fight, China Minmetals, with its great sense of responsibility and enthusiasm, made dedication selflessly and helped the nation through the difficult times with boundless love.

Helping affected regions with charitable donations

China Minmetals launched multiple donation campaigns targeting severely affected regions in China.



Helping affected regions with concerted efforts

To alleviate the shortage of preventive supplies, China Minmetals fully mobilized its overseas subsidiaries to expand overseas supply channels and purchase preventive supplies to support domestic COVID-19 response.



Minmetals staff purchase epidemic prevention materials overseas

As of February 9, 2020, China Minmetals' overseas subsidiaries had purchased 280,000 masks and 130,000 disposable gloves in total

Lands apart, hearts connected

The mountain range that stretches from you to me is in the same wind and rain. The same moon is shining over our heads, never been apart but in one place we remain. As the pandemic in China eased while the overseas situation kept worsening, China Minmetals practiced the concept of "a Community with a Shared Future for Mankind," and offered timely help. We stood together with our overseas partners with mutual assistance amid difficulties and devoted ourselves to the global fight against the pandemic. It once again demonstrated Chinese enterprises' great sense of responsibility in the COVID-19 fight.

China Minmetals has been providing strong support for the Embassy of Chile in China and even Chile. At the critical stage of the COVID-19 outbreak in Chile, donations of China Minmetals have really helped Chile a lot.

—Luis Schmidt Montes, Chilean Ambassador to China



Stakeholders

As a Party member, I will rush to the frontline whenever I am needed.

—Zhong Hui, an employee of CFMCC who participated in the construction of Huoshenshan Hospital

Honors

CFMCC was rated as Organizations of Hubei Province with Outstanding Contributions to the COVID-19 Fight

CFMCC was rated as Model Enterprise of Wuhan City in the COVID-19 Fight

Medical workers of the hospitals affiliated with China Minmetals risked their lives to form an assistance team and rushed to Wuhan to contribute to local pandemic containment work. They put the spirit of healthcare workers in the new era into practice with their respect for life and by healing the wounded and rescuing the dying, making dedication, and showing great love. With a firm belief in science and great tenacity, our medical workers kept fighting at the frontline of the COVID-19 fight.



MCC Hospital expresses sincere solicitude for front-line employees



Ramu NiCo Management (MCC) Limited helps the development of communities in Papua New Guinea

Ramu NiCo Management (MCC) Limited appropriated RMB 100,000 to purchase preventive materials from China and donated them to local governments and community hospitals of Madang, Papua New Guinea. In addition, the company donated hospital beds and other medical equipment worth 77,000 Kina (about RMB 140,000) to medical centers in the project areas. In 2020, the company spent 274,000 Kina (about RMB 500,000) on supporting community development, driving the development of the local economy, education, healthcare, agriculture, sports, and so on.



Helping Chile fight COVID-19

China Minmetals has a long history of cooperating with Chilean companies. At the critical stage of the COVID-19 outbreak in Chile, China Minmetals donated a large amount of preventive materials, including disposable surgical masks and gloves, protective suits, and forehead thermometers, which provided strong support for Chile to fight against COVID-19, showing the great sense of responsibility of Chinese enterprises.





Guaranteeing science-based coronavirus prevention and orderly resumption of work and production in all aspects

The safety and health of employees have always been our top priority. By establishing COVID-19 response systems, enhancing employees' awareness, and strengthening on-site management, we built up an indestructible defense line against COVID-19 to ensure the safety of all employees. At the same time, we scientifically and rationally arranged the resumption of work and production, and struck a balance between COVID-19 response as well as construction and production.

Effective anti-virus measures

Establishing COVID-19 response systems. We formulated the *COVID-19 Response Work Plan and the Contingency Plan during COVID-19*, strengthened personnel management, and strictly implemented the prevention and control requirements.

Enhancing employees' anti-virus awareness. We printed and posted COVID-19 response knowledge maps, pictures and manual, and posted publicity posters to popularize relevant knowledge.

Strengthening on-site management. We closed off project construction sites, tightened entry and exit control, conducted strict management of construction workers and employees of the contractors, and carried out every detail of pandemic prevention to make sure that the entire process is controllable and traceable.

China Minmetals is a highly international enterprise with about a quarter of its asset in overseas markets. We have more than 260 overseas subsidiaries and a large number of overseas employees. When COVID-19 was raging around the world, we quickly maintained a production and operation order compatible with our COVID-19 response work, and implemented enclosed semi-militarized management of overseas mines. In addition, we carried out 24-hour health management and scheduled employees' shifts properly to ensure their safety and health.

Promoting the resumption of work and production for our projects

In addition to pandemic containment, we guaranteed smooth production and operation and accelerated the construction of key regional projects. In early April, our subsidiaries at all levels resumed their work and production to the fullest. By advancing projects key to the national economy, people's livelihoods, and international production capacity cooperation, such as the Yanqing National Sliding Centre, Universal Studios Beijing, and DXN Indonesia, as scheduled, we successfully drove the recovery of the upstream and downstream sectors of the industrial chain.



Construction site of Rongdong AF community project in Xiong'an New Area



Stable operation of Las Bambas Copper Mine in Peru

In 2020, Peru entered a state of emergency for COVID-19 response, and Las Bambas Copper Mine was put under pressure from pandemic prevention on one side and production and operation on the other. By collaborating with multiple parties, adjusting the frequency of shifts, ensuring the transportation of key production materials in the current period, and strengthening pandemic prevention, Las Bambas Copper Mine guaranteed zero infections of employees and ensured the stable operation of the mine to the greatest extent.



Resumption of work at Las Bambas Copper Mine



Orderly construction of projects

Faced with the outbreak of COVID-19 and a depressed market, we completed our tasks and targets in the Nanjing Shengshi Binjiang Project and the Jinxiu Longwan Project in 2020 as scheduled, with an aim to build high-quality ideal housing projects for customers. Both projects ensured efficient COVID-19 response and orderly resumption of work and production based on optimized team management and resource allocation. They became the first local projects to resume work and production and were completed, accepted, and delivered to project owners on schedule.



Supporting the resumption of work and production of small and medium-sized enterprises

To solve the problem of the lack of funds faced by small and medium-sized enterprises, China Minmetals' financial subsidiaries applied for re-loans and rediscounts from the People's Bank of China based on their own capital to provide low-cost, inclusive financial support for small and medium-sized enterprises to resume work and production. In 2020, China Minmetals issued RMB 220 million of inclusive loans to small and micro enterprises (with interest rates lower than 4.55%).



Feature 3

FULFILLING THE COMMITMENT TO POVERTY ALLEVIATION

On February 25, 2021, at the National Poverty Alleviation Summary and Commendation Conference, Chinese President Xi Jinping declared that China, with the joint efforts of all Party members and all the Chinese people, had secured a comprehensive victory in the fight against poverty, and completed the arduous task of eradicating regional poverty and extreme poverty—an outstanding and historic achievement in the centenary of the Communist Party of China.

Following the leadership of the Party and upholding the three principles of “featured, targeted, prolonged”, China Minmetals made solid progress in reducing poverty in seven targeted counties by pooling resources to improve local living standards, support the development of local infrastructure, education and industries, and boost the consumption of local products. We launched a large number of productive poverty alleviation programs, and contributed our wisdom and strength to the fight against poverty in China.



Completing the poverty alleviation task

We earnestly studied a series of important speeches made by Chinese President Xi Jinping on poverty alleviation, actively responded to and implemented national policies and guidelines on poverty alleviation, and took it as our bounden duty. We went all out to fight against poverty and completed all poverty alleviation tasks.

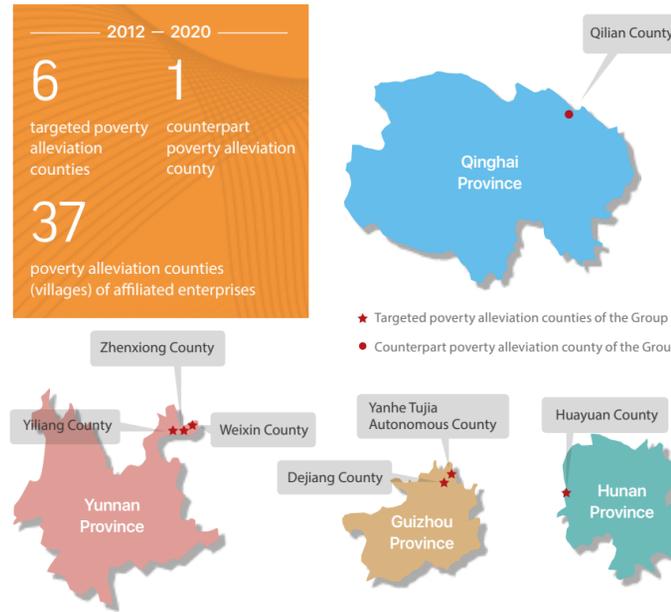


China Minmetals won the highest rating in the poverty alleviation work performance appraisal of central SOEs.

The Poverty Alleviation Office of China Minmetals was awarded the title of “National Outstanding Collective in Poverty Alleviation”.



We have published the *White Paper on Poverty Alleviation*, which systematically introduces our ideas, typical cases and main achievements in poverty alleviation. We also publicize poverty alleviation experience and practices in the mainstream media from time to time.



2002-2011
Offering continuous support

China Minmetals assigned officials to poor areas, and donated funds and materials to support local rescue and disaster relief efforts, as well as education, medical service, and infrastructure construction.

2012-2017
Increasing assistance to poor areas

China Minmetals conscientiously implemented the overall requirements on poverty alleviation made at the 18th CPC National Congress and the Fifth Plenary Session of the 18th CPC Central Committee. In addition to continuously dispatching officials to poverty-stricken areas to serve temporary positions, the Company formulated annual plans for the use of poverty relief funds through comprehensive budget management, and provided planned and targeted assistance to poor areas for the fight against poverty.

2018-2020
Achieving poverty alleviation

China Minmetals actively implemented the decisions and plans of the Party Central Committee and the State Council, and followed the guidance of the annual poverty alleviation statement. We continuously increased efforts in the six major aspects, such as enhancing organizational leadership, selecting and dispatching officials, increasing investment, boosting sales of products from poor areas, etc., which enabled us to complete poverty alleviation tasks on schedule.



Increasing manpower and resources for poverty alleviation

In the fight against poverty, China Minmetals mobilized support from the entire corporation, all subsidiaries and all employees. In order to help poverty-stricken areas eradicate poverty and achieve sustainable development, the main leaders of the Company took the lead, and the officials serving temporary positions in poverty-stricken areas worked tirelessly. At the same time, we distributed sufficient funds to poverty alleviation programs, and also encouraged all types of personnel to support the cause with their wisdom and advantages in technology and information.



Strengthening the organizational structure

In the face of arduous tasks, we strengthened the overall planning and implementation of responsibility, remaining true to the Party's founding mission and seeking happiness for the Chinese people. After taking into account the local characteristics of poor counties where we carried out targeted poverty alleviation, we established the work mechanism for poverty alleviation, which was composed of unified leadership of the Corporation's Party Group, overall planning and decision-making by the headquarters, partner assistance provided by the directly-administrated subsidiaries, implementation by officials serving temporary positions, and closed-loop poverty relief covering the whole process. The mechanism enabled us to make concerted efforts to help those in need and deliver genuine outcomes.



In June 2020, Tang Fuping made a survey in Dejiang County



In September 2020, Guo Wenqing made a survey in Huayuan County



In June 2020, Dong Mingjun made a survey in Zhenxiang County

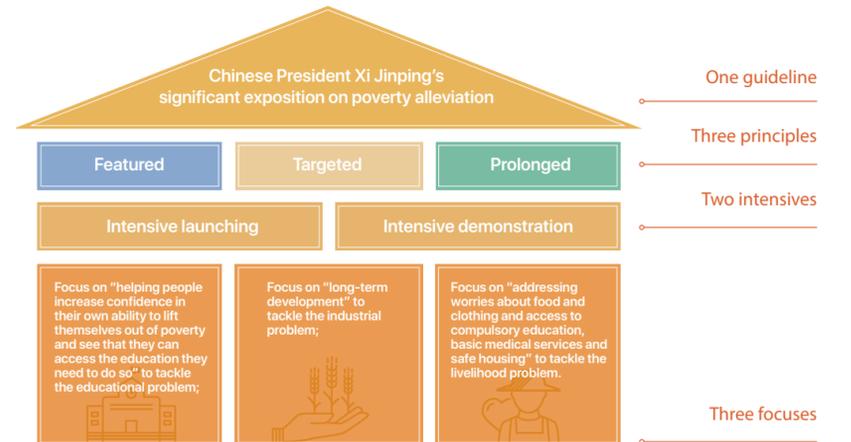
The Corporation's leading group of poverty alleviation was established, with Tang Fuping, Chairman of China Minmetals Corporation, serving as the head, Guo Wenqing, President of the Corporation, and Dong Mingjun, Deputy Party Group Secretary and a board director of the Corporation, taking deputy roles in the group. Subsidiaries undertook the main functions of the group with a work mechanism where each part performed its own functions and cooperated with each other while focusing on key issues.

The Corporation's Party Group conducted special research on targeted poverty alleviation programs annually. They would be briefed on progress in poverty alleviation, and would specify requirements for the future.



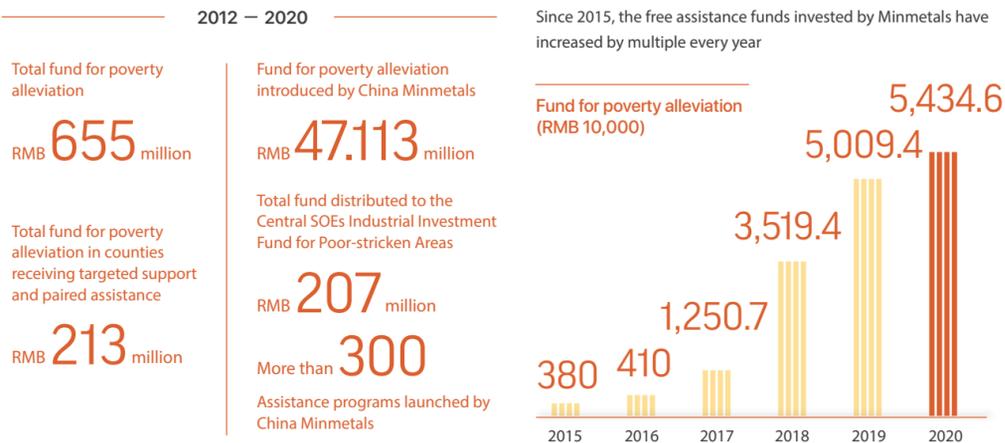
Main leaders inspected and guided targeted poverty alleviation efforts in poor counties every year.

By clarifying the “one, three, two, three” overall thinking of poverty alleviation in the new era, we made poverty alleviation work more accurate, more distinctive, and more effective.



The “one, three, two, three” overall thinking of poverty alleviation

Increasing funds investment



Strengthening poverty alleviation teams

Selecting the best team for poverty alleviation

China Minmetals is committed to cultivating high-caliber personnel for poverty alleviation, and always deployed the most responsible and professional officials to the front line of poverty alleviation. While selecting and dispatching officials to serve temporary positions in poverty-stricken areas, in a timely manner, we strengthened the training of these officials and offered them strong support.

Strengthening training of personnel for poverty alleviation

We actively mobilized various resources, and steadily carried out targeted training on breeding, planting, construction skills, e-commerce, trade negotiations, etc. that satisfied the needs of different groups of people, so as to improve the management capabilities of primary-level poverty alleviation officials and the skills of poor households.

Since 2012, we have dispatched more than 100 officials to serve temporary positions in poverty-stricken areas.

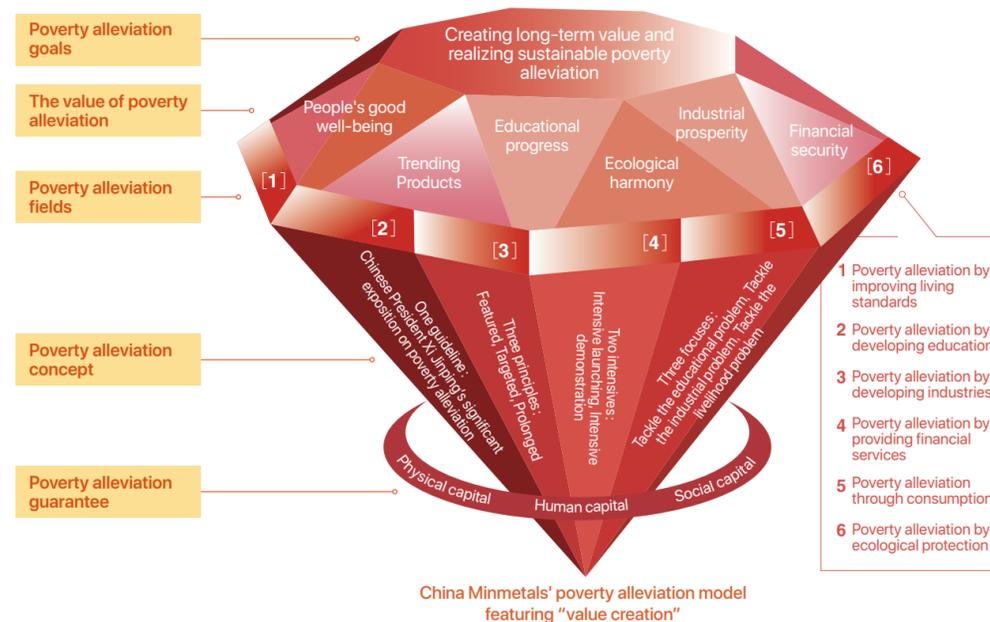
China Minmetals has dispatched four more first secretaries to station in villages in deeply impoverished areas since 2017, and has persisted with the deployment of one deputy mayor, seven deputy county mayors, and four first secretaries stationed in villages over the years. Subsidiaries of the Corporation have dispatched more than 50 officials to serve positions in poor villages. We maintained the deployment of 11 officials to serve temporary positions in the six targeted poor counties annually, of which all deeply impoverished counties were stationed with first secretaries in local villages.

2012-2020



Promoting innovation on targeted poverty alleviation model

After years of poverty alleviation exploration, China Minmetals has been committed to reducing poverty through the development of local industries and education, as well as by safeguarding and improving people's living standards, providing financial services, promoting consumer to spend on products from poverty-stricken areas, and improving the ecological environment in poverty-stricken areas. We have established a unique and long-lasting targeted poverty alleviation model featuring "value creation," which has created comprehensive, long-term value for impoverished areas.



Improving living standards in poverty-stricken areas

In the fight against poverty, China Minmetals steadily increased its investment in poverty alleviation. Focusing on prominent problems in "addressing worries about food and clothing and access to compulsory education, basic medical services and safe housing," we addressed key issues such as drinking water, education, and relocation of people in poverty-stricken areas, pooling resources in carrying out a series of poverty alleviation programs.

Supporting local education

We have launched the "Mining Center" vocational education program. With high-quality internal vocational education resources and cooperation with the Panzhihua Technician College, whose students have won world welding champions three times, we provided free vocational education lasting three years for outstanding students from poverty-stricken areas. We also offered these students living allowances, and recommended jobs for them. The two "Mining Center" classes, which have provided free three-year courses for more than 100 students, have established a good reputation among schools and families in poverty-stricken areas. The poverty alleviation program is also conducive to the implementation of the follow-up rural vitalization strategy in poverty-stricken areas that have been lifted out of poverty.

Promoting development of local industries

We have developed a "small but high-quality" poverty alleviation model to promote the development of local industries. In Huayuan County, where Chinese President Xi Jinping put forward the concept of "targeted poverty alleviation" for the first time, we have built a poverty alleviation model featuring "funded by central SOEs + operated by rural cooperatives + increasing incomes of registered poor households + promoting sales of products in the company + fostering internal drivers through the clear distribution of incomes," which gradually cultivated internal drivers for sustainable development of poverty alleviation programs through reasonable division of labor and professional operation.

In Huayuan County, China Minmetals has built two corn-eating duck breeding bases, two shiitake mushroom growing bases, a slaughtering, processing, and refrigeration center, a bacon processing plant, a new rural construction demonstration base, and an Camellia oleifera processing workshop. Our efforts have benefited more than 2,000 people and helped more than 3,000 people in poverty increase their incomes and get rid of poverty, leaving Huayuan County with a lasting momentum for development. This highly productive model is now being replicated in other counties.

"We must continue to promote the development of local industries in our fight against poverty, and see it as our top priority. We need to increase support, and vigorously promote the construction of a warehousing and logistics system to further improve the industrial chain. We need to improve the quality of the industry and the brand, and expand the market, so that we can ensure sustained and stable income increase for people in poverty."

—Said Tang Fuping during his tour of inspection to Dejiang County in June 2020

Providing financial services

China Minmetals has launched the innovative "futures + insurances" poverty alleviation-oriented financial model to leverage its financial strengths, and designed the "futures + insurances" strategy for targeted poverty alleviation, which protected poor households engaging in animal breeding from the impact of price fluctuations through the price discovery process and risk hedging in the futures market.

Since 2017, China Minmetals has launched 23 pilot financial projects for poverty alleviation targeting 11 impoverished counties and 6 types of futures. These projects, which covered more than 30,000 hectares of planting areas and more than 30,000 households (including 21,785 registered poor households), paid RMB 30.5124 million in compensation and helped the farmers increase RMB 34.93 million in sales revenue, which strengthened their confidence in getting rich, and has become an effective channel for China Minmetals to carry out poverty alleviation in combination with its main business.



Leveraging the advantageous role of financial services in poverty alleviation

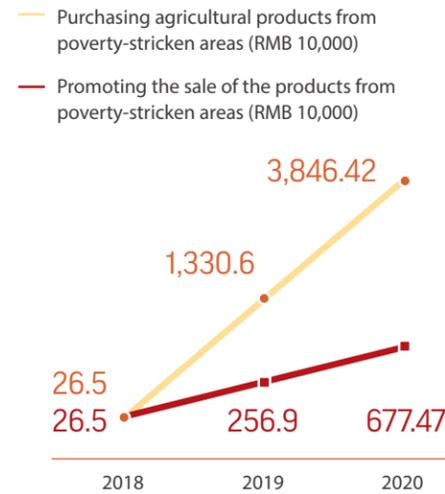
To intensify poverty alleviation in areas of extreme poverty, in August 2020, we launched the "pig feed + futures + poverty alleviation" price index insurance in Yanhe County, Tongren, Guizhou Province and Zhenxiang County, Zhaotong, Yunnan Province. The financial service involved a total of 37,116 breed sows and fattening pigs fed by 128 registered poor households and three registered poor household cooperatives living in Yanhe County, Tongren City, Guizhou Province, and 37,384 breed sows and fattening pigs of 16,659 registered poor households in Zhenxiang County, Zhaotong, Yunnan Province. We greatly boosted the confidence of poor households engaged in pig farming, contributing to poverty alleviation in Zhenxiang County and Yanhe County.

- Minmetals International Trust Co., Ltd. vigorously conducts charitable activities through corporate donation programs and charitable trusts. The company has established 29 charitable trusts under the "Sanjiangyuan" brand, and provided more than RMB 30 million of charitable funds.
- Minmetals Securities successfully issued through the book-building process the 2017 Corporate Bonds of Liuzhi Special District Water Supply Co., Ltd. (First Tranche) with an issuance scale of RMB 700 million and a maturity of seven years. It was the first issuance of corporate bonds in Liuzhi Special District, a former national-level poor county, and also the second issuance of agricultural bonds in Guizhou Province, creating a new model for poverty alleviation conducted by a securities firm with a central SOE background.
- With the innovative "futures + insurances" model, Minmetals Futures Co., Ltd. assisted farmers in poverty-stricken areas with the sale of agricultural products to guarantee their main source of income.

Boosting sales of products from poverty-stricken areas

We mobilized all subsidiaries and employees, and boosted sales of more than RMB 60 million worth of products from poverty-stricken areas in three years, which directly benefited a large number of rural cooperatives and brought direct impetus to the poverty-stricken areas to get rid of poverty.

In 2020, despite the impact of COVID-19 and other factors, we purchased a multitude of agricultural products from poverty-stricken areas through the Company's trade unions. We also used online and offline channels, such as fairs of agricultural products from impoverished areas and agricultural product trading platforms, to promote the sale of the products and start the "people's fight" against poverty through consumption.



Purchasing lemons from poverty-stricken households and bringing positivity to people

In 2020, Minmetals Land combined "the COVID-19 fight" with "poverty alleviation." Its regional company in southern China purchased 15,000 kilograms of high-quality lemons from farmers in Shatian Village, and donated the purchases to front-line pandemic containment personnel stationed in the streets, hospitals and neighborhoods. They not only promoted the sales of unsold agricultural products, but also brought positivity to society and boosted the people's confidence in fighting the pandemic.

Stepping up ecological conservation efforts

We persist with the simultaneous advancement of poverty alleviation and ecological conservation. We invested RMB 6.5 million to assist Qilian County, Qinghai Province in building their comprehensive environmental monitoring system, which was completed in June 2020.

Through high-tech approaches, the intelligent high-definition monitoring system has realized full monitoring of the Qilian Mountain Nature Reserve, and replaced human mountain inspectors. It supports Qilian County in dealing with environmental violations and monitoring local wildlife, and has promoted ecological protection in the Sanjiangyuan nature reserve and improved the local ability to apply information technology to environmental and ecological management. At the same time, the system has realized the integration of multiple modules and multi-source data for the building of an efficient information platform for urban administrative management.

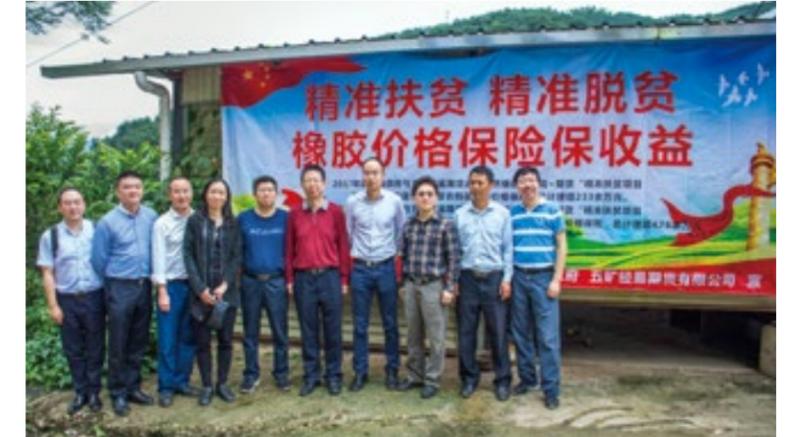


Construction of housing for herdsmen



Contributing to rural vitalization

Being lifted out of poverty is not an end in itself but the starting point of a new life and a new pursuit. Under the strong leadership of the Party Central Committee with Chinese President Xi Jinping at its core, we will work harder with a stronger sense of responsibility, mission and urgency, and continue with our poverty alleviation responsibility, assistance, policies and supervision, so as to make more contributions to consolidate and expand the achievements in poverty alleviation with efforts to promote rural vitalization.



Rubber price insurance in poverty alleviation site



Supporting the development of chrysanthemum industry in Tongjing Town of Dejiang County



Supporting the construction of Chaodi navel orange Industrial Park



Ecological protection monitoring system of Qilian Mountain



Purchasing characteristic agricultural products in poverty alleviation counties



Value Creation

China Minmetals, as a flagship of China's mining industry, upholds its core values of "cherishing limited resources and pursuing sustainable development," carries its mission of serving the country through mining, leverages its strengths in the entire industrial chain, including resource acquisition, prospecting and exploration, design and construction, mining and mineral processing, smelting and processing, and trade and logistics. Based on the firm foundation of the "four beams and eight columns" business system, we are quickening our pace to build the Company into a world-class powerhouse in the metals and minerals industry and making every effort to guarantee the security of national strategic mineral resources.

RMB **20.17** billion
Gross profit

RMB **983** billion
Total assets

RMB **703.9** billion
Revenue



Stable and efficient production in metal mining

RMB **279** billion
Revenue of China Minmetals' metals and minerals business

14%
Year-on-year growth

Metals and minerals are the food of industry, and metal mining is key to national security and the lifeline of the national economy. China Minmetals focused on main responsibilities and main businesses, resolutely carried the mission of safeguarding resource security, and promoted the extension of the industrial chain from resource gathering to deep processing, and even to the higher end of the value chain.

In line with the principle of "production entering the period of adjustment and optimization, sales entering the period of analysis and observation, and M&As entering the period of potential and opportunity," metal and mineral subsidiaries

under China Minmetals arranged their production and operation in a coordinated manner, with the main products showing a promising trend of stable output and high efficiency, and built a new development pattern with the support of primary industries.

In 2020, among the 42 mines owned by China Minmetals, 15 overseas mines operated smoothly while domestic mines operated at their highest capacities. In 2020, the output of iron ore concentrates increased by 0.6% year on year and the revenue of metals and minerals increased by 14% year on year to RMB 279 billion.



Dugald River Zinc Mine secures raw material supply for zinc smelters

During the COVID-19 pandemic, the work resumption of domestic zinc mines and the transportation of products were affected to different extents, and some zinc smelters faced the risk of shutting down because of insufficient raw material stockpiles. Dugald River Zinc Mine has been promoting the integration of COVID-19 response with mine production and operation, and supplying 50,000 tons of zinc concentrates to domestic medium- and large-sized smelters. Through these efforts, Dugald River Zinc Mine effectively guaranteed the supply of raw materials for domestic zinc smelters, consolidated the lead and zinc industrial chain, and contributed to economic and social development.

Sales volume of major products



Note: the above business volume data include production business and trade business



Jianghua Rare Earth Mine Project successfully completed and put into operation

In 2020, China Minmetals' first rare earth mine, Jianghua Mine Project, was completed and put into operation, which was the first mining project in the industry to introduce large professional institutions to carry out standardized design and realize intelligent and large-scale production. With the goal of "building a green demonstrative benchmark mine of ion-adsorbed rare earth in South China," China Minmetals overcame all unfavorable factors, such as tight project schedule, heavy workload, COVID-19 pandemic, and the rainstorm unseen in 50 years, and managed to complete, put into production, and make profits from the project in the same year.



Striving to become a world-class comprehensive supplier of cemented carbide tools

To improve the technology and equipment related to cutting tool manufacturing, realize product upgrade, and make the technology of precision tool production catch up with the world's advanced level, China Tungsten Hightech Precision Tool Industrial Park completed the investment and construction on schedule and carried out the quality improvement and capacity expansion of CNC blade production line and overall tool production line. After the project reached the designed production capacity and product standard, the mixture production line can produce 1,200 tons of supporting mixtures per year, the CNC blade production line can produce 80 million blades per year, the overall tool production line can produce eight million pieces per year, and the CNC tool production line can produce 600,000 pieces per year.

Solid foundation and rapid development of metallurgical construction

China Minmetals has always stood out among its international counterparts and been the frontrunner in the entire metallurgical industry, with a mission of leading China's metallurgical industry to achieve smart, green, low-carbon, and efficient development and building China into a nation with a strong steel industry. We have been promoting our key projects related to the national economy, people's livelihoods, and international production capacity cooperation on schedule, and successfully driving the recovery of the upstream and downstream of the industrial chain, and have become an important driving force to advance "stability on the six fronts" and "security in the six areas."

Metallurgical construction

To stand out in the metallurgical construction sector, making greater achievements, and embarking on a new journey, we aim at the higher end of the industrial chain and value chain, strengthen the reserve of applied technologies, enhance the integration and reengineering capability of metallurgical construction, and provide steel enterprises with leading process technology and equipment, excellent intelligent technology for environmental protection, and efficient engineering construction and operation services.

20+

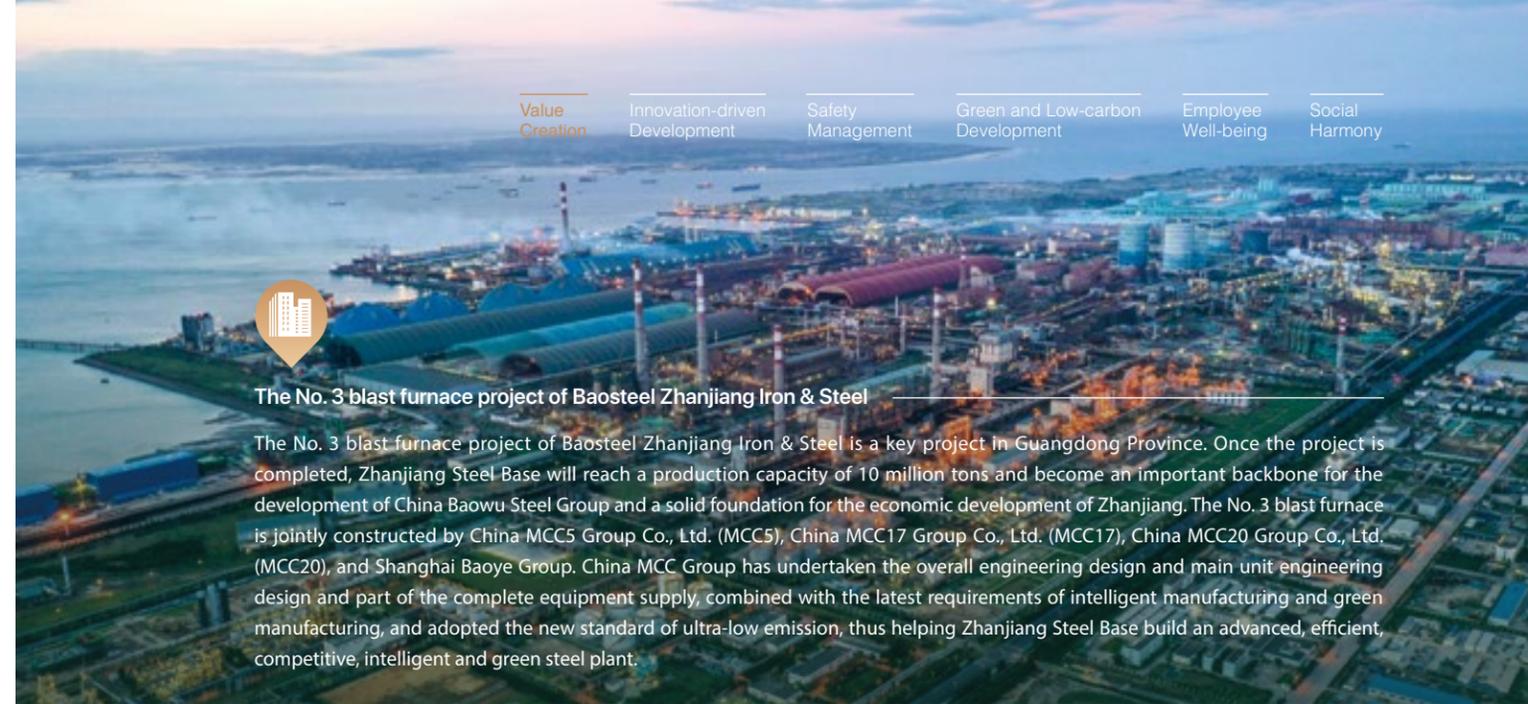
Contracts on major steel engineering projects worth over RMB one billion signed successively

In 2020, we signed more than 20 contracts on major steel engineering projects worth over RMB one billion with Zenith Steel Group, Zhong Xin Iron and Steel Group, Guangxi Fangchenggang Iron and Steel Base, Rizhao Steel Holding Group, Linyi Iron and Steel Investment Group Special Steel Co., Ltd. As for the overseas market, we signed a contract with Russia-based Novolipetsk Steel (NLMK) for a high-end electrical steel continuous decommissioning unit for new energy vehicles (NEVs) and a turnkey contract with Vietnam-based Hoa Phat Group for a converter of Hoa Phat Dung Quat Steel, continuing to promote the overall export of our independent core technologies and equipment.



The Masteel Pan-ironmaking Centralized Control Center project

Based on the technological accumulation of CISDI's water, soil, and cloud industrial internet platform with independent intellectual property rights, and the integration of hundreds of intelligent applications and big data algorithms, the Masteel Pan-ironmaking Centralized Control Center project is an intelligent centralized control project in the iron and steel industry with a huge scale, many production lines, and a high degree of integration. The project aims at efficient and low-consumption ironmaking, launches an integrated intelligent control system and some intelligent applications for all processes, and realizes the transformation of ironmaking production from experience-driven to digital and intelligent data-driven. The intelligent control center was completed and put into operation in December 2020.



The No. 3 blast furnace project of Baosteel Zhanjiang Iron & Steel

The No. 3 blast furnace project of Baosteel Zhanjiang Iron & Steel is a key project in Guangdong Province. Once the project is completed, Zhanjiang Steel Base will reach a production capacity of 10 million tons and become an important backbone for the development of China Baowu Steel Group and a solid foundation for the economic development of Zhanjiang. The No. 3 blast furnace is jointly constructed by China MCC5 Group Co., Ltd. (MCC5), China MCC17 Group Co., Ltd. (MCC17), China MCC20 Group Co., Ltd. (MCC20), and Shanghai Baoye Group. China MCC Group has undertaken the overall engineering design and main unit engineering design and part of the complete equipment supply, combined with the latest requirements of intelligent manufacturing and green manufacturing, and adopted the new standard of ultra-low emission, thus helping Zhanjiang Steel Base build an advanced, efficient, competitive, intelligent and green steel plant.



Project of Guangxi Fangchenggang Iron and Steel Base

Guangxi Fangchenggang Iron and Steel Base is a production line turnkey project with sintering, ironmaking, steelmaking, and supporting continuous casting and hot rolling undertaken by Zhongye Changtian, CISDI, WISDRI and CERI, respectively. This is a demonstration project of the national coastal strategy to promote the steel industry and lead the second venture of Guangxi's steel industry, which is of great significance to promoting the economic development of Beibu Gulf Economic Zone and the implementation of the Belt and Road Initiative.



Project of Dexin Steel Indonesia

As the first long-flow plain carbon steel production base in Indonesia, Dexin Steel, with a production capacity of 3.5 million tons, designed and constructed by WISDRI, is a successful practice to build a modern steel production base that is environmentally friendly, efficient, and energy-saving in the context of the Belt and Road Initiative. WISDRI provided whole-process and whole-lifecycle services for the project, covering high-end consultation in the early stage, overall design and EPC turnkey projects for ironmaking, steelmaking, continuous casting, hot rolling, power plant, coal storage yard, and public facilities of the whole plant. In 2020, Dexin Steel Indonesia was successfully put into operation.



Infrastructure construction

We are determined to be the main force of national infrastructure construction, adding momentum to China's economic development and helping the world economy to recover through a prosperous domestic economy and smooth domestic circulation. We will make efforts in Beijing-Tianjin-Hebei Region, Yangtze River Economic Belt, Guangdong-Hong Kong-Macao Greater Bay Area, Yangtze River Delta, Yellow River Basin and Chengdu-Chongqing Region, and give full play to our advantages in capital construction business fields such as housing construction, transportation and municipal infrastructure construction, and mid- and high-end real estate, so as to contribute to the rapid development of national capital construction and national economy.

RMB **365.1** billion
Revenue of engineering business

20%
Year-on-year growth



The Yanqing National Sliding Centre

The Yanqing National Sliding Centre for Beijing 2022, which was constructed by Shanghai Baoye Group, is the first bobsleigh, skeleton and luge track in China and the 17th in the world, and is a project that is highly demanding in both design and construction among the competition venues of Beijing 2022. Shanghai Baoye Group concentrated its advantageous resources to complete and deliver the project on schedule, developed nine core technologies, filled many of China's technical gaps, and achieved many "China's firsts."



Project of Larkin Sultan Ibrahim Stadium in Malaysia

Larkin Sultan Ibrahim Stadium is the first overseas turnkey stadium contracted by Shanghai Baoye Group and the first large public civil building constructed in Malaysia, with a gross floor area of 69,073.4 m², which can accommodate 35,000 spectators at the same time, and is an intercontinental football stadium meeting FIFA standards. The stadium's 56 pieces of steel canopies resembling giant banana leaves in a circular shape are spectacular and beautiful, making it a landmark in Johor Bahru, Malaysia.



Project of Mangshi-Lianghe Expressway

The Mangshi-Lianghe Expressway, constructed by MCC Communication Construction Group, is an important section of the road network blueprint of Yunnan Province, with a total length of 62.39 km in the main line. The completion of the project is of great significance to improving services of the prefecture's trunk highway system, strengthening border construction, promoting the formation of the circular tourism route in western Yunnan, and accelerating the economic and social development of Dehong as well as its opening up to the outside world.



ABO Project of Urban Village Renovation in Baoding

The ABO (Authorize-Build-Operate) Project of Urban Village Renovation in Baoding is the largest livelihood project investment of China MCC2 Group Co., Ltd. (MCC2) since it signed the strategic cooperation framework agreement with the municipal government of Baoding, involving a total of 5,857 households in 13 natural villages. The construction mainly includes land acquisition, demolition and resettlement compensation services involved in urban village renovation, construction of relocation houses, construction of infrastructure projects (including smart parking bays, advertising spaces and charging piles), and construction of public service facilities. The project helps improve the living environment of residents and enhances the urban landscape of Baoding.

Growth in trade and logistics against the downtrend

China Minmetals is committed to becoming a world-leading integrated service provider of the modern supply chain for metals and minerals products, and aims to extend its bulk commodity logistics business in major ports and important node cities across the country.

The year 2020 witnessed the launch of “point-to-point” direct sales at home and abroad, stable growth in trade and logistics, and smooth operation of the 100-million-ton Caofeidian International Ore Trading Center.



Growth in trade of Minmetals Development's three major products against the downtrend

In 2020, Minmetals Development overcame the adverse impact of the COVID-19 pandemic and the increasingly severe international economic situation, practiced the policy of “putting suppliers and users on the world market, preventing the risks at both ends with contracts, large-scale import & export, and promoting closed-loop circulation,” focused on its main responsibilities and main businesses, and implemented the strategy of large commodities. Therefore, the trade of iron ore, ferroalloy, and steel saw a growth against the downtrend.



The first order of cathode copper warehousing and delivery operated in Wuxi Logistics Park

Wuxi Logistics Park of Minmetals Trading launched the cathode copper warehousing and transportation service. With the support of the Wuxi Logistics Park dedicated railway line, the whole process from receiving the pick-up notice, arranging for the delivery process to freight loading and delivery was completed within one day, and 163.648 tons of cathode copper in eight containers were delivered into the warehouse. This business order expanded the business scope of Wuxi Logistics Park and facilitated Wuxi Logistics Park to apply for the delivery qualification of cathode copper with Shanghai Futures Exchange.

Booming development of finance and real estate

China Minmetals adheres to the development direction of serving the substantial economy. With the goal of “achieving sound financial indicators and building a financial holding company with a total annual profit of RMB 10 billion,” we promote the coordinated development between production and finance, so as to build a leading domestic financial holding company with an industrial background, an innovator in industrial financial services, and a benchmark for the integration of industry and finance of state-owned central SOEs. China Minmetals is one of the SASAC's first batch of 16 central SOEs with real estate as their main business, with its subsidiaries of Minmetals Land and MCC Real Estate under China Minmetals enjoying high popularity in the real estate sector.

Financial services

By leveraging the advantages of China Minmetals as a parent company, we have obtained a number of financing licenses to expand our business in trust, leasing, securities, futures, finance companies, and funds, drive industry-finance integration, and promote the development of the financial industry. By the end of 2020, the assets under management of the financial business had reached RMB 906.5 billion.

Minmetals Capital Company Limited

The Minmetals Capital Preferred Stock Project supplemented equity capital by RMB 8 billion, providing strong support for the stable development of the Group's financial business and lowering the Group's asset-liability ratio.

Minmetals International Trust Co., Ltd.

With its excellent performance, forward-looking structure and expansion in the field of financial technology, Minmetals International Trust was awarded the China Financial Value Ranking 2020 - Trust Technology of the Year.

Financial Company

China Minmetals gave full play to its functions of “fund collection platform, fund settlement platform, fund monitoring platform, and financial service platform,” and launched the phase II project of fund management and settlement system construction and the phase II supplementary project as scheduled.

Minmetals Securities

Minmetals Securities was awarded the 2020 China Golden Tripod Award—Emerging Brokerage Capital Management 2020.

China Minmetals H.K. (Holdings) Ltd.

The Hong Kong Holdings team operated the Group's offshore funds with a strict risk control system and worked hard to overcome the difficulties of the highly volatile global financial markets, and successfully completed the phased objective of interest preservation and appreciation.

Minmetals Innovation Investment Co., Ltd.

The Changyuan LICO project directly invested by China Minmetals and the Fangyuan Environmental Protection project invested by New Energy and New Materials Fund has filed an application for being listed on the science and technology innovation board. The New Energy and New Materials Fund of RMB 11.5 billion was for implementing targeted investments.

Real estate business

Adhering to the principle that “houses are for living in, not for speculation” and complying with the principle of smoothing out cyclical fluctuations of our core business with our strategic supporting businesses, we leveraged the strengths of our subsidiaries, such as Minmetals Land and MCC Real Estate, to enrich our land reserves and develop a number of high-quality projects, such as One Mansion in Shenzhen, West Begonia in Chengdu, the prefabricated housing project at Gengyang Garden, Shengshi Binjiang and Jinxiu Longwan in Nanjing.



Minmetals Real Estate ranked 50th in 2020 Top 100 Chinese Real Estate Companies and won three awards, including the 2020 China Real Estate Companies for Management and Team Excellence, the 2020 Real Estate Industry Contribution Award for Anti-COVID-19 Donations, and the Most Responsible Real Estate Enterprises.

MCC Real Estate leaped to the 7th place of 2020 China Top 10 Enterprises with Green Real Estate Development Competitiveness, ranked 40th in the list of 2020 China Top 100 Real Estate Developers, and won the awards of Top 10 of 2020 Top 100 Chinese Real Estate Developers for Profitability, Top 10 of 2020 Top 100 Chinese Real Estate Developers for Robustness, the 2020 Outstanding Real Estate Operators in China - City Development Operators, and the 2019-2020 China Real Estate Annual Social Responsibility Enterprises.



Beijing Minmetals Junlan Hotel



Prefabricated housing project at Gengyang Garden

The prefabricated housing project at Gengyang Garden, which is the first prefabricated + furnished residential community in Tangshan, which has won the Guangsha Award, the highest honor in China's real estate industry. The project independently developed by MCC22 adopted the concrete prefabricated housing and steelwork prefabricated housing technologies, and all its horizontal components, such as floor slabs and stairs, were prefabricated to create a new product as the representative of the development direction of China's real estate industry.



Gengyang Garden

Strong growth momentum of emerging industries

China Minmetals has been planning the development of emerging industries, vigorously developing the new energy materials industry, and comprehensively promoting technological innovation and coordinated development of new energy materials enterprises, such as Changyuan LICO, Ramu Nico Management (MCC), Minmetals Salt Lake, and Minmetals Luobei. By doing so, China Minmetals has created a whole industry chain of new energy materials from the resource end and explored new models and new paths for economic growth of new energy battery materials, deep-sea mineral resources development and other emerging industries.



The intelligent green mine is completed and starts to make profits in the same year

The graphite mining area in Yunshan, Luobei, Hegang, Heilongjiang is one of the largest monolithic crystalline graphite mines in the world, with a total reserve of over 100 million tons. It is also the only national demonstration area for green mining development in Heilongjiang Province in 2020.

After China Minmetals took over the Yunshan graphite mine in Luobei, it applied “5G+industrial internet” to constructing a large non-metallic mine for the first time. The 5G intelligent communication system in the dispatch center can instruct mining

workers at the mining site to conduct fine ore proportioning, thus providing graphite ore raw materials with high quality and stability for downstream graphite processing enterprises.

In 2020, the project improved the comprehensive average grade of ore output from 6%-7% in previous years to 10.88%, reduced the beneficiation cost by about 15%, achieved an ore output of over 4 million tons, and directly drove the annual GDP of Luobei County to reach the RMB 10 billion mark.



Mass production of high-end power battery cathode material

The high-nickel ternary cathode material is a high-end product that represents the top level of current commercial power battery cathode material and is highly favored by the market. The high-nickel mass production project of Changyuan LICO, a subsidiary of China Minmetals, overcame many influencing factors such as batch characteristics of raw materials, production line equipment, process, and environment, as well as various complicated problems of production line commissioning from laboratory to mass production workshop, and enabled the entire production line to produce qualified products. In April 2020, the high-nickel ternary products entered the stage of mass production.



The high nickel mass production project team carried debugging in the production line



Promotion of research experiments on the development of deep-sea mineral resources

Changsha Research Institute of Mining and Metallurgy has strengthened the exploration of international seabed mining areas, carried out the research on deep-sea mining engineering technology, and completed the overall sea linkage test of the 1,000-meter-deep polymetallic nodule mining system, and the 500-meter-deep sea test of the “deep-sea mineral mixed transportation intelligent equipment system research and development” project, in order to solve technical problems that contained the development of deep-sea mining. At the same time, the Institute has developed a metal surface acid-free treatment business, accelerated the development of deep-water intelligent environmental protection dredging engineering technology and equipment, and developed marine mining engineering technology derivative business. By 2020, the project of “Deep-sea Polymetallic Nodule Mining Test Project” implemented by Changsha Research Institute of Mining and Metallurgy has entered the stage of outfitting and commissioning at the quay.



The 500-meter-deep sea test of the “deep-sea mineral mixed transportation intelligent equipment system research and development” project



Innovation-driven Development

Centering on the requirements put forward by national strategies and our core business, China Minmetals adheres to innovation-driven development, strengthens the top-level design and overall planning of innovation, promotes new growth drivers, and effectively transforms the “soft power” of management and science and technology into the “concrete support” of industrial development to continuously promote the enterprise to become stronger, better and bigger.

RMB **16.3** billion
Investment in R&D

40+
National science and technology
projects approved

6,778
New patents authorized

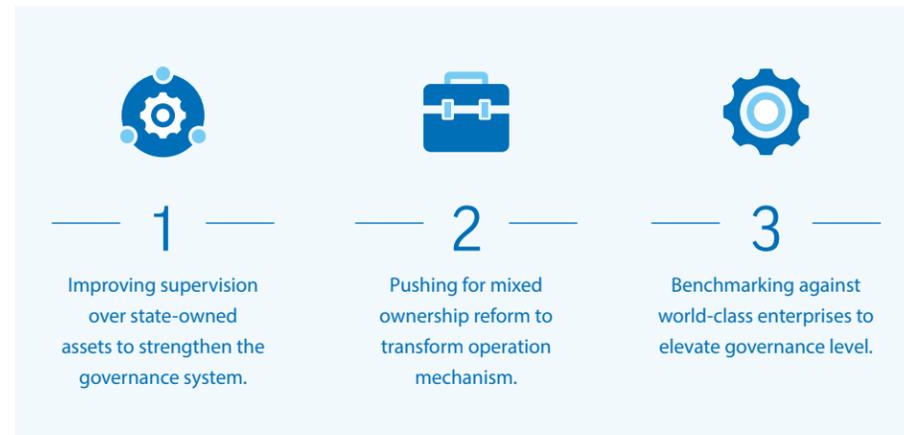


Steadfastly deepening reform

Thoroughly implementing the guiding principles of the Fifth Plenary Session of the 19th CPC Central Committee, China Minmetals takes the reform of state-owned enterprises (SOEs) as an important economic and political issue, unswervingly deepens overall reform, prevents major risks, further streamlines administration, gives full play to the basic, substantive and decisive role of SOEs in the development of state-owned economy, and accelerates the optimization of its layout and structural adjustment.

Deepening SOE reform

2020 marked the kick-start of the three-year action plan of SOE reform. China Minmetals has made clear the specific reform path, formulated reform plans in line with laws and regulations and our own conditions, and set a series of reform objectives.



In 2020, we selected 12 enterprises as a new batch of reform pilots to actively explore and surmount the fields of "strengthening the Board of Directors", "building three lists and one process", "tenure system and contractual management", "adhering to the Party leadership and strengthening Party building" and other targeted reforms of enterprises to fully leverage the reform policies, promote high-quality development, and pass on applicable experience.

Preventing major risks

Keeping in mind the principle of "stability", China Minmetals establishes a risk prevention and control system covering all staff, processes and systems to effectively forestall and address potential risks, and ensure that risks are measurable, controllable and bearable in the pursuit of high-quality development. We gradually optimize the financial risk identification and prevention mechanism, steadily improve the efficiency of asset operation, continuously upgrade the capital structure, and constantly boost our debt paying ability. We formulate special supervision plan for funds during the COVID-19 period to ensure fund safety. We strengthen centralized fund management, stabilize credit scale, strictly control the total amount of debt and guarantee, reduce financing cost, and ensure the safety of the capital chain.



Expanding coordinated development

In terms of market complementarity, the scale of coordinated internal market has increased to nearly RMB 200 billion. We have upgraded to headquarters-to-headquarters coordination, and explored new collaboration fields such as mining, municipal administration, and finance. In terms of industrial complementarity, we have integrated China Minmetals and Luzhong Mining, China Minmetals Salt Lake and China Minmetals Rare Earth, Minmetals Innovative Investment and Minmetals (Beijing) Asset Management Company, Minmetals development and China MCC International Economic and Trade CO., LTD, and two asset management companies to align system and management, and encourage staff exchange and cultural integration.

Spearheading technological innovation

Bearing in mind the demands of national strategies and our core business, China Minmetals builds a hierarchical and progressive R&D system composed of basic research for application, forward-looking technology R&D, key technology development and industrial application to continuously consolidate our foundation, overcome difficulties, and firmly grasp the cutting-edge technology and the high-end industrial chain.

Top-level design

We have deeply engaged in the research of national strategic plan for science and technology development, such as the researches on "National Medium and Long Term Science and Technology Development Plan 2021-2035" and "National Science and Technology Development Plan under the 14th Five-Year Plan", and led the research of the *Implementation Plan of Strategic Mineral Resources* which is a key national project during the 14th Five-Year Plan to fuel the development of science and technology for the nation and industries.

Incentives for science and technology innovation

We upgrade the innovation system and mechanism by building a multi-level technology finance system made up of special fund for science and technology, innovation fund for science and technology, entrepreneurship and innovation fund and PE fund. We also implement "an open competition mechanism" for bidding management, and support basic research for application and cutting-edge technology R&D. We carry out long-term pilot incentive programs for tech start-ups, and establish talent development fund and risk sharing mechanism to fully unleash the enthusiasm of scientific and technological innovation.



Building science and technology platforms

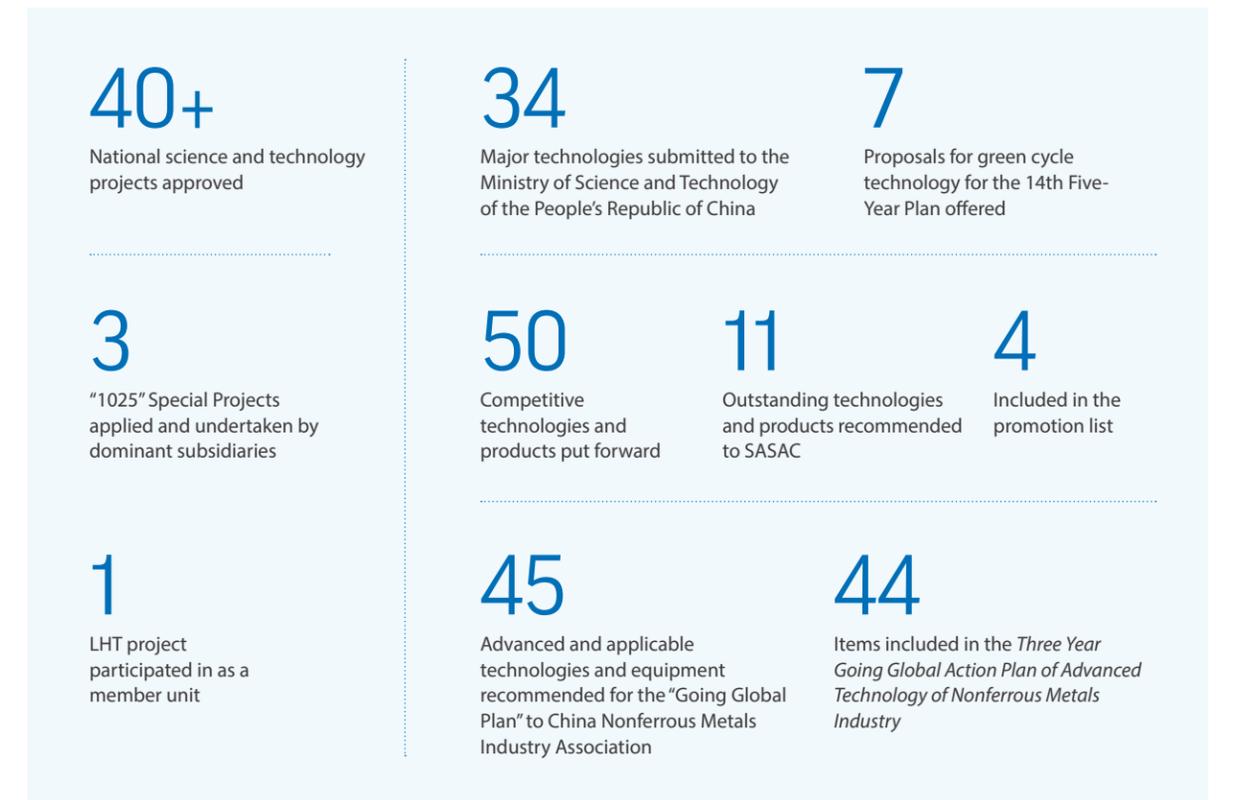
Around the "four beams and eight columns" business, we steadily build science and technology platforms such as National Technology Innovation Center, National Key Laboratory, National Disaster Inspection, Detection, Prevention and Control Laboratory, National Laboratory for Polysilicon Material Engineering, and National Model Enterprise for Technological Innovation, and continue to improve the ability of enterprise science and technology innovation.



Achieving pivotal technological breakthroughs

We adhere to strategic demand orientation, actively integrate into the national science and technology innovation system, and remove a number of technical barriers that restrict the development of the industry. We carry out science and technology projects in the fields of metallurgical engineering, capital construction, mineral development, new energy materials, and smart manufacturing at national, provincial and ministerial levels to render solid scientific and technological support for industrial development, transformation and upgrading.

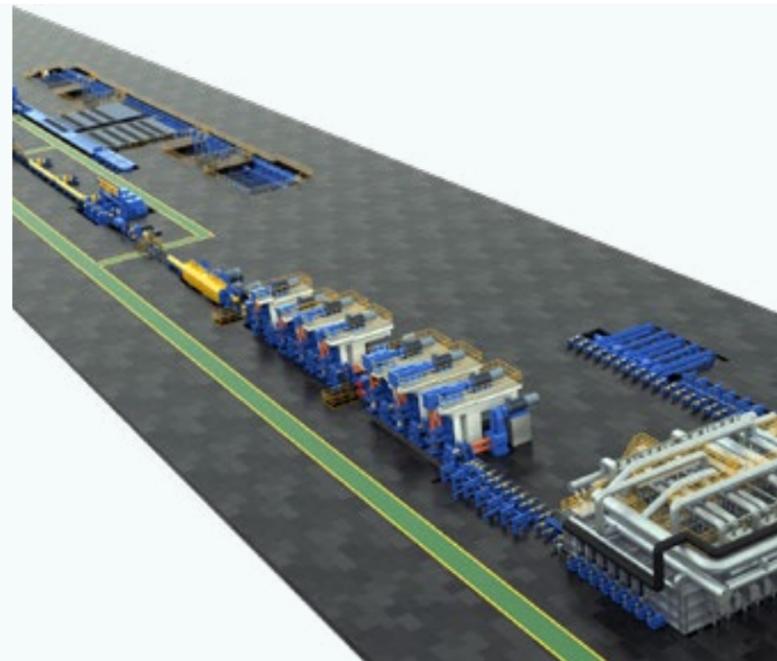
We carry out special scientific and technological researches on deep-sea mineral resources, including development and testing of exploration and mining technology and equipment, mineral dressing and smelting test, and international seabed regulations to overcome the obstacles in equipment transformation and technology of the SINOSICO project.





Research and development of the key technology and equipment of 45m/s high speed flexible bar

The key technology and equipment of 45m/s high speed flexible bar developed by Capital Engineering & Research Incorporation Limited (CERI) have synergized all links from technology, core equipment, control technology innovation to commercialization of research findings, which has contributed valuable experience to achieving high-quality development through resource conservation and environment protection in China's steel industry. The research applied for 27 patents, three software copyrights and one monograph. According to the Chinese Society for Metals, the technical achievements have reached outstanding level both in and outside China, and won the first prize of 2020 Metallurgical Science and Technology Award.



Smart transformation through digital empowerment

Fully implementing Chinese President Xi Jinping's guidance on promoting the integration and development of digital economy and real economy, China Minmetals effectively promotes digital transformation, accelerates the application and development of information technology, and innovates in new mode and format of information application to power the high-quality and sustainable development of the Company and the whole industry.

Accelerating digital transformation

We issued *China Minmetals Digital Transformation Promotion Plan*, and formulated the *Manual on Digital Transformation of the 14th Five Year Information Plan* to strengthen digital transformation.

The Information Management Department and Information Center of the Group won the "2020 China Outstanding Digital Team" Award.

"Information System Consistency"
83.71%

Commercialization of scientific and technological findings

We uphold the strategy of "achievement patenting, standard patent and international standard". On the basis of managing the development, application and protection of intellectual property rights, we improve the overall commercialization of scientific and technological findings, develop science and technology market and make sure it yields benefits, and establish a coordination platform for institutions, enterprises and SOEs to accelerate the commercialization of scientific and technological results.

6,778

Authorized patents newly obtained

1,346

Invention patents

40

Overseas patents

36,919

Valid authorized patents in total

10,483

Valid invention patents

145

Overseas patents



We have proposed clear vision, objectives, principles, measures, implementation paths of China Minmetals' information strategy during the 14th Five-Year Plan, optimized data management, IT asset management, and information security operation and management to guide information construction, and comprehensively lift the level of information security.



We have revised and upgraded the data quality evaluation system, and appraised the investment management system, monthly capital report and monthly overdue debt settlement report. We have optimized the information level evaluation system, and formed an effective and closed-loop management of planning, implementation, evaluation, and improvement.



We have optimized information operation and maintenance process, and standardized information operation and maintenance services. In 2020, the service counter received 17,863 work orders, a year-on-year increase of 54%.



Through information-based mechanisms, we facilitated COVID-19 response and the resumption of work and production. We have deepened the integration of emerging information technologies such as "cloud computing, big data, IoT, mobile Internet, smart city and block chain" with industry entities, and some application scenarios such as China Minmetals Cloud Platform, China Minmetals Big Data System and Smart Mining IoT have made positive headway.



China Minmetals' supervision platform won "China's outstanding digital projects in 2020" award

With big data technology, China Minmetals has built a supervision platform covering strategic planning, investment management, risk management, financial management, science and technology management, human resource management, security and environmental protection, and internal control audit, which enables data to be fully shared and mined within China Minmetals. The platform amplifies the value of data through data analysis, and forms a comprehensive, flawless, scientific and efficient supervision system.



Luzhong Mining rolls out the smart inspection information system

Luzhong Mining has put the smart inspection information system in wide use in all subsidiaries. With the QR code on equipment on the front end and system server on the back end, the system fulfills the functions of on-site inspection, patrol information upload, abnormalities handling and inspection condition inquiry, effectively reducing inspection workload while improving efficiency and accuracy. At present, Luzhong Mining has installed 462 QR codes in inspection sites including Xiaoguanzhuang Iron Mine, Zhangjiawa Iron Mine, mineral processing plant, Laixin Iron Mine and Public Utilities Department, with over 4,000 inspection records per day.



China Minmetals' finance digital transformation harvests early results

Minmetals International Trust's Minmetals Trust APP realizes the digital transformation from traditional offline marketing to the combination of online and offline means. Through the introduction of big data authentication, AI self-service dual recording and robotic process automation technologies, the APP has achieved one-stop self-service wealth marketing and rapid business growth. In 15 months, it raised a total of RMB 82 billion fund online, and won the Annual Trust Technology Award.

Driving Digital Development

Considering industrial characteristics, we have promoted a number of digital projects, such as digital plants and smart housing construction platform to accumulate experience for the digital transformation of the industry.



Digital technology boosts government efficiency

The products such as smart housing construction platform, QINGZHU, and QINGCE developed by China Minmetals have been successfully applied in national and local government departments and projects including Chongqing Housing and Urban Rural Development Commission, Chongqing Survey and Designing Association, State-owned Assets Supervision and Administration Commission's online big data project, Ministry of Emergency Management to underpin the smart government and smart city data middle ground management, helping government departments improve the ability of information management.



CERI's iron and steel production powered by digital twin technology

Joining hands with China's leading iron and steel group, Capital Engineering & Research Incorporation Limited (CERI) launched the digital plant project which simulates the operation of production equipment and issues early warnings through the digital twin technology to achieve real-time, remote and dynamic control and monitoring of production lines, thus effectively boosting scientific operation and work safety.



CISDI's industrial Internet platform won the first prize

The world's first smart steel center built by CISDI in Baowu Shaoguan Steel Group launched the "smart management and control of integrated steel production based on industrial Internet platform", deeply integrating steel production with industrial Internet technology. Via the big data technology, the new solution effectively solves the problems in process coordination, low accuracy of process quality control, poor production environment, and solidified production mode. The platform has won the first place in the finals of the Second China Industrial Internet Contest. At present, CISDI has successfully applied the solution to many large scale steel enterprises, such as Shaoguan Iron and Steel, Wuhan Iron and Steel, Magang Group, Nanjing Iron and Steel, Yongfeng Iron and Steel, and harvested favorable economic and social benefits.





Safety Management

Safety and health hold the key to improving employees' happiness at work. China Minmetals always bears work safety in mind, guards against risks, and adheres to safe operations. We have carried out in-depth three-year overhaul on work safety, increased investment in this regard, strengthened rectification of potential hazards, and improved safety measures to create a healthy and safe work environment for employees.

7,700

Emergency drills

RMB 6.386 billion

Investment in work safety

38,028

Safety training times



Consolidating the basis of safety management

We adhere to the policy of "safety first, intensive prevention and comprehensive treatment", strengthen top-level design, tighten safety accountability, and take multiple measures to guarantee work safety.



Work safety is the precondition and cornerstone of high-quality development. Without work safety, nothing can be achieved. Its importance can never be overemphasized.



—Tang Fuping

Strengthening top-level design

Consolidating Safety Responsibility

- Drafted the 14th Five-Year Plan of safety and environmental protection to stipulate clear guidelines, basic principles and objectives of work safety and environmental protection
- Established a leading group, and formulated and implemented a three-year action plan for work safety overhaul
- Comprehensively planned for annual work safety arrangements
- In accordance with the principle of "both CPC committees and governments are held accountable, officials take responsibility for work safety in performing their duties, and relevant government departments work together in a coordinated way on work safety issues", we consolidated work safety responsibility, and drafted accountability list to require staff at all levels to sign work safety guarantee
- Established safety and environment management diagram and built a grid management system



Consolidating work safety responsibility

Adhering to the philosophy of "all safety problems boil down to management problems, all safety habits are managed, all accidents are avoidable, and all risks are preventable and controllable", China Tungsten consolidates the responsibility of work safety, and comprehensively promotes COVID-19 response and safe work resumption. Starting with the three-year action plan for in-depth work safety overhaul, we actively assess the risks of tailing ponds, vigorously push forward the publicity and education of work safety, and promote the safety culture. We also increase investment in work safety, strengthen the development of science and technology, strive to build a dual prevention mechanism, strictly guard against major safety risks, and continuously improve the management and control of work safety. Through various measures, we strive to ensure and maintain safety in work places.

Effectively forestalling potential risks

We strengthen risk control, constantly consolidate the basis of work safety, and carry out special overhaul to improve the level of safety management.



We adhere to the strictest responsibility implementation and accountability mechanism, firmly grasp leadership responsibility, major responsibility and supervision responsibility, closely follow the "four keys" in addressing safety-related accidents, and build the system for preventing and resolving major risks.



—Guo Wenqing

Tightening special safety management

- Carried out safety supervision and inspection and targeted field investigation without notice and report in a random way to deepen rectification.
- Continued to effectively investigate and treat hidden dangers; strengthened the rectification of key points, key links and potential typical accidents.
- Formulated special work plan and carried out safety supervision and inspection on 5 construction projects and 12 enterprises.
- Organized targeted rectification of safety hazards of special equipment, such as hoisting machinery and mine lifting and transportation equipment.

Strengthening emergency response management

- Optimized and adjusted the responsibilities of emergency management, revised and improved the public emergency plan, and clarified the responsibilities and requirements of various departments on public emergency response.
- Strengthened emergency duty mechanism, and established emergency management liaison system and vertically linked emergency management responsibility system.
- Regularly carried out emergency drills to improve the safety awareness and ability of all staff.

Improving management of key links

- Strictly prevented risks during flood season, established a briefing system of risk prevention, and thoroughly investigated hidden dangers.
- Strengthened safety management during the Spring Festival, the "Two Sessions" and the National Day to create a safe and stable environment.

Evaluating risks

- Carried out risk assessment and expert consultation on a mine-by-mine basis to comprehensively eliminate potential hazards on construction sites.
- Organized experts to evaluate the safety risks of 36 tailing ponds in China according to the standard of "one pond and one policy".



The inspection team conducted safety inspection on resumption of work and production in Caofeidian company of Minmetals

Ensuring work safety through technology

We promote the construction of smart, green and efficient mines, carry out digital transformation in eligible factories and mines, and improve production efficiency, safety and environmental protection.



Building smart mines for work safety

Anhui Development Mining promotes the research and construction of "information-based mine management platform, unattended fixed facilities operation, remote and centralized control of underground mobile equipment, smart mining and dressing operation, and smart mine decision-making", and strives to build an "unmanned, transparent, safe, and interconnected mine". In 2020, 15 smart mine projects were completed and put into use, including remote control of electric carry-scraper, electric locomotive, auxiliary shaft hoist, automatic inventory system and full-automatic agent-feeding system for mineral processing.



Smart mine remote control motor



Technology promotes safety management efficiency

"MCC Cloud-QINGZHU" is a smart management service platform developed by CISDI, which integrates the Internet with project sites through intelligence plus information technologies. Considering the factors of "human, machine, material, method and environment" in construction sites, the platform fulfills the functions of personnel management, environment monitoring, safety management, quality control, equipment management and BIM application to provide real-time,

efficient, green, safe and convenient on-site management for enterprises, and improve the efficiency of on-site management and safety governance.



Party branch of the 23rd Metallurgical Construction Group Co., Ltd of Minmetals launched party day activity with the theme of "safety hazard investigation" at Mingchenfu Department Project of ChanFine Group

Nurturing the safety culture

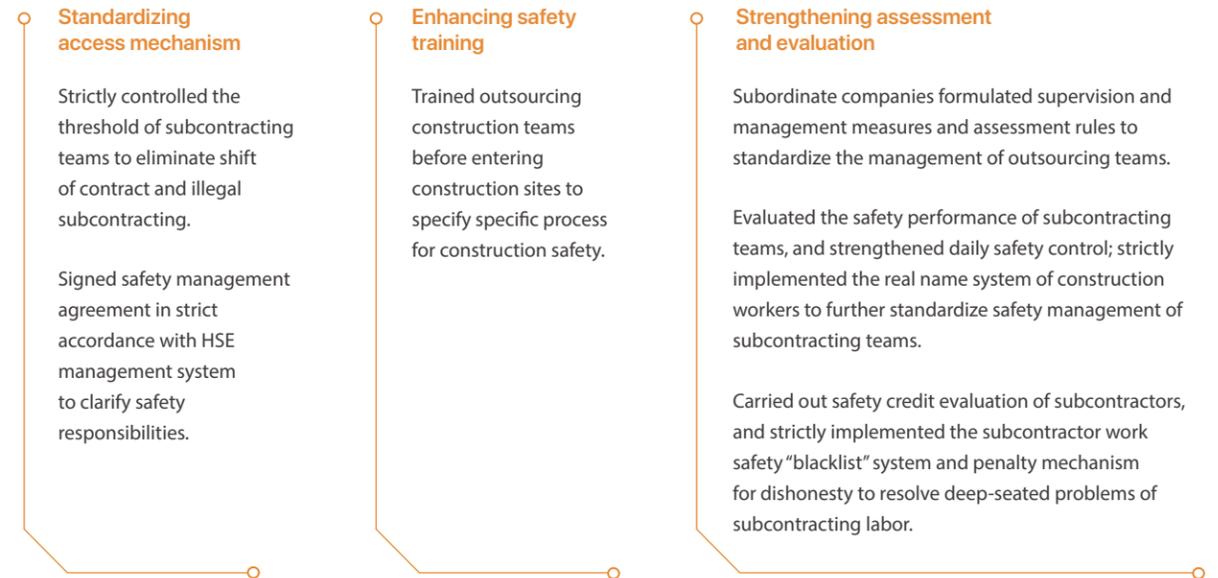
We attach importance to safety education and training, and uphold the belief of "inadequate staff training is the biggest potential safety hazard" to continuously improve the safety awareness of subcontractors and employees, improve their safety skills, and create a safe and stable working environment.



Improving safety awareness of employees



Managing the safety of subcontractors and contractors



Innovative HSE Education and Training Mechanism

Hunan Nonferrous Metals Holding Group has established an HSE instructor team by combining "going out" "bringing in" and "sinking down" strategies which integrate internal training and external visits to workshops and teams and groups in factories to carry out training on safety and health awareness for employees and embed the HSE culture into people's mind.



Green and Low-carbon Development

Improving ecological civilization is an inevitable requirement for promoting high-quality economic and social development. China Minmetals is committed to building and improving the whole-chain ecological and environmental management mechanism, and focusing on ecological conservation while pursuing green development. Through our technological innovation and environmental protection sector, we continue to improve the ecological environment and make unremitting efforts to contribute to the construction of a beautiful China.

13.8%

Comprehensive energy consumption decreased year-on-year

24.5%

COD emissions into the external environment decreased year-on-year

37.5%

SO₂ missions decreased year-on-year



Improving environmental management

Earnestly implementing Xi Jinping Thought on Ecological Civilization, we strive to build our ecological and environmental protection system, and contribute to standardized, normalized and long-term practices of ecological and environmental protection.



Attaching great importance to ecological and environmental protection inspection and rectification work conducted by the central government

We have formulated the *Rectification Plan of China Minmetals for Responding to the Feedback from the Central Government's Ecological and Environmental Protection Inspections (Rectification Plan)* and a list of rectification measures correspondingly. For each rectification task, we have clarified the goals, measures, deadline, major responsible body and the leaders in charge, so as to ensure that the rectification is in place. *The Rectification Plan* proposes five major measures as follows.

Intensifying organizational leadership

We have established a leading group and working group of environmental protection inspection and rectification, with relevant departments of the headquarters and enterprises under direct administration as member units, forming regular communication and inter-department coordination mechanisms. The main leaders of our enterprises at all levels have formed a top-down accountability system to see that the rectification is in place at each level.

Enhancing human resources and policy support

Competitive professional teams have been equipped in different batches on schedule for the environmental protection business of the headquarters and affiliates. Moreover, the newly revised comprehensive budget management method has been implemented to effectively meet our needs of ecological and environmental protection.

Conducting stringent inspections

All our affiliates have formulated specific and detailed rectification measures to ensure that these measures are implemented earnestly and scientifically; the rectification plans shall be reviewed by the CPC committee meetings and senior management meeting at the corresponding level, and key rectification measures shall be communicated with relevant departments of local government. In addition, a regular meeting mechanism for environmental protection inspection and rectification work has been built, and meanwhile work scheduling and review are enhanced.

Enhancing responsibility fulfillment

In strict accordance with the rectification plan and list of rectification measures, we have deployed all departments and affiliates to formulate specific implementation plans, and strengthened communication and coordination, fostering a joint force for rectification. Each major responsible body has implemented the responsibility system of "both CPC committees and governments are held accountable, and officials take responsibility for the rectification work in performing their duties", with the major responsible person as the first responsible person. In the case of inadequate understanding, ineffective measures, perfunctory responsibilities, falsification, or refusal to implement the rectification work, relevant responsible units and responsible persons shall be seriously held accountable.

Insisting on supervision and rectification

We timely release the rectification plan, progress and results, and accept the supervision from all sectors of society; and we timely report the rectification progress to the Central Government Ecological and Environmental Protection Inspection Office. With solid actions, we assure the CPC that every rectification task is implemented, satisfy the people and keep them content, winning recognition from all sectors of society.

Overall completion rate and phased completion rate of rectification tasks

over **94%**

We have ramped up efforts to promote rectification in response to the supervision and inspection of the central government. Specifically, we hold the meetings of the Party committee and the Office of General Manager to discuss plans and measures to strengthen supervision and inspection of our rectification efforts in ecological and environmental protection. We have established a leading group of rectification work to implement the accountability system. With these efforts, we have formed a top-down accountability and coordination mechanism in which the headquarters is in overall charge and the affiliates actively coordinate. Chairman Tang Fuping, General Manager Guo Wenqing, as well as the chairmen, Party Committee secretaries and general managers of all affiliates have signed the letter of responsibility for achieving environmental protection goals; all the management of our affiliates have signed the letter of responsibility for environmental protection, and taken actions according to the division of responsibility. In addition, all production enterprises have formulated the list of environmental protection responsibilities, and fully implemented the responsibility system of "both CPC committees and senior management are held accountable, officials take responsibility for environmental protection in performing their duties, and relevant government departments work together in a coordinated way on environmental protection issues".

Pursuing green operation

Upholding green development and operation, China Minmetals endeavors to improve energy conservation, reduce pollutant discharge and emissions, and increase resource utilization efficiency.

Environmental protection updates

We have conducted a comprehensive survey of environmental protection management among our production enterprises, established a group-wide production enterprise archive, and updated the information of production enterprises on ecological and environmental protection and their pollution sources. By doing so, we managed to keep track of and update the basic information on environmental protection of primary-level production enterprises, laying a solid foundation for the supervision of ecological and environmental protection.

Our battle against pollution

We have formulated key action plans for pollution prevention and control, especially for the prevention and rectification of air pollution in key industries, water pollution in key areas, soil pollution, etc. Ecological and environmental risks such as the proper disposal and treatment of hazardous waste have been effectively resolved in some of our affiliates. At the same time, we have achieved positive results in the restoration of geological environment of mines, covering restoration of subsided areas and land reclamation, etc. Besides, our production companies have achieved gratifying progress in odor treatment.

13.8%

Year-on-year decrease of comprehensive energy consumption

24.5%

Year-on-year decrease of COD emissions

37.5%

Year-on-year decrease of SO₂ emissions



Improving environmental protection

In order to reduce environmental pollution, Nanchang Cemented Carbide Co., Ltd. (NCC) has blocked the external discharge outlet of the wastewater sedimentation tank of the mixture RTP production workshop, repaired the sedimentation tank and reinforced anti-seepage. At the same time, the company invested more than RMB 6 million to establish rain and sewage diversion and wastewater treatment facilities, which effectively improved the quality of discharged water and factory environment.



Improving solid waste treatment

In strict accordance with *Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes (2020 Revision)*, we have established the list of hazardous waste supervision bodies and the ledger of solid waste. Full-time personnel are assigned to supervise the entire process of hazardous waste generation, transfer, and storage. According to the discharge quota, we entrust eligible companies to conduct waste treatment.

Energy conservation and emission reduction

In strict accordance with the domestic industry standards of technology, environmental protection, safety, energy consumption, etc., we give priority to the use of new-type environmental protection equipment, so as to reduce energy consumption in all forms. Our major pollutant indicators continue to improve.



The copper-lead-zinc smelting base has fully realized the upgrade of environmentally friendly equipment, with remarkable benefits of energy conservation and emission reduction.



The mining industry continues to promote land reclamation and ecological environment restoration.



Some ultra-low emission facilities have been completed and put into operation in the iron and steel industry.



Intensifying water resources management

MMG attaches great importance to water resources management. First, MMG regularly monitors and manages water use and discharge. Second, MMG effectively manages water intake, inventory and discharge to minimize the impact on upstream and downstream communities and local environment. Third, MMG supports the Water Management Initiative of the International Council on Mining and Metals (ICMM) and pays much attention to the management of the catchment zone. The water management report of MMG complies with the *Practical Guide to Consistent Water Reporting* issued by ICMM and *Water Accounting Framework for the Minerals Industry* issued by Minerals Council of Australia (MCA). Through cooperation with local communities, we conduct effective water resources management, and achieve responsible and sustainable water utilization.

Facilitating industrial upgrade

We continue to develop green production technologies through technological innovation, and strive to improve the capabilities of green metallurgy, green mining, and green construction to help transform and upgrade the industry towards a greener one.

Building green mines

China Minmetals has always been an "active promoter" in the construction of green mines. We vigorously promote the construction of smart, green, and efficient mines, and advance digital transformation of qualified factories and mines, with an effort to improve production efficiency and environmental protection.



Winning the first prize of Green Mine Science and Technology Progress Award

Key Technologies and Application of Collaborative Clean and Efficient Utilization of the Complex Polymetallic Ore Mining and Beneficiation of Shizhuyuan, undertaken by Hunan Shizhuyuan Non-ferrous Metals Co., Ltd., won the first prize of Green Mine Science and Technology Progress Award. The achievement focuses on "intensive utilization" and "clean production" of polymetallic resources. With the combination of mining and beneficiation, and the combination of beneficiation and smelting, the company prioritized the development of a complete set of key technologies in coordinated and efficient exploitation of ore pillars and the surrounding lean mineral resources, efficient utilization of associated mineral resources, efficient treatment and utilization of beneficiation wastewater, and other clean and efficient resource utilization technologies. Consequently, we have successfully activated hundreds of millions of tons of low-grade polymetallic resources.



Hunan Shizhuyuan Non-ferrous Metals Co., Ltd.



Laixin Iron Mine rated as a national-level green mine

Laixin Iron Mine of Minmetals Mining is established in line with the standards for green mines. Based on improved management systems and the list of responsibilities for green mine construction, it upgraded the greenhouses of the raw ore and the concentrate. Advanced technologies, such as electronic detonators, remote control scrapers, mobile hammer trucks, and near-orebody curtain grouting, were adopted to ensure safe and green mining. Meanwhile, the surface and underground environment of the mine were remediated, making Laixin Iron Mine a national-level green mine.



Laixin Iron Mine of Minmetals Mining



Beiminghe Iron Mine of Minmetals Mining rated as a national-level green mine

According to the standards for building resource-saving and environmentally friendly green mines, Beiminghe Iron Mine of Minmetals Mining has established a comprehensive and whole-process ecological and environmental protection operation mechanism for the production of the mine. The mine has earnestly implemented the strategy of technological innovation, promoted the application of the DIMINE 3D digital technology for underground mines, and significantly improved the digitalization, visualization, integration, and degree of intelligence of mine production and operation. Through such efforts, it ranked top in terms of multiple economic and technical indicators in the industry nationwide. Beiminghe Iron Mine has successively won the honorary titles of Top 10 Mines of China, Green Mines of Hebei Province, First-class Mines up to Work Safety Standards, National Green Mines, etc.



Beiminghe Iron Mine of Minmetals Mining

Building a green metallurgical industry

In the metallurgical industry featuring high energy consumption and serious pollution, we have launched R&D of key core technologies with a focus on green manufacturing of steel, striving to realize truly green and low-carbon circular development of steel mills.



The world's first hydrogen metallurgy demonstration project

China's iron and steel industry bears significant responsibility for carbon emission reduction. Therefore, building a technology roadmap for the metallurgical industry based on hydrogen energy is of great importance. CERI is committed to the research of low-carbon metallurgical innovation. In 2020, it worked with industry partners in the development and engineering application of the hydrogen energy utilization technology based on hydrogen-rich gases. The Hydrogen Energy Development and Utilization Demonstration Project of HBIS Group is a "future factory" based on the utilization of hydrogen energy. The consortium led by CERI won the bid for the plant design of the world's first hydrogen energy development and utilization demonstration project. Based on its technological strength accumulated through the years, CERI went all out to build the project into a green, intelligent, efficient, and branded hydrogen energy development and utilization demonstration project and opened a low-carbon and even zero-carbon development path for the steel industry worldwide.



Emission reduction realized through the application of the rare earth extraction and separation technology

The southern ionic rare earth mineral liquid purification technology developed by China Minmetals Beijing Rare Earth Research Institute can reduce the annual output of acid soluble slag and heavy metal slag by 53% and 80% respectively, cut the back-end pollution treatment cost of the enterprise by RMB 1.04 million per year and the cost of acid and alkali consumption by the back-end extraction process by RMB 3 million per year. The improvement of the liquid quality can increase the extraction and separation capacity by 10%, showing significant economic and environmental benefits. The technology can also help avoid unorganized emissions of harmful gases from the melting workshop, as well as the volatilization of the organic phase and the generation of hazardous solid waste in the extraction workshop caused by frequent slotting and cleaning of the "three phases."



Supporting resource recycling and reuse

Changsha Research Institute of Mining and Metallurgy participated in the Antimony Resource Waste-free Technology Development Demonstration project. The project enables the separation of tailings and flotation wastewater, the utilization of tailings, and the recycling of wastewater, marking a technological breakthrough in the non-waste discharge of antimony mines in China. Since the launch of the project, the recovery rate of antimony has increased by more than 1.5%, creating great economic and environmental benefits.



Enhancing solid waste treatment through different methods

The cross-industry solid waste co-processing technology developed by WISDRI Engineering & Research Incorporation Ltd., with the support of iron and steel production processes, helps handle solid waste from different industries and promotes the harmonious coexistence of steel companies and the city. For example, the bottom slag of iron-containing hazardous waste can be disposed of through the sintering process. Surplus coal gas, high-temperature steam, and electricity produced by iron and steel enterprises can help cut the energy cost of the park while improving energy efficiency. Blast furnace slag, steel slag, ash produced by the desulfurization process, and other types of metallurgical waste slag, along with the red mud generated in the non-ferrous metal sector and construction waste generated in the construction of municipal infrastructure, can be made into environmentally friendly materials to realize cross-industry material coordination.



Successful development of an effluent treatment technology

China ENFI Engineering Co., Ltd. has successfully developed the biological activated carbon-specific biological enzyme coupling synergic technology. The technology helps remove refractory organic matters in waste water with activated carbon, carriers, and specific biological enzymes, accelerates the degradation and handling of pollutants, and helps stabilize biological treatment of waste water with refractory organic matters while improving the efficiency of coagulation and sedimentation.



Constructing green projects

We promote the standardized and green construction of projects, and have independently developed a series of green construction technologies, led the formulation of a series of industry-level green construction standards, and guided green development of the construction sector.



Improving the environment on roads and beaches along the Yangtze River in Fankou District, Ezhou City

The project of improving the environment on roads and beaches along the Yangtze River in Fankou District, Ezhou City undertaken by CFMCC is a demonstration project built in line with Chinese President Xi Jinping's instructions on the well-coordinated environmental conservation of the Yangtze River. It integrates the improvement of the river beach, building of garden landscapes, water system improvement, and many other individual items. By comprehensively applying technologies for building intelligent construction sites, BIM models, green construction technologies, and sponge transformation technologies into the project, CFMCC aims to create the widest riverside ecological belt, the first water botanical garden, and the first natural fish migration channel along the Yangtze River.



Protecting environment

Giving full play to our strengths, we have increased investment in soil and ecological restoration, air pollution control, effluent treatment, solid waste treatment, etc., making unremitting efforts to build a beautiful China.



Strengthening biodiversity conservation

MMG attaches great importance to biodiversity conservation and management. In compliance with the *Declaration of Locations of Mining and Protected Areas*, MMG uses environmental assessments and regional strategic assessments to determine potential impacts on biodiversity before the launching of mining or disturbance activities. By constructing low-disturbance or disturbance-free areas that may constitute future protected areas, transferring endangered plants and supporting the reproduction of vulnerable animals, restoring degraded ecosystems, and controlling invasive species, the company strives to avoid or offset the impacts of its production and operation on the local ecology. In 2020, MMG regularly carried out biodiversity monitoring of aquatic organisms, birds, reptiles, and plants in the mining areas and areas adjacent to its operations.





Changing barren slopes into fertile soils through ecological restoration

Nanshu Town, Laixi City, Qingdao, Shandong Province is mountainous and faces multiple problems that restrict agricultural development, such as fragmented arable land, lack of water sources, and narrow roads. In response to these challenges, Minmetals Exploration (HK) Limited participated in the comprehensive restoration of land and ecologies of barren hills, and solved problems of fragmented and disproportionally distributed arable land, inefficient use of land resources, and degraded ecologies in mining areas. The company effectively improved agricultural production conditions in the region, as well as the quality and efficiency of the agricultural industry.



Soil improvement and vegetation restoration

The topography and landscape of the southeast side of Dabaoshan Mine, Shaoguan City, Guangdong Province had been seriously damaged, and the area had frequent geological disasters, highly acidic soil, and a poor environment. Faced with such challenges, China ENFI Engineering Co., Ltd. innovatively applied its independently developed core technology of "in-situ soil improvement + direct vegetation" and carried out the comprehensive ecological restoration of the mine by reinforcing slopes, building a drainage system, improving soil, and restoring and maintaining the ecosystem. Through such efforts, the company effectively reduced polluting heavy metals in the mining area, restored the vegetation, and improved the quality of landscapes.



Comparison before and after application of ecological restoration technology of ion type rare earth mine in ENFI



Enhancing environmental awareness

We practice green office and organize training on environmental protection through environmental protection knowledge contests, experts' experience sharing, and other online and offline training programs, striving to enhance employees' environmental awareness and related skills.



MCC Group Safety and Environmental Protection Training Conference 2020



MCC20 "Safety and Environment Guardian Cup" Safety and Environmental Protection Skill Competition



Employee Well-being

China Minmetals respects talent value and regards employees as the most precious assets. While stimulating talent vitality and implementing the talent development strategy, we actively improve benefits for employees, attach much importance to occupational health and safety, and care for employees' work and life to promote the common development of employees and the Company.

200,000+

Total employees

9,000+

New employees recruited



Safeguarding legitimate rights and interests

We value the protection of employees' rights and interests and strictly abide by relevant laws and regulations. With respect for human rights, we observe equal and non-discriminatory employment policies, and prohibit all forms of forced or compulsory labor, including child labor.

Equal employment

We insist on equal employment and treat employees of different nationalities, ethnicities, races, genders, religious beliefs and cultural backgrounds in a fair and equitable manner. We have built a whole-process solution platform for centralized talent selection and recruitment management, and a standardized talent selection process and mechanism. Moreover, we have mobilized our affiliates to introduce talents. For the first time, we have introduced an online evaluation system featuring "one archive for one candidate, dynamic adaption". Besides, we have explored to use multiple talent selection approaches such as virtual review of CVs and online interview, and deployed intelligent tools to make scientific decisions on talent employment.



Compensation and benefits

We mobilize resources to provide better compensation and benefits for our employees, giving full play to the value of non-material incentives. We also keep optimizing the enterprise annuity system to ensure that retirees live a better life at old age and on-the-job employees enjoy improved income security. In addition, we have optimized the services related to compensation and benefits, and launched the function of employee service portals to improve employee service quality.

Democratic management

We encourage our employees to play a role in democratic management, democratic engagement and democratic supervision. We have established democratic management systems that take the labor union and the Workers and Employees' Congress as its basic forms. Through multiple channels, we get to know and respond to employees' expectations and demands, fully guarantee employees' right to know, right to participate, right to manage, right to vote, and right to supervise, and welcome suggestions and advice from employees on corporate development.

100%
Membership of the labor union

57
Proposals collected from the Workers' Congress

Helping our employee grow

We earnestly implement the major instruction made by Chinese President Xi Jinping on building an outstanding talent team with patriotism, dedication, innovation and creativity. Aligned with this requirement, we improve the top-level design, clarify the goal of talent development, and continue to progress the talent development mechanism reform. At the same time, we explore the leading role of major talent development projects, and advance the building of systems with the Corporation's characteristics and advantages to provide talent support for promoting the high-quality development and building a world-class enterprise.

Clarifying the talent development mechanism

We strive to build "three teams" with great strength and put forward multi-tiered quantified goals for the management of the three types of talents: management personnel, professionals, and technical personnel. With the focus of innovative, professional and high-level talents, we make different types of talent development plans.

Management personnel

We promote the implementation of the managerial tenure system and contract management, explore diverse development channels for senior management, and improve the training system. Moreover, we design a learning map for operational and management personnel. We value the cultivation of young officials and proceed the young talent training demonstration project. With these efforts, we strive to stimulate the vitality of the official team in all respects.

Professionals

We improve the senior job title mechanism and the job title review system for professionals. We have established the Group's review committees for senior job titles in engineering, accounting and economics, and formed a complete review system for senior, intermediate and junior job titles, to facilitate the Group to build a professional talent team.

Technical personnel

We actively prepare the establishment of the Group's vocational skills certification and guidance center, explore the application of capability evaluation results of technical personnel in career development, compensation guarantee and other aspects, and encourage the organization of diverse vocational skills competitions for different kinds of professionals. Moreover, we improve the honor incentive system and create a favorable environment for technical personnel to grow into the craftsmen of the great nation.



Minmetals Mining held staff skills competition

Staff education and training

We implement classified personnel training programs, including China Minmetals Entrepreneurs Cultivation Program, Young Officials Development Program, Improvement Program for Officials of the CPC and Mass Organs, Innovative Technological Talent Training Program, China Minmetals Craftsmen Nurturing Program, and Internationalized Talents Training System. At the same time, we continue to deepen the education and training system, and strive to produce targeted and effective results. With these efforts, we have built and improved the quality training system covering source training, follow-up training and whole-process training.

In line with the requirements of COVID-19 prevention and control, we took the form of webcast courses to conduct management training. Specifically, we have organized a series of webcast courses on macro-economic situation, guidelines of the "Two Sessions", political theories, crisis leadership and other themes.

Management training



Pre-job training for new employees

We set up four modules in the curriculum, including Party spirit learning, company profile, business operation, professional quality improvement and team building.



The 2020 pre-job training for new employees



The exchange program for young employees

China Minmetals has carried out the youth exchange program under the theme of "shared experience and exchanges for improvement" to guide young members of the Communist Youth League of China (CYLC) to join workshops, work groups, and the frontline. They are also encouraged to learn from outstanding young employees (groups), benchmark against advanced management experience, and focus on key technological research projects. In 2020, 72 exchange activities were organized, with 1,383 youth members of CYLC participating. These efforts have further contributed to in-depth exchanges and joint interactions among the youth (groups) within the Group, and effectively enhanced the organizational capability, attractiveness and strength of CYLC, uniting the strength of the youth and manifesting their charm.



Visit Zhuzhou Cemented Carbide Group Co., Ltd. affiliated to China Tungsten



Feeling the ore production site on the spot



China Minmetals held a symposium on corporate culture building

China Minmetals held a symposium on corporate culture building. On the meeting, we summarized the achievements in refining core values, fostering enterprise spirit, promoting institutional innovation, shaping corporate image, improving employee quality, and other aspects. Moreover, requirements for future work on corporate culture building were proposed. Through enhanced corporate culture building, we could improve the core competitiveness of the Group and the cohesion and creativity of the official team.



Minmetals International Trust Co., Ltd. launched the Dianshi series training courses

The internal lecture division of Minmetals International Trust Co., Ltd. launched the Dianshi series training courses. Professionals from Minmetals International Trust Co., Ltd. with overseas work experience were invited to give lectures on basic knowledge of mining. The series of lectures aimed to enhance the recognition and understanding of mining operation and management, further improve the mining resources exploitation capability, and build a strong mining talent team.

Model employees

On November 24, the 2020 National Model Workers and Advanced Workers Commendation Conference was held in Beijing. Six award winners of 2020 National Model Workers came from China Minmetals. They received the award and commendation with supreme honor at the Great Hall of the People in Beijing. As Chinese President Xi Jinping points out, "Glory belongs to our workers and they deserve well-being. Model workers are the elites of the nation, role models of the people, and heroes of the P.R.C."



Nan Zugang

Senior Cold Working Technician of Fangchenggang Zhongyi Heavy Industry Corporation, China First Metallurgical Construction Group Co., Ltd. (CFMCC)



Lv Chenggang

Head of Welder Team and Senior Technician of the Southern Branch of Mechanical Installation Corporation of China Third Metallurgical Corporation LTD.



Li Peng

Party Secretary and President of Shanghai Baoye Group Corp., Ltd. (Shanghai Baoye), Professor-level Senior Engineer



Li Weiwei

Head of Daily Operation Team of Majishan Project Department, the NO.3 Branch of Baosteel Technology Service Co., Ltd.



Liu Dong

An underground safety worker from a mining field of Hunan Nonferrous Metals Huangshaping Mining Co., Ltd.



Yu Peng

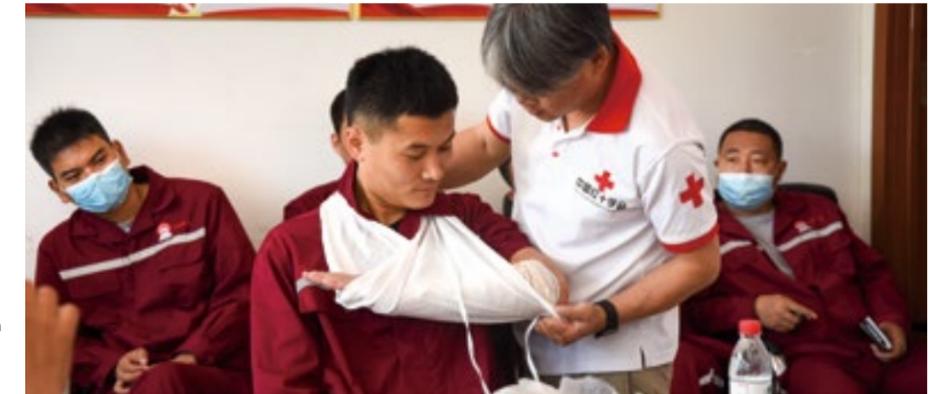
Head of Loading & Unloading Tank and Acid Etch Work Group, Electric Lead Workshop of Jinxin Corporation, Hunan Shuikoushan Nonferrous Metal Group Corporation

Safeguarding physical and mental health

We always put life safety and physical health in the first place. We continue to provide employee care, advocate a healthy and civilized lifestyle, and take actions to support the Healthy China initiative, with an effort to improve the health of employees.

Occupational health

Taking fulfilling the major responsibility of occupational hazards prevention and control as the focal point, we enhance treatment, prevention and control of occupational hazards from the source in order to ensure that our employees enjoy the right to be healthy. At the same time, we steadily carry out key tasks of "establishing ledgers, enhancing governance, and controlling dust and toxic substances. In addition, we provide occupational health training and examinations for operators, improve the operational environment, and boost the capability of occupational hazards prevention and control, substantially safeguarding employees' right to be healthy.



Chentaigou Iron Mine of China Minmetals organizes mining emergency response and medical aid training

A happy life

We encourage employees to better balance work and life. We have organized various cultural and sports activities, and built libraries and gyms to meet the needs of employees, forming an atmosphere of employee care with sincerity and harmony.



Holding the fellowship and matchmaking activity for young singles

China Minmetals held a charity event for young singles on the theme of "China Minmetals' tribute to medical personnel: carrying forward the anti-COVID-19 spirit and paying tribute to medical personnel". In the event, 150 young singles from several hospitals and peer central SOEs were organized to participate in the fun competitions held at the Tusenlin (Rabbit Forest) Outdoor Base in Changping District, Beijing. Under the theme of carrying forward the anti-COVID-19 spirit, the activity aimed to help young singles make friends and find dates through fun competitions. The activity has provided a way to care for young employees, enhanced understanding and communication between them, and established a platform for them to make friendships and socialize.



Young representatives presented flowers to medical staff

Enhancing employee care

We care for our employees in all aspects of work and life. Committed to providing our employees with a humanized working and living environment, we strive to build a warm, harmonious and happy family at China Minmetals.

Caring for female employees

We protect the special rights and interests of female employees. We celebrate the International Women's Day and actively support female employees to carry out characteristic activities suitable for them.



Caring for employees in need

We seek to understand the situation of employees in need and prioritize the care for impoverished families where our employees have difficulties in supporting children education, making a living, and supporting their parents.

Caring for overseas employees

We continue to improve the living and working sites and facilities of overseas projects, improve the awareness and measures of pandemic prevention, and increase the stocks of living and anti-virus materials. By doing so, we enhance the care and solicitude for overseas employees.

Caring for retired employees

We implement refined management and conduct a series of visits to retirees. Wholeheartedly, we provide services and guarantee for retired employees, especially guaranteeing the political and living rights and interests of retired officials.

Changsha Research Institute of Mining and Metallurgy - "Tasting Happiness"



Changyuan Lico Co., Ltd. - A Photo of Happy Reunion



MMG organizes the activity of learning anti-virus knowledge



China MCC5 organizes International Women's Day Celebrations



Social Harmony

China Minmetals always takes the people's aspiration for a better life as its own responsibility. Upholding openness and win-win cooperation, we actively engage ourselves in social welfare, share the development results with the people, and jointly advance the progress of society.



Jointly creating a better urban and rural life

We have developed a host of emerging industries including energy conservation and environmental protection, thematic parks, sponge cities, utility tunnels and smart cities, contributing to making a better life for all.



Renovating urban and rural areas

In the Yangtze River Delta, CISDI has designed a rural complex in Xinyi Village, Fengjing Town, Shanghai. Based on the core planning concept of "Maker +", CISDI has revitalized the assets of rural housing and renovated the facades of idle houses, so as to improve local living environment.



Garden complex in Xinyi Village, Fengjing town, Shanghai



Minmetals Land - The real scene of Platinum CountyYard of Yingkou Corporation



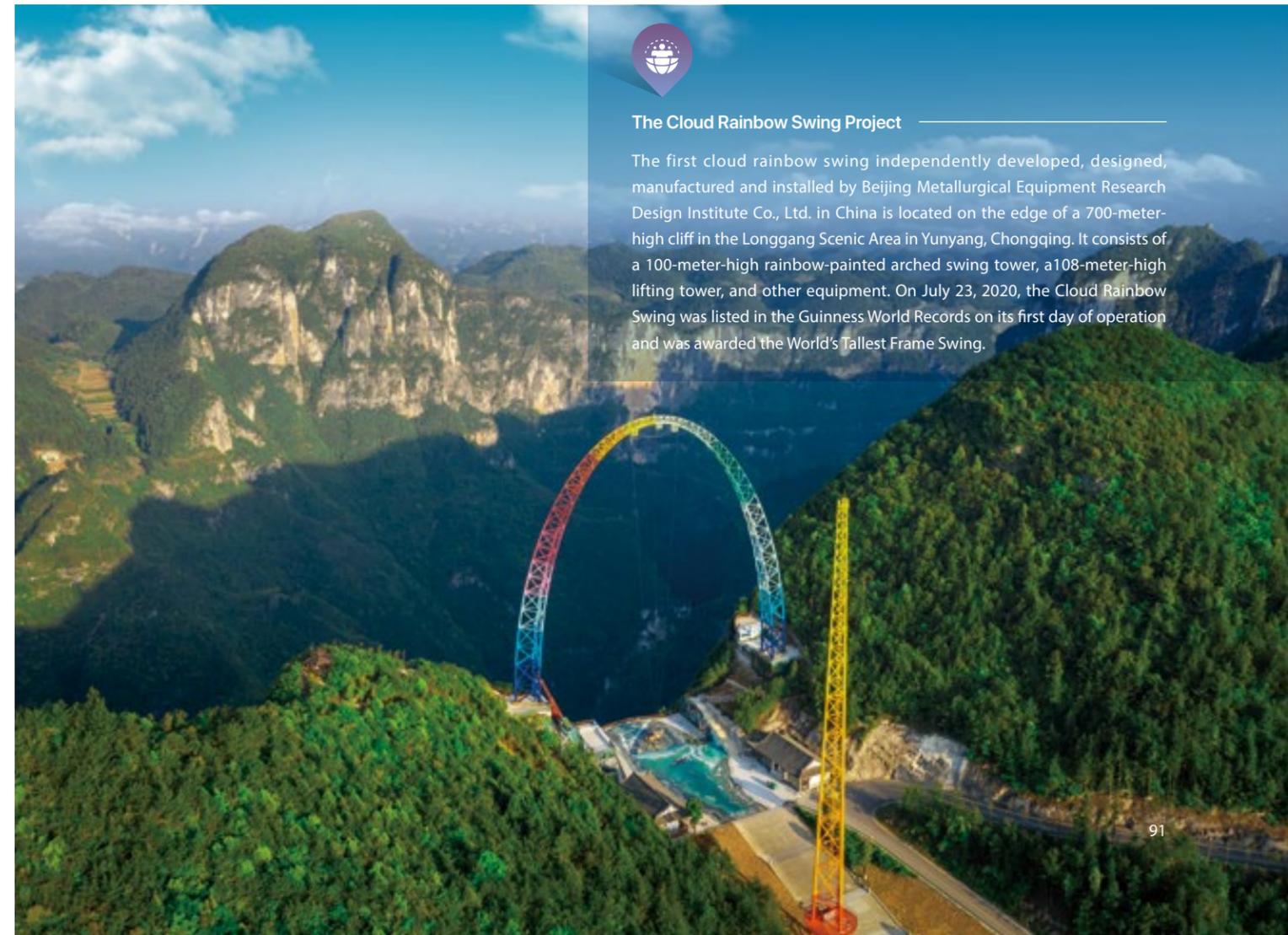
The integrated road network and utility tunnel project in the CBD of the Eastern District of Handan City

The integrated road network and utility tunnel project in the CBD of the Eastern District of Handan City, undertaken by China Huaye Group Co., Ltd., covers tunnels, utility tunnels, roads, etc. Upon completion, the project will become Handan's gateway to conduct external exchange and connect with the world, and also a center for integrating industries and making wealth. It is of far-reaching importance to the layout and development of Handan City in the future.



The Cloud Rainbow Swing Project

The first cloud rainbow swing independently developed, designed, manufactured and installed by Beijing Metallurgical Equipment Research Design Institute Co., Ltd. in China is located on the edge of a 700-meter-high cliff in the Longgang Scenic Area in Yunyang, Chongqing. It consists of a 100-meter-high rainbow-painted arched swing tower, a 108-meter-high lifting tower, and other equipment. On July 23, 2020, the Cloud Rainbow Swing was listed in the Guinness World Records on its first day of operation and was awarded the World's Tallest Frame Swing.



Leading the development of industry exchange

Upholding integrity and compliance, we strengthen management of customers and supply chain, enhance industry exchange and cooperation, and gather resources and strengths from multiple parties to jointly make progress with our partners.

Integrity and compliance

We strictly abide by China's current laws and regulations, the *United Nations Convention against Corruption*, the *World Bank Group Integrity Compliance Guidelines*, and other international rules. Moreover, we strictly implement compliance requirements, resolutely resist violations, and promote corporate operation, business operation and individual acts in compliance, ensuring the stable and sustained development of the Group.



Releasing *Integrity Compliance Manual*

In June 2020, China Minmetals released *Integrity Compliance Manual*. The Manual focuses on corporate governance, HSE, anti-commercial bribery, anti-monopoly and anti-unfair competition, fiscal and tax assets, intellectual property rights, data and information, international trade and investment, social responsibility, employee rights, business partners, etc. Through elaboration on the basic requirements and codes of conduct in business activities, external exchange, professional ethics and social responsibility, we educate and guide our employees to respect and stick to the bottom line, act in compliance, prohibit violations, so as to promote the compliance operation of the Group.



Customer service

We value quality management. By improving product & project quality and providing high-quality and pleasant services, we strive to meet the needs of our customers. Being customer-centric, we continue to innovate in service models, enrich service contents, and advance the construction of a global marketing service network to elevate the overall capability of integrated customer service.



Winning the award of Model Company in 2020

Pursuing the people-oriented philosophy of making a better life for customers, MCC Real Estate produces high-quality projects with the spirits of craftsmanship and technological innovation. With high-quality services, MCC Property, a subsidiary of MCC Real Estate in China, won the award of Chinese Model Service Company by the 2020 China Golden Key Brand Service Congress of 25th Anniversary.



Changyuan Lico Co., Ltd. improves product quality

In order to meet the stringent requirements of foreign customers for product quality standards, the Lugu base of Changyuan Lico Co., Ltd. has launched a campaign to eliminate metal foreign bodies in products. Through a series of measures such as identifying the source of metal foreign matters, conducting traceability analysis and targeted improvement, we ensure that all links of production are under strict management and control, and that our customers are provided with high-quality products.



Lugu base launched a campaign to eliminate metal foreign bodies in products



30 QC achievements of China MCC19 win the Outstanding QC Achievement Award of Sichuan Province

Taking quality improvement as the focal point, China MCC19 has substantially advocated and advanced QC research. Based on the actual condition of the company and projects under construction, China MCC19 has conducted diverse QC activities to effectively solve difficulties. In 2020, 30 QC achievements of China MCC19 won the Outstanding QC Achievement Award of Sichuan Province.

Supply chain management

With the guidance of the concept of supply chain management, China Minmetals has deployed modern information systems and means to solidify management ideas into the information system. The supply chain management system has been built and applied in a centralized manner. Some affiliates of China Minmetals have promoted the application of the supply chain management system, and achieved system integration and data exchange with their project management system and other information systems.



Local supply chain management of MMG

When selecting suppliers and contractors, MMG comprehensively evaluates their capabilities in business, quality, technology and other aspects. Moreover, non-financial standards are considered, including health and safety management performance, environmental management, local migrant workers' capability building, social contributions, local employment commitments, etc. When contracting with a supplier, MMG urges the other party to make written undertakings to obey MMG's *Code of Conduct*, *Anti-bribery Framework* and related standards, policies and processes, including requirements for human rights, health, safety and environment.

External exchange

We innovate external cooperation and exchange mechanism to strengthen cross-integration and collaborative innovation. We plan the launch of the China Minmetals Science and Technology Lecture series. Renowned academicians and experts at home in the industry are invited to share the latest S&T frontier developments, research results and engineering practices in the fields of mineral development, intelligent manufacturing, advanced materials, etc., and to share the experience of industry development.



1

2

1. Tang Fuping meets with the delegation led by Wang Hong, Deputy Mayor of Beijing Municipal Government, and the two parties conduct in-depth exchange on strengthening local cooperation and the friendly cooperation between China Minmetals and Beijing

2. Tang Fuping attends the 2020 Conference on Central State-owned Enterprises' Efforts for the Development of Guizhou, and conducts in-depth exchange on supporting Guizhou's development

Striving for a win-win partnership

We strengthen strategic cooperation with local government, enterprises, research institutes, financial institutions, etc., with an effort to complement each other, promote coordinated development, and create shared values.

Government-enterprise cooperation

Focusing on industrial upgrade and regional competitiveness, we cooperate with provincial and municipal governments in Hainan, Jilin, Hunan, Xiamen, Baoding, Handan, Tangshan, etc.

Enterprise-enterprise cooperation

Cooperating with China Resources Group, China Merchants Group, Ansteel, China Life and other companies, we give full play to the role of strategic synergy, further extend the breadth and depth of cooperation, and establish closer partnerships to realize a higher level of win-win cooperation.

University-enterprise cooperation

We conduct extensive cooperation with prestigious research institutes and universities in China, including Chinese Academy of Sciences, Central South University, Northeastern University, Beijing University of Science and Technology, etc. Moreover, we have collaborated with outstanding external institutions to undertake over 20 state-level and Group-level technical research projects, making collective efforts to eliminate the bottlenecks hindering corporate development.



Tang Fuping, together with leaders of Hainan Provincial Government, attends and witnesses the centralized signing ceremony of key projects of Hainan Free Trade Port



Guo Wenqing witnesses the signing of a strategic cooperation framework agreement between China Minmetals and China Merchants Group



China Minmetals and Jilin Provincial Government sign a cooperation framework agreement



Tang Fuping attends the symposium on cooperation between Sichuan Provincial Government and Central SOEs and the project signing ceremony, witnessing the signing of project cooperation agreements of China Minmetals

Engaging in charity cause

We are deeply engaged in community construction. We encourage our employees to carry forward the spirit of volunteering and organize diverse social welfare activities, taking concrete action to manifest positive energy and show solicitude.



Introducing another "charity train" to Zhenxiong County

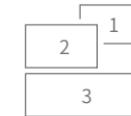
Zhenxiong County is China Minmetals' main battlefield of poverty alleviation in the Wumeng mountains area. The situation of poverty incurred by disabilities is rather severe in Zhenxiong County. China Minmetals has introduced the "charity train" of the Wei Jicheng couple to the county for three consecutive years to conduct social welfare activities. These efforts help nurture a good atmosphere for caring for the disabled, supporting their career development, and aiding in Zhenxiong's battle against poverty.



"Charity train" donation activity site



China Minmetals organizes the 2020 Voluntary and Non-remunerated Blood Donation



- 1. Minmetals Land initiates the books donation to mountainous areas on the theme of "Minmetals Land's love for the family and children growth"
- 2. CFMCC reinforces slopes in the Hongshan River Beach in Wuhan
- 3. China MCC17 participates in flood relief in Fuyuan Natural Village, Taibai, Dangtu County, Maanshan City



Supporting overseas community development

Aligned with the United Nations Sustainable Development Goals (SDGs), we carry out social development actions, adhere to responsible practices of community building, share development results with local communities, and promote the sustainable development of overseas communities.



Organizing emergency repair for UIAM Bailey Bridge

Located in New Ireland Province, Papua New Guinea, UIAM Bailey Bridge collapsed due to the sudden flood in February 2020. Responding to the call of New Ireland Province, China MCC19 immediately dispatched two management personnel, five local employees, two excavators, one dump truck and one road roller in the relief. Firstly, China MCC19 built makeshift culverts to ensure unimpeded traffic; later on, the company helped return UIAM Bailey Bridge to the original position, clean up the river and dismantle the culverts. After four days' work, the traffic was finally recovered to normal. The local government and residents of New Ireland Province have expressed gratitude to China MCC19 for its timely repair service.



The project of MCCT Saindak Copper-Gold Mine improves the livelihood of local people

In 2020, the project of MCCT Saindak Copper-Gold Mine proactively supported the local government in COVID-19 fight, provided financial assistance for local people, and cumulatively donated anti-virus materials worth 43 million rupees (around RMB 3.8 million) to Balochistan, Pakistan; the project also delivered rice, grain, oil and other living materials worth 17.5 million rupees (around RMB 1.55 million) to 3,312 poor households. At the same time, the Chinese medical personnel of the mine project went to villages nearby to do COVID-19 testing and checkups for local villagers, so as to ensure that every villager is healthy. When school closures were about to terminate, the project delivered anti-virus materials to local schools, and helped them build and improve anti-virus plans and processes. Besides, the project donated 2.5 million rupees (around RMB 220,000) for the organization of cultural and recreational events, competitions and gymnasium repairs.



Cumulatively donating anti-virus materials worth **43** million rupees to Balochistan, Pakistan

Donating **2.5** million rupees for the organization of cultural and recreational events, competitions and gymnasium repairs



The Farm Assistance Plan facilitates farmer transformation

The Farm Assistance Plan (FAP), which was launched by MMG in 2007, has covered 26 villages near Kinsevere, benefiting over 400 farmers. Each farming season, the FAP participants will be provided with crop seeds, technical support and on-site training. To achieve long-term and sustained results, MMG has invited experts to mentor local farmers how to transform from traditional farming to mechanical farming, and to seed production, helping local farmers realize production transformation. At the end of 2019, five local farmers received guidance on planting eight hectares of corn seeds; in June 2020, they passed the SENASEM certification.



Appendix

Outlook 2021

Indulging in reflecting on our work in 2020, we are about to set sail towards 2021.

Saying farewell to the eventful and incredible year of 2020, we are heading towards 2021, a year of continued struggle, hopes and challenges. 2021 marks the centenary of the Communist Party of China, and it is also the first year of the 14th Five-Year Plan. In 2021, facing a new era full of new opportunities and challenges, China Minmetals will uphold the guidance of Xi Jinping Thought on Socialism with Chinese characteristics for a New Era, and act in line with the grand blueprint made on the Fifth Plenary Session of the 19th CPC Central Committee. We will ground efforts in the new development stage, apply the new development philosophy, build a new pattern of development, and strive to build a world-class powerhouse in the metals and minerals industry. We will continue to fulfill the responsibilities for repaying the country by improving the technical content and strength of the metals and minerals industry. In addition, we will build an upgraded national team of metallurgical construction, develop more technologies independently, and make new progress in deepening reformation, joining with stakeholders to create economic, social and environmental values.

Sustainability Performance

Economic Performance	2016	2017	2018	2019	2020
Operating income (RMB 100 million)	4,355	4,934	5,297	6,104	7,039
Total taxes (RMB 100 million) *	184	182	200	224	219
R&D investment (RMB 100 million)	38	59	79	120	146
Number of new patents	3,148	3,709	4,641	4,278	6,778

*Including overseas

Environmental Performance	2016	2017	2018	2019	2020
Year-on-year decline in energy consumption (%)	2.00	2.50	10.8	9.5	13.5
Year-on-year decline in COD emissions (%)					24.5
Year-on-year decline in SO ₂ emissions (%)	5.70	4.40	40.7	62.0	37.5
Number of environmental training sessions	267	817	1,637	9,003	7,674
Number of environmental training participants	13,670	38,160	94,696	250,000	210,000

Social Performance	2016	2017	2018	2019	2020
Number of employees	192,023	196,609	186,258	199,141	200,000
Number of female employees	-	45,200	40,977	39,828	32,699
Work safety investment (RMB 10,000)	189,093	299,058	404,000	559,395	638,600
Number of employee training participants	263,087	317,713	355,441	421,655	608,382
Proportion of contracts executed (%)	100	100	100	100	100

Assurance Statement



Assurance Statement of Corporate Social Responsibility Report

TUV Asia Pacific Ltd. ("TUV NORD") has been commissioned by the management of China Minmetals Corporation ("China Minmetals" for short) to carry out an independent assurance of the 2020 sustainability report ("report" for short).

China Minmetals is responsible for the collection, analysis, aggregation and presentation of information within the report. TUV NORD's responsibility in performing this work (assurance of the report) is in accordance with terms of reference agreed in the scope of engagement with China Minmetals. China Minmetals is the intended users of this statement.

This statement is based on the assumption that the data and information provided in the report is complete and true. This report is the fourteenth report of China Minmetals, and it's the fifth time for China Minmetals to invite TUV NORD give an independent assurance.

Assurance Scope

- The report revealed the accuracy and reliability for key performance, information and management system which happened in 2020.
- Due to the impact of the Covid-19 this year, according to the request of China Minmetals, it was changed to online remote audit.
- We evaluate the collection, analysis, aggregation of the information and data.
Online assurance of the report was done on **May 24-25, 2021**.

Assurance Methodology

Assurance process including following activities:

- Review the document information which provide by China Minmetals;
- Interview the person who collected the report information;
- View the related websites and media reports, verify the data and information through sampling method;
- Refer to GRI Sustainability Reporting Guideline(GRI Standards) on balance, comparability, accuracy, timeliness, clarity, reliability, and give the evaluation;
- Refer to AA1000AS (2019) Assurance methodology;
- Assurance activity is based on TUV NORD CSR report assurance management procedure.

Assurance Conclusion

China Minmetals Sustainability Report provides an appropriate and objective view of the sustainability & social programs and performances in 2020. The data in report is reliable and objective, TUV NORD didn't find the system error or substantial error, which meets the disclosure requirement of GRI Standards core option.

- The structure of the report is complete, the revealed information is clear, easy-understand and available;



- The report disclosed the company's social responsibility performance in 2020 from six chapters, such as "Value Creation" "Innovation-driven Development" and "Safety management". In addition, it describes the development of China Minmetals during the 13th Five-Year Plan period in three thematic forms, as well as the participation of "poverty alleviation" and "anti-epidemic", so that stakeholders have a deeper understanding of China Minmetals' development;
- The five-year performance data of some key performances are disclosed at the end of the report, which is quite comparable.

Suggestion for improvement

Through assurance and evaluation, we had following improvement suggestion on CSR practice and management:

- In response to the "carbon peak and carbon neutrality" goals proposed by the country, data such as carbon dioxide emissions and energy consumption can be managed and disclosed;
- In the collection of materiality topics, it is recommended to strengthen the collection of topics from overseas stakeholders.

Special statement

This statement excluding:

- The activity outside information reveal;
- The position, idea, faith, object, future developing direction, and promise which stated by China Minmetals.

Statement of Independence and Competence

TUV NORD Group is the world's leader in inspection, testing and verification, operating in more than 70 countries throughout the world and providing services which includes management systems and product certification; quality, environmental, social and ethical auditing and training; environmental; social responsibility and sustainability report assurance.

TUV Asia Pacific Ltd. affirms its' independence from China Minmetals and confirms that there is no conflicts of interest with the organization or any of its subsidiaries and stakeholders when performing the assurance of the Report. TUV Asia Pacific Ltd. was not involved in any manner with China Minmetals, when the latter was preparing the Report.

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Date :01.06.2021

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Date: 01.06.2021

Note: When there is a conflict between the declared between Chinese and English version, please prevail in Chinese.

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Feedback Sheet

Dear readers:

Thank you for reading the report. Any constructive suggestions to improve our CSR program and the quality of our sustainability reports are welcomed. Thank you for your support.

1.To China Minmetals, you are a/an:

- customer government agency employee supplier (in its broad sense, including contractor)
- environmental protection organization/NGO charity media the public others

2.Your overall impression of the sustainability report:

- Very good Good Fair Poor Very Poor

3.What do you think of this report?

	Very good	Good	Fair	Poor	Very Poor
Information quality	<input type="checkbox"/>				
Structure	<input type="checkbox"/>				
Layout and design	<input type="checkbox"/>				
Readability	<input type="checkbox"/>				

4. What are the most important issues to you?

5. If you have any comments or suggestions on our CSR program and sustainability report, please specify.
