



ENVIRONMENTAL SOCIAL AND GOVERNANCE REPORT 2021



Xiamen Tungsten Co., Ltd. (XTC)





We are committed to making employees realize their self-value, providing users with satisfactory services, obtaining rich returns for shareholders, and seeking harmonious development with society, so as to become a respected world-class enterprise.

" 1234 " Draws a Blueprint and Follows the Path of Sustainable Development

1

Strategic Leadership

2

Two-engine Drive:

- ① Technological Innovation
- ② Management Innovation

3

Three Platforms:

- ① Talent Gathering Platform
- ② Technological Innovation Platform
- ③ Industrial Development Platform

4

Four Cultures:

- ① Comprehensive Budget Management
- ② Target Performance Management
- ③ Integrated Product Development (IPD)
- ④ International Advanced Manufacturing (IAM)

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■ About this Report

This report is the 2021 Environmental, Social and Governance Report (hereinafter referred to as the "Report") issued by Xiamen Tungsten Co., Ltd. (Hereinafter referred to as "XTC"). The purpose of this report is to present the work and achievements of XTC in environment, society and corporate governance in 2021 to the stakeholders of XTC.

■ Compilation Basis

This report is based on the core scheme of the Guidelines for the Compilation of Corporate Social Responsibility Reports in China (CASS-CSR4.0), issued by the Chinese Academy of Social Sciences and the Global Reporting Initiative Sustainable Development Reporting Standards (GRI Standards). At the same time, it is compiled in accordance with the disclosure requirements of the guidelines for self-regulation of listed Companies of Shanghai Stock Exchange No.1-Standardized Operation and the United Nations Sustainable Development Goals (SDGs).

■ Scope of the Report

The reporting period of this report is from January 1, 2021 to December 31, 2021, and some contents are beyond the aforementioned scope. Unless otherwise specified, the environmental data disclosed in this report covers key XTC owned production enterprises, and the economic and social data covers the enterprises within the scope of consolidated statement of XTC.

■ Description of Report Data

The financial data in this report are taken from the audited annual report of XTC, and other data are from the internal systems or manual records of XTC.

■ Assurance

RSM China CPA LLP independently guarantees the environmental, social and and corporate governance performance indicators in this report.

■ Report Acquisition and Feedback

This report is published in electronic form in simplified Chinese and English. If there is any inconsistency or conflict between Chinese and English version, the Chinese version shall prevail. The electronic report can be downloaded from the official website of XTC (www.cxtc.com) and the website of the Shanghai Stock Exchange (www.sse.com.cn).

In the process of preparing the report, XTC has taken into account the reading requirements of different stakeholders, to the extent possible, and made the report as concise, clear and easy to read as possible. Due to practical constraints, aspects of this report may not be entirely satisfactory. Your comments and suggestions are welcome in the feedback form attached to the report. XTC strives to address your concerns in an effort to continually improve moving forward.

Chairman's Statement



2021 is the first year of the nation's "14th Five-Year Plan" and the year of a new round of strategic planning for XTC. XTC is a state-controlled listed enterprise and is included in the first round of national demonstration enterprises for the development of a circular economy and the "Dual-Hundred Enterprises" for the reform of state-owned enterprises. XTC focuses on the three core businesses of tungsten and molybdenum, rare earth minerals, and new energy materials. It devotes itself to creating business cards for high-end manufacturing enterprises, and pursues the efficient, coordinated and sustainable development of the economy, the environment, society and governance.

Green and low-carbon development is at the core of XTC's corporate social responsibility. Our goal is to always adhere to energy conservation, environmental protection, and eco-friendly production. XTC's Ninghua Xingluokeng Tungsten Mining Co.,Ltd. and Jiangxi Duchang Jinding Tungsten Co.,Ltd. are state-level eco-mine demonstration enterprises. "Green Tungsten Smelting Technology with Sulfur-Phosphorus Mixed Acid System" won the second prize of the National Technology Invention Award. The implementation of green smelting technology has resolved both XTC's environmental protection and economy concerns in tungsten smelting and helped guarantee the country's rising demand for strategic tungsten. The tungsten filament for the photovoltaic industry, which has been developed by Xiamen Honglu Tungsten Molybdenum Industry Co., Ltd. with independent intellectual property rights, can effectively and substantially improve the yield of photovoltaic products, reduce energy consumption and help the photovoltaic industry to improve quality and efficiency. XTC's national-level green factory, Fujian Changting Golden Dragon Rare-earth Co.,Ltd. has been promoted as a prime industrial demonstrator of the effective integration of industrialization and informatization by the Ministry of Industry and Information Technology and its rare earth products have been selected for the national-level green products list. The XTC invested rare earth permanent magnet motor industrial park has begun to take shape this year, producing a variety of high-efficiency and energy-saving rare earth permanent magnet motors to help the industry conserve energy and reduce consumption. At the same time, XTC provides high-quality lithium cobalt, ternary materials and other advanced battery materials to help the emerging energy industry move forward. XTC continues to contribute to the acceleration of the national "Double-Carbon" reduction strategy.

This year, faced with the ongoing and complex COVID-19 pandemic situation, XTC continued to strengthen its prevention and control strategy of "forestalling inbound transmissions and internal prevention". The determined people at XTC maintained the stability of production while fully promoting the implementation of various epidemic prevention and control measures. The Party members of the company established 24 volunteer contingency-response teams, which collaborated with medical staff and grass-roots staff in the front-line work of community epidemic control, and are obliged to assume this social responsibility.

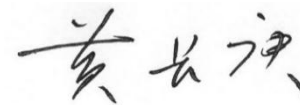
This year, the company continuously provided its support to charity projects for schools, communities in rural areas where the company has a presence, and covers infrastructure construction, drinking water supply, education, etc. These efforts contribute to the local development of education, culture and economy.

We have always pursued "innovation to promote development" as our keynote and have taken an innovative development path that encourages high-end talent. We promote technological innovation by high-end talent and promote industrial upgrading through technological innovation. Whether it is technological innovation or institutional innovation, the people at XTC insist on continuous exploration and unremitting efforts in technological evolution and business model innovation. This year, XTC's subsidiary, XTC New Energy Materials (Xiamen) Co., Ltd. (SH.688778), successfully listed on the board, becoming the first demerged subsidiary company listed in Fujian Province, realizing the organic unity of company development and employee value.

In the face of the unprecedented changes in the world this past century, the people at XTC will seize the moment of opportunity for national industrial transformation and upgrading and will work with employees, customers, shareholders and society to stand spiritedly at the forefront of innovation, move forward with our ambitions, do solid work and strive to be the navigator for the business new start in the industry. Integrated with key stakeholders in the company's operation will enable employees to realize their self-value, provide satisfactory services to users and achieve rich returns for our shareholders and develop harmoniously with society, which is the mission of XTC.

"Green and low-carbon
development is the core
essence of XTC's practice of
corporate social responsibility."

Chairman of Xiamen Tungsten Co., Ltd.



About XTC



Business Distribution Map

- Tungsten and molybdenum
- Rare earth minerals
- New energy materials

XTC is a high-tech enterprise group listed on the Shanghai Stock Exchange, headquartered in the city of Xiamen, Fujian, the People's Republic of China. XTC's focus is on the three core areas of tungsten and molybdenum, rare earth minerals, and new energy materials, relying on continuous technological and management innovation. XTC has built a whole industrial chain of front-end tungsten mining, middle-end tungsten and molybdenum smelting, tungsten and molybdenum powder production, back-end cemented carbide, tungsten and molybdenum wire products, cutting tools and other deep processing applications and recycling, along with a number of internationally leading technologies. XTC has established a complete product development system, from resource extraction to refined product. This includes rare earth mining, rare earth separation and smelting, rare earth permanent magnet materials, luminescent materials, photoelectric crystals and other applications and research and development, as well as setting up a model of rare earth development with deep processing to promote industrial development. XTC has cultivated the R & D and scale manufacturing capabilities of mainstream lithium-ion cathode materials including ternary materials, lithium cobalt oxide and lithium iron phosphate, and has become a first-class supplier in the field of lithium-ion cathode materials.

XTC Production Base covers Xiamen, Luoyang, Longyan, Sanming, Jiujiang, Chengdu, Ganzhou, Tianjin, Thailand and other areas, forming an industrial chain production operation network. XTC has set up trading companies in Hong Kong, Taiwan, Germany, Japan, Brazil and other countries and regions to actively expand its overseas markets. As of December 31, 2021, XTC has 70 enterprises within the scope of consolidation.

XTC has a state-level enterprise technology center, which consists of three engineering technology research centers (China National R&D Center for Tungsten Technology, National And Local Union R&D Center for High-end Energy Storage Materials, Fujian R&D Center for Rare Earth Materials and Application Engineering) and three post-doctoral workstations. The headquarters and subsidiaries of XTC have been awarded with 16 high-tech enterprises, four subsidiaries of XTC have been given the State-level Specialized qualification and the title of Special Excelled and New Little Giants. As of December 31, 2021, XTC had 14,508 employees and 1,499 technicians worldwide.

- 3** Engineering Technology Research Centers
- 3** Postdoctoral Workstations
- 16** High-tech Enterprises
- 4** Special Excelled and New Little Giants

XTC's 2021



14,508 Employees



Operating Income

31,852.20 million RMB

up 67.96% yoy



Net Profit Attributable to Shareholders

1,180.53 million RMB

up 92.24% yoy



Total Assets

32,420.89 million RMB

up 29.15% yoy



Social and Economic Contributions amounted to **18,968.17 million RMB**, which breaks down into:

Tax Contributions of **944.25 million RMB**

Employees Salaries of **2,181.46 million RMB**

Payment to Suppliers of **15,130.00 million RMB**

Payment to Investors of **212.77 million RMB**

Loan Interest Payments to Banks and Other Creditors of **492.45 million RMB**

Community Donations of **7.24 million RMB**



Development of green energy, high-efficiency and energy-saving products through technological innovation.

R&D Investment of 1,275.75 million RMB, a year-on-year increase of **48.20%**

XTC's Sustainable Development Awards

XTC has always been committed to the high-quality development of tungsten, molybdenum, rare earth minerals and new energy materials, and has won a series of sustainable development honors. Among them:

Award-winning Enterprises	Honors Received
Ninghua Xingluokeng Tungsten Mining Co.,Ltd.	National Green Mine
Jiangxi Duchang Jinding Tungsten Co.,Ltd.	National Green Mine
Xiamen Tungsten Co., Ltd.	Team Excellence for the Implementation of the National Science and Technology Plan in the 11th Five-Year Plan Period
Xiamen Tungsten Co., Ltd.	Hercynian Industrial Talent Highland
Xiamen Tungsten Co., Ltd.	National Advanced Collective of Professional and Technical Personnel
Xiamen Tungsten Co., Ltd.	Demonstration Enterprises of Corporate Governance of State-owned Enterprises
Xiamen Tungsten Co., Ltd.	China Carbon Company Industry Pace-setter (Sina Finance)
Xiamen Tungsten Co., Ltd.	Green Factory
Fujian Changting Golden Dragon Rare-earth Co.,Ltd.	Green Factory
Fujian Basic Electronic Materials Co.,Ltd.	Green Factory
Ganzhou Highpower Technology Co.,Ltd.	Green Factory
XTC New Energy Materials (Ningde) Co.,Ltd.	Green Factory

XTC's Sustainable Development Awards

XTC has always been committed to the high-quality development of tungsten, molybdenum, rare earth minerals and new energy materials, and has won a series of sustainable development honors. Among them:

Award-winning Enterprises	Prize-winning Project	Awards Received
Xiamen Tungsten Co., Ltd.	"New Technology of Tungsten Smelting Based on Synergistic Leaching of Sulfur-Phosphoric Mixed Acid" Cooperation project	The National Technological Invention Second Prize
Xiamen Tungsten Co., Ltd.	"Key Technologies for Deep Development and Application of Refractory Tungsten Resources" Cooperation Project	National Science and Technology Progress Award First Prize
Ninghua Xingluokeng Tungsten Mining Co.,Ltd.	"Key Technologies for Efficient Separation of Complex and Refractory Tungsten Ore and Its Industrial Application" Cooperation project	National Science and Technology Progress Award Second Prize
Xiamen Golden Egret Special Alloy Co.,Ltd. and China National R&D Center for Tungsten Technology	"Industrial Manufacturing Technology of Ultrafine Cemented Carbide by In-situ Reduction of Purple Tungsten" Project	National Science and Technology Progress Award Second Prize
Xiamen Tungsten Co., Ltd. and Fujian Changting Golden Dragon Rare-earth Co.,Ltd.	"A W-containing R-Fe-B-Cu Sintered Magnet and Quench Alloy" Project	The 22nd China Patent Excellence Award
XTC New Energy Materials (Xiamen) Co.,Ltd. and XTC New Energy Materials (Sanming) Co.,Ltd.	"Apreparation Method of lithium Cobalt Oxide Cathode Material" Project	The 22nd China Patent Excellence Award
Xiamen Golden Egret Special Alloy Co.,Ltd.	"Aspecial Blade for Layered Drilling with Four Fist-shaped Edges" Project	The 21st China Patent Excellence Award
XTC New Energy Materials (Xiamen) Co.,Ltd.	"Multi-element Composite Cathode Material for Lithium Ion Secondary Battery and Its Preparation Method" Project	The 21st China Patent Excellence Award
Xiamen Golden Egret Special Alloy Co.,Ltd.	"Energy-saving Method and Device for Continuous Production of Cobaltosic Oxide from Cobalt Oxalate" Project	The 17th China Patent Excellence Award
Xiamen Golden Egret Special Alloy Co.,Ltd.	"Preparation Method of High-performance Nanometer and Ultrafine Tungsten Powder" Project	The 16th China Patent Excellence Award
Ganzhou Highpower Technology Co.,Ltd.	"Short-range Utilization of Lithium Battery Waste and Whole Process Control Technology and Application of Pollution" Cooperation Project	Environmental Protection Science and Technology First Prize



Corporate Governance

Our Goal

We adhere to the principle of "seeking progress steadily, expanding the market and gaining long-term benefits". We continuously promote corporate governance and comprehensive budget management to integrate finance and business, and are committed to becoming a world-class innovative enterprise with high-quality development while achieving rich returns for shareholders.



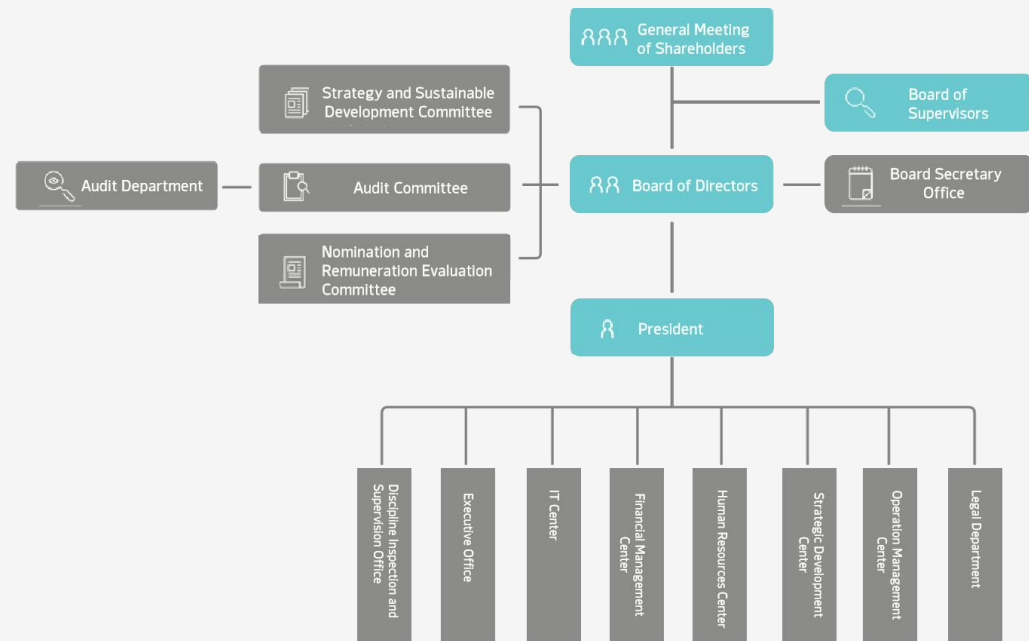
Standardized Governance



Governance Structure

In strict compliance with the Company Law of the People's Republic of China, the Securities Law of the People's Republic of China and the Articles of Association of the company, XTC has established a governance structure consisting of the general meeting of shareholders, the board of directors, special committees, the board of supervisors and the management.

XTC has also carried forward the general shareholders' meeting, the board directors' meeting, the board of supervisors' meeting orderly. By building a more scientific, efficient and compliant governance system, XTC can steadily improve the its operating performance and ensure the sustainable development.



In 2021, XTC convened 5 general shareholders' meetings, deliberated and passed 33 proposals; convened 12 board meetings, deliberated and passed 88 proposals; convened 5 board supervisor meetings, deliberated and passed 20 proposals.

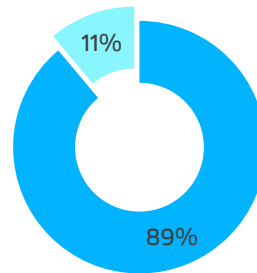
XTC was selected as a demonstration enterprise of corporate governance of state-owned enterprises in the List of Demonstration Enterprises of Corporate Governance of State-owned Enterprises (145 demonstration enterprises of corporate governance were identified), which was first organized and evaluated by State-owned Assets Supervision and Administration Commission of the State Council in 2021.

Board of Directors

The board of directors of XTC consists of nine total directors. Three are independent directors and two are appointed by minority shareholders, accounting for 55.56% of the board members.

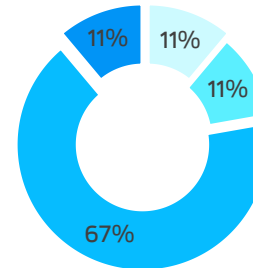
There is also one female director, accounting for 11.11% of the board members. The members of the board of directors are professional experts respectively in materials sciences, deep processing, engineering management, financial management, human resources management, economics, law, compliance management and other fields. The specialization and diversification of the board of directors provides an important guarantee for XTC's scientific decision-making and sound operation.

Gender Distribution



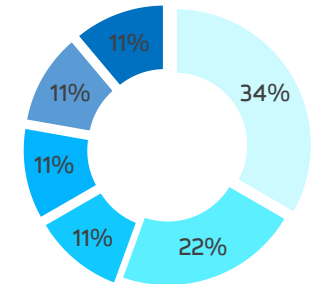
Male
Female

Age Distribution



Below 40 years old
40 to 50 years old
50 to 60 years old
Over 60 years old

Professional Distribution



Engineering Management
Financial Management
Economics
Law
Materials Sciences
Human Resources Management

Board of Directors



Mr. Huang Changgeng

is the chairman of XTC. He holds a master's degree and is a professor-level senior engineer. Mr. Huang is an expert in his field and has been given special allowance from the State Council. He has been the chairman of XTC since April 2015. He has been awarded the National Labor Model of Nonferrous Metals Industry and the first batch of professional and technical leaders of land and resources in Fujian Province. He has also been awarded the Labor Model of Fujian Province and the Excellent Entrepreneur of Fujian Province. He has won many honorary titles such as Fujian Science and Technology Progress Award and Top Talents award. He is a technical specialist in tungsten metal smelting, a pioneer in rare earth and new energy materials of XTC, and a leader in the reform of XTC system.



Miss Wang Dan is the vice chairman of XTC. She holds a master's in accounting along with extensive experience in financial management, securities and compliance management.



Mr. Satoshi Yoshida is the vice chairman and also a member of the strategy and sustainable development committee. He graduated from Nagoya University in the field of economics. He is a veteran in enterprise management and financial management.



Mr. Hou Xiaoliang is the director and also a member of the nomination, remuneration and evaluation Committee. He holds a bachelor's degree in systems engineering with extensive experience in business management.



Mr. Zhou Min is a director and also a member of the audit committee. He holds a bachelor's degree in law and is a senior economist with rich experience in business management and compliance management.



Mr. Wu Gaochao is a board director and also the president of XTC. He holds a doctorate degree and is a senior engineering. Since April 2015 he has served as the president of XTC. He has been awarded honorary titles, such as that of high-level talents in Fujian Province and local leading talents in Xiamen City. He has taken charge of many transformation projects of major national scientific and technological achievements in his career. He is a technical specialist in the field of tungsten intensive processing, has rich experience in enterprise management, and is committed to promoting the systems reform and management innovation of XTC and shaping the characteristic management culture of XTC.



Mr. Hung Maochun is the independent director and also the chairman of the Strategy and Sustainable Development Committee, Member of the Nomination, Remuneration and Appraisal Committee. He holds a doctorate in materials chemistry and is a doctoral tutor. He is also the academican of Chinese Academy of Sciences, the academy of Sciences for the Developing World and the academy of Asia-Pacific Academy of Materials. He has been engaged in inorganic chemistry research for a long time and has made contributions to the frontier fields of nano-functional molecules and new inorganic-organic polymers in China.



Mr. Ye Xiaojie is an independent director and chairman of the audit committee. He is a member of the strategy and sustainable development committee. He holds a PhD. in finance and is an associate professor and master's supervisor at Shanghai National Accounting Institute. He is also a visiting scholar of Arizona State University and visiting scholar of National Chengchi University in Taiwan. Mr. Ye was selected into the national accounting leading talents (academic) and the accounting talent pool of the Ministry of Finance of PRC.



Mr. Cheng Wenwen is the independent director and chairman of the nomination, remuneration and evaluation committee and a member of the audit committee. He holds a doctorate degree in Engineering and is an associate professor. He focuses on the teaching and research of human resource management and enterprise management. He is currently a member of the Asian China Management Research Association and a standing director of Xiamen Behavioral Science.

Committees of the Board

In order to improve sustainability governance, the twelfth meeting of the ninth session of the board of XTC resolved to rename the strategy and development committee under the board as the "Strategy and Sustainable Development Committee", and revised the working rules for the strategy and sustainable development committee of the board accordingly, which is responsible for leading XTC's environmental, social and corporate governance efforts. There are three committees under the Board, including the Strategy and Sustainability Committee, the Audit Committee and the Nomination and Remuneration Evaluation Committee. The members of the three committees are all composed of board directors with independent directors in the majority of each committee and serving as committee chairs.

In 2021, we held 3 meetings of the strategic development committee, 8 meetings of the audit committee and 4 meetings of the nomination, remuneration and evaluation committee. The independent directors of XTC strictly abide by the relevant laws and regulations and the provisions of XTC's "Independent Director Work System" and take advantage of the professionalism of independent directors to actively participate in corporate governance. The efforts of the independent directors develop XTC's strategy, improve the financial and internal control system, optimize XTC's directors and senior management remuneration evaluation system, effectively safeguard the rights and interests of shareholders, and promote XTC's high-quality and sustainable development.

Strategy and Sustainable Development Committee	Audit Committee	Nomination and Remuneration Evaluation Committee
<p>The strategy and sustainable development committee consists of three directors, including two independent directors, and the chairman is Hong Maochun, an independent director. In accordance with the working rules for the strategy and sustainable development committee of the board of directors, the strategy and sustainable development committee is responsible for conducting research and making recommendations on XTC's long-term development strategy, sustainable development objectives, environmental, social and governance work in a addition to making major investment decisions.</p>	<p>The audit committee consists of three directors, including two independent directors, and the chairman is Ye Xiaojie, an independent director. The Audit Committee is responsible for the communication, supervision and verification of the internal and external audit of XTC in accordance with the working rules for the audit committee of the Board.</p>	<p>The Nomination and Remuneration Evaluation Committee consists of three directors, including two independent directors, and the chairman of the committee is Cheng Wenwen, an independent director. In accordance with the working rules for the nomination and remuneration evaluation committee of the Board, the nomination and remuneration evaluation committee is responsible for formulating and assessing the appraisal standards for the directors and senior management of XTC, and formulating and reviewing the remuneration policies and plans for the directors and senior management of XTC.</p>

Compliance Operation



The Compliance Training

XTC insists on operating in accordance with all relevant laws and regulations, and continuously promotes the optimization of organizational management of XTC's headquarters and subsidiaries. Based on comprehensive assessments and analysis of the status quo of the organizational management at all levels of the company, XTC formulated and revised "The Organizational Management Optimization (Implementation Plan)", "The Responsibility and Authority Management System", and "The Corporate Governance Responsibility and Authority Manual". These efforts further clarify the organizational structure, the division of duties, the positions portfolio and the authorization allotment at all levels of XTC's headquarters and subsidiaries and therefore establish a complete, clear, scientific and efficient internal control management system for XTC.

In strict accordance with the relevant laws and regulations on information disclosure, XTC discloses its information truthfully, accurately, completely, timely and fairly through designated media. XTC strives to continuously improve the quality of information disclosure and protect the rights and interests of investors. XTC's information disclosure has been rated A by the Shanghai Stock Exchange for three consecutive years.

In 2021, XTC organized four compliance trainings for board directors, board supervisors and senior managers of XTC, and conducted "Three Meetings Practice" (Shareholders meeting, Board directors meeting and Board supervisors meeting) training for subsidiaries to improve the operational quality of their corresponding three meetings.

Promoting Development by Party Building



XTC has thoroughly implemented the spirit and content of the Nineteenth National Congress Meeting and the Nineteenth Plenary Session of the CPC, in addition to the spirit of General Party Secretary Xi Jinping's important speech at the national conference on Party building in state-owned enterprises. Accordingly, the Party membership of XTC promotes XTC's high-quality development as its principal line and concentrates on serving production and operation of XTC. The Party membership of XTC takes improving enterprise efficiency and competitiveness as the starting point of its efforts and assesses the effectiveness of Party building with the achievements of enterprise reform and development.

Improve the deliberation and decision-making mechanism of Party organizations:

"The Rules of Procedure of the Party committee" and "The Measures for the Implementation of the Three-important and One-Large Decision-making System (important operational decisions, important hiring, important investment decisions and large amount usage)", "The Rules of Procedure of the Board of Directors Meeting" and other systems were formulated to clarify the decision-making authorizations of all corresponding parties. To implement the pre-procedure discussions for the Party committee to study and discuss corresponding key initiatives, so as to ensure that the opinions and suggestions of the Party committee are to be effectively adopted.

Comprehend management and promote integration:

To formulate the "Work Plan for Party Building and Ethics Compliance" and "Notice of Detailed ruling of Party Building Performance Assessment", the "Party Administration Work List of Comprehensive Implementation of the Responsibilities of the Corresponding Organization in the Party Strictly", etc. In the process of organically combining the work of Party building with the corresponding functional responsibilities, the Party members are devoted to detailed operations, concentrating on critical initiatives and contributing to the completion of production and operation tasks of the enterprises.

Simultaneously, to strengthen the training of corresponding Party secretaries and Party affairs staffs, consequently improve the quality of Party affairs team. XTC incorporates the assessment results of Party building work into the performance management evaluation system of subsidiaries and corresponding leadership teams, promote the integration of Party building and production and operation in the management systems and mechanisms, consequently improve the overall governance level of XTC.

Build and promote integration:

By establishing a task force consisting of Party members to tackle vital issues, demonstrating top performer Party members, identifying Party member responsibilities, assigning qualified Party members to lead critical projects, to encourage Party members to take leadership in daily operations. By integrating production and management knowledge into Party lesson education, technical and business learning into Party building target management, organizing Party members' technical competition and operational skills competition, to enhance the ability of serving business development of Party organizations at all levels and the broad masses of Party members.

Promoting Development by Party Building

In 2021, XTC formulated and refined the "2021 Party Administration Work List of Comprehensive Implementation of the Responsibilities of the Corresponding Organization in the Party Strictly", "the 2021 Work Plan for Party Building and Ethics Building", and "the Assessment List for Comprehensive Implementation of the Responsibilities of the Corresponding Organization in the Party Strictly", and organized corresponding Party organizations at all levels to sign a letter of responsibility for comprehensively governing the Party with strict discipline and confirmed the responsibilities of corresponding Party organizations. Furthermore, XTC organized the key Party group to study 14 times, and carried out the front-line presentations 14 times. The Party organizations at all levels also carried out relevant learnings nearly 1,000 times, with a total of more than 20,000 participants.

Micro-video "Stingy" Lao Zheng was awarded the third prize in the 16th provincial Party member education TV film exchange activities;

The short video "Craftsmanship, Building a Hundred Years of Dreams" received the 3rd prize during the celebration of the 100th anniversary of the founding of the Communist Party of China in the state-owned enterprises circle of Fujian province.

Organized and carried out thematic practice activities such as "Challenge ourselves and Challenge new heights bravely".

Xiamen Honglu Party Committee was awarded the title of Advanced Grass-roots Party Organization of Provincial Enterprises and Advanced Grass-roots Party Organization of Xiamen City; Luoyang Yulu Party Branch, Xiamen Honglu Second Party Branch and Chengdu Hongbo Products Party Branch were awarded the title of "Star of the Third tenure Top Ten Party Branches" of the Fujian Provincial Metallurgical Control Group; and Duchang Jinding Party Branch was awarded the name of Jiujiang Advanced Grass-root Party Organization.



Risk Management

XTC advances the implementation of risk management policies and performs an annual internal control evaluation for continuous optimization of performance. Oriented to the development strategy, we have established a comprehensive budget system with the annual business plan as the goal, to prepare the annual budget, formulate corresponding business strategies and allocate resources accordingly. By breaking down budget objectives and key action items, digital management of the business is realized, and the corresponding responsible subjects are clearly defined. Our comprehensive budget system covers all employees and the entire business process, and forms a closed loop of management through the execution and control of budget, performance rating and appraisal, to prevent risks effectively.

In 2021, our audit department carried out 38 internal audits, including internal control evaluations, internal management, investment budget management, fund management, financial and financial-like business, and major project management of subsidiaries. The audit department guides and enhances the risk control capabilities of the subsidiaries through the supervision of the internal control management work of the subsidiaries, help subsidiaries to save about 44.62 million RMB in project costs through tutoring key project engineering bidding, budget and settlement supervision.

Our discipline inspection and supervision system promotes the improvement of corporate governance. In 2021, our discipline inspection and supervision office promoted the formulation and revision of 39 management systems, including the "Guidelines for the Management of Material Classification and Procurement", "Guidelines for the Classification of Material Suppliers", "Guidelines for the Management of Group Emergency Plans", "Management Measures for Talent Cultivation and Development", "Management Measures for Talent Cultivation and Development", "Guiding Principles for the Construction of Position Qualification System", "Guidelines for the Construction of Internal Control System of Overseas Subsidiaries", "Guidelines for the Construction of Internal Control System for Start-ups", etc. By supervising the implementation of the systems, the Discipline Inspection and Supervision Office promotes XTC's governance level in terms of classified procurement, cost control, safety and health, environmental protection, job assessment, training, management of subsidiaries, etc., and achieves the control objectives of key risks.

Business Ethics and Anti-Corruption



XTC promises to operate with integrity and abide by business ethics, and is committed to maintaining a clean business environment. We strictly abide by the "Company Law of the People's Republic of China", "Anti-Unfair Competition Law of the People's Republic of China", "Interim Provisions on Prohibition of Commercial Bribery" and other national policies and regulations as well as relevant laws and regulations of the region where the business is located. We have a "Code of Business Conduct" and establish an integrity supervision system, to improve XTC's anti-corruption and integrity system construction.

Integrity Operation Supervision Mechanism

Our anti-corruption work is led by the Disciplinary Inspection Committee, and works jointly with the Disciplinary Inspection and Supervision Office, the Audit Department, and the Legal Department. In accordance with the principle of "similar business and adjacent regions" and XTC's production and operation management model, the scope of responsibility of the main leaders and the scale of the enterprises, the Disciplinary Inspection Committee set up 9 district discipline inspection teams, and appointed corresponding district discipline inspection team leaders. The District Discipline Inspection Teams, the Disciplinary Inspection and Supervision Office of XTC, the Audit Department and the relevant departments of subsidiaries jointly form an anti-corruption supervision network covering the whole group.

XTC integrates the "1+X" special supervision mechanism with the "regional discipline inspection team leader" mechanism. The leader of the discipline inspection team in the area selects professionals in discipline inspection, finance, auditing, and internal control from the companies in the area according to the work as needed to form a "discipline inspection team working group in the area" to organize the special supervision work in the area. XTC's "1+'1+X'" special inspection mechanism is led by the Disciplinary Inspection Committee, and the discipline inspection team of the area, relevant functional departments and subsidiaries are responsible for its implementation.

In 2021, the discipline inspection team in the area had completed "1+X" special inspections on a total of 35 subsidiaries. The Disciplinary Inspection Team in the area issued a proposal for rectification of the problem, requiring relevant companies to make rectification within a limited time frame. Most of the problems have now been rectified.

Improve the Anti-Corruption System

In 2021, the Disciplinary Inspection and Supervision Office improved the construction of XTC's anti-corruption and integrity system by organizing and formulating 11 systems, such as "Implementation Measures for Establishing an Audit Management Mechanism for Integrity Risk Prevention and Control", "Work Plan for Disciplinary Inspection and Supervision on Major Construction Projects", "Administrative Measures for the Knowledge Test of Incorrupt Government Laws and Regulations Before Leading Cadres Take Office", "Code of Conduct for Company Discipline Inspection and Supervision Cadres", "Management Measures for Integrity and Diligence of Leading Cadres of XTC", "Integrity Education and Publicity Management Mechanism", and "Normalized Epidemic Prevention and Control Supervision and Rapid Response Mechanism for Emergency Epidemic Supervision".





Special Inspections in 2021

Special Inspectors Prevent Corruption Risks

In 2021, the Discipline Inspection and Supervision Office focused on XTC's annual work priorities and carried out special inspections for major risk projects. Through the prevention and control of integrity risks, other potential integrity risk loopholes were blocked.

The Discipline Inspection and Supervision Office organized the supervision on the management efficiency of waste and used materials in combination with the "Work Plan on Organizing and Carrying out the Supervision of the Management Efficiency of Waste and Used Materials". Through the monitoring work, a total of 15 items to be rectified had been found, and all rectifications had been completed. Due to the supervision work, 13 systems had been added or revised by subsidiaries to improve relevant systems, the management of waste and used materials had been standardized, and the efficiency of material use had been improved.

Integrity Education

In 2021, the Discipline Inspection Committee organized pre-appointment talks on integrity for the five newly promoted leading cadres. During the year, the senior management of XTC conducted a total of 62 talks on integrity and diligence with the subsidiaries and functional departments of the headquarters, and a total of 209 cadres were reminded by the talks to promote integrity. In 2021, the Discipline Inspection and Supervision Office had revised the "Management Measures for Integrity and Diligence of Leading Cadres of XTC" and implemented a total of 23 punishments, including criticism and education of 13 persons, circular criticism of 3 persons, admonishment of 2 persons, demerit records of 4 persons, deduction of performance-based pay or fines for 6 persons, demoted 1 person, canceled 1 person's annual evaluation priority and promotion qualification.



Anti-Corruption Training in 2021

In order to strengthen the integrity education of employees, the Discipline Inspection and Supervision Office uses case teaching to popularize integrity education to all employees. In 2021, the Discipline Inspection and Supervision Office created integrity education and publicity projects such as "Xiaoji's case-by-case" and "Xiaoji's hint"

/ Xiaoji's Case-by-case /

The Disciplinary Inspection and Supervision Office attaches great importance to the integrity education of grass-roots front-line employees. In 2021, the "Xiaoji's case-by-case" column pushed 4 case compilations and 3 warning stories for employees, and forwarded 121 typical cases of violations to XTC's subsidiaries. In addition, it had also strengthened the work of integrity education by organizing online and offline training for the discipline inspection and supervision agencies of subsidiaries.

/ Xiaoji's Hint /

The "Xiaoji's hint" column set up by the Discipline Inspection and Supervision Office sent an integrity reminder SMS to XTC's management cadres on important festivals. In 2021, the "Xiaoji hint" column sent a total of 5 newsletters, reminding employees of the importance of integrity during their work and life time.

Whistleblower System

We encourage stakeholders to put forward opinions or suggestions to help us continuously improve our governance level. We have established a grievance mechanism and provided smooth acceptance and feedback channels to accept relevant reports or complaints from stakeholders, such as reports on violations of human rights, business ethics, environmental protection, health and safety, etc.

We arranged someone to be responsible for the management, transmission and feedback of the reported or appealed information received. We strictly prohibit relevant personnel from revealing the information of the whistleblower and the content of the report to the outside world. If there are any violations, We will punish according to the relevant internal regulations.

XTC adheres to the principle of fairness and impartiality, and handles relevant reports or complaints based on facts and legal regulations. After a report or appeal from a stakeholder is accepted, XTC will organize relevant departments to investigate the report or appeal, and inform the reporting party of the investigation results and the corrective measures to be taken (if involved) within 7 working days.

XTC and all subsidiaries receive reports or complaints from XTC's stakeholders through our official website, OA intranet and other channels. For suppliers, XTC has also set up a special "complaint through-train" for suppliers on the supply chain platform to receive reports of violations of law and discipline, violations of business ethics and other acts, and arrange special personnel to set up a registration account for reporting clues.

We have set up detailed signs in the mining area, made public the contact information of complaints and reports, and accepted relevant complaints from residents in the area where the mining area is located.

In order to protect the informants, XTC requires the informants to keep the information strictly confidential, and to manage the relevant materials as confidential materials, which are not allowed to be accessed by anyone without the approval of XTC's responsible leaders. XTC strictly prohibits the disclosure of the reported materials to the reported party, retaliation against the informer and other acts. In cases of serious leakage of information and damage to the legitimate rights and interests of the informer, XTC will transfer it to the judicial authorities for handling, so as to effectively protect the legitimate rights and interests of the informer.

XTC has formulated the Guidelines for the Disposal and Management of Discipline Inspection and Supervision Problem Clues, the Code of Conduct for Discipline Inspection and Supervision Cadres and the job responsibilities of relevant posts, which clearly stipulate that the disposal of problem clues should strictly implement the confidentiality system, strictly prohibit the disclosure of the contents of reports and personal information such as the names, addresses and telephone numbers of informants, and strictly prohibit the disclosure of personal information. It is strictly forbidden to transfer the reporting materials belonging to the accusation to the reported units, the reported persons or unrelated units and individuals. Those who divulge information and retaliate against informants shall be held accountable in accordance with relevant regulations.

In 2021, the Discipline Inspection and Supervision Office urged the subordinate companies to rectify the problems related to the vital interests of the employees reflected by the grass-roots front-line employees by means of visiting with letters and sending letters to urge them, so as to promote the standardization of management and take the demands of the employees seriously. After supervision, the matters concerned by the employees have been properly handled.



Sustainable Development Management

Stakeholder Communication

The corporate mission of XTC is to enable employees to realize their self-value, to provide users with satisfactory services, to obtain rich returns for shareholders, and to seek harmonious development with society. XTC attaches great importance to communication with stakeholders, and regards the collection of expectations of stakeholders as an important channel of sustainable risk management and shared value creation. XTC maintains communication with stakeholders through diversified channels, regularly understands the suggestions and feedback of stakeholders, and incorporates them into corporate governance.

Employee	The people at XTC are cherished wealth, we are committed to building the enterprise into a platform for talent gathering, so that employees can realize their self-value.	
	Areas of focus	Employee compensation and welfare, Occupational safety and health, Labor management
	Regular practices	Employees can give feedback directly to the management through the internal instant messaging software, or through the complaint hotline or mailbox. Through regular democratic life meetings and staff congresses, XTC extensively collects suggestions from employees, and organizes annual employee satisfaction surveys to understand the demands and expectations of employees.
Customer	XTC adheres to the concept of "customer-centered", earnestly safeguards the rights and interests of customers, and is always committed to improving customer satisfaction.	
	Areas of focus	Product quality and safety, Customer privacy management, Compliance operation
	Regular practices	Through customer complaint handling, customer visits, customer satisfaction surveys and other ways to understand customer demands, collect customer opinions and suggestions, XTC is committed to providing customers with quality services.
Supplier	Suppliers are the long-term partners of XTC, which have an important impact on product quality and supply chain development. XTC attaches great importance to the joint development with suppliers.	
	Areas of focus	Supplier management, Anti-corruption, Customer privacy management
	Regular practices	XTC maintains close communication with suppliers through supplier conferences, supply chain management platforms and other channels.
Investor	XTC safeguards the legitimate rights and interests of shareholders, pays attention to the opinions of shareholders and investors, and promotes the healthy development of the capital market.	
	Areas of focus	Intellectual property protection, Product quality and safety, Green product research and development
	Regular practices	The Board Secretary Office of XTC is the daily contact department for investor management, and maintains communication and interaction with investors through regular information disclosures, interactive E platform investor Q & A functions, investor telephone reception, general meeting of shareholders, reception of investing institutions, etc.
Government	XTC operates in accordance with the relevant laws and regulations, and accepts the supervision and guidance of the relevant government agencies and regulatory authorities to continuously improve the level of corporate governance.	
	Areas of focus	Compliance operation, Environmental compliance, Product quality and safety
	Regular practices	Earnestly study relevant laws and regulations and actively participate in relevant meetings and training
Media	XTC understands the important role of media work in enterprise value dissemination and supervision, and attaches importance to media relations.	
	Areas of focus	Wastewater discharge, hazardous waste generation and treatment, Carbon emissions and Response to climate change
	Regular practices	Maintain good interaction with the media, listen to the voice of the media, accept media supervision, and build an effective relationship with the media.

Assessment of Substantive Issues

According to XTC's development strategy and following the reporting principles of GRI, XTC carries out substantive evaluations of ESG issues through communications with stakeholders to identify substantive issues of XTC's sustainable development and continuously improves XTC's sustainable development management.

 Environmental Issues	 Social Issues	 Governance Issues
<ol style="list-style-type: none"> 1. Generation and treatment of hazardous wastes 2. Water Resources Management and Conservation 3. Carbon Emissions and Response to Climate Change 4. General waste generation 5. Biodiversity and land use 6. Energy Management and Conservation 7. Waste water discharge 8. Tailings pond management 9. Research and development of green products 10. Risks associated with climate change 11. Environmental compliance 	<ol style="list-style-type: none"> 12. Occupational Safety and Health 13. Labor management 14. Community relations 15. Employee compensation and benefits 16. Staff training and promotion 17. Intellectual property protection 18. Conflict minerals management 19. Supplier management 20. Innovation and R&D 21. Product quality and safety 22. Pandemic response 	<ol style="list-style-type: none"> 23. Continuously improve corporate governance 24. Business ethics 25. Data security and Customer privacy management 26. Anti-corruption 27. Compliance operation





Operational Excellence

Our goal

We focus on business development in the three core areas of tungsten and molybdenum, rare earth and new energy materials. We always regard technological innovation and management innovation as the engines of business development, and continuously promote the four core management cultures of "comprehensive budget management", "comprehensive target performance management", "IPD technological innovation management" and "international advanced manufacturing management culture", so as to build the core competitiveness of XTC. We are moving XTC Manufacturing into the advanced technological era and want to become a respected century-old enterprise in the industry.



Advanced Manufacturing



XTC regards product quality as the foundation of the enterprise and attaches great importance to product quality management. XTC has developed strict product quality standards, and, with respect to this, ensures high product quality, providing a more than satisfactory service to customers as the focus of enterprise management.

Since 2016, we have implemented reforms to product division systems and innovated on XTC's management system. The product division is responsible for the integrated operation of research, production and marketing of related products while providing customers with better products and more professional services.

As a supplier of tungsten, molybdenum, rare earth minerals and new energy materials, XTC provides excellent quality products and stable performance to global customers involved in iron and steel metallurgy, the petrochemical industry, lighting, the military industry, new energy, electricity, electronics, medicine, agriculture, the nuclear industry, optoelectronics, glass, ceramics and other industries throughout various fields.



XTC International Advanced Manufacturing 2021 Annual Summit

In 2021, XTC held the International Advanced Manufacturing (IAM) 2021 Summit with the theme of "Advanced Manufacturing Power Maintains Me". The goal was to build advanced manufacturing model projects, improve upon the personnel training system, adhere to the new development concepts of international advanced manufacturing and contribute to the realization of the national strategy of power production.

Raw Materials

— Committed to providing high-quality, highly trusted industrial raw materials

Powered by technological advantages of world's leading hydrometallurgy and powder metallurgy, aiming to be an important supplier supporting the global key industrial demand by providing large quantities of specialized raw materials for tungsten, molybdenum, rare earth and battery industry.



Ammonium Paratungstate

Tungsten Trioxide

1. Tungsten industrial raw materials

As the main raw materials of tungsten industry and iron and steel metallurgy, the raw materials of tungsten industry provided by XTC are ammonium, paratungstate, tungsten oxide, tungsten powder and tungsten carbide powder. All of these materials have the characteristics of high purity, stable quality and personalizable customization of parameters.



Molybdenum Powder

2. Molybdenum industrial raw materials

Ammonium molybdate, molybdenum oxide and molybdenum powder are mainly used as raw materials for deep processing products and alloy additives of molybdenum products, and are widely used in the fields of electric light sources, electric vacuum, semi-conductors, opto-electronics and mechanical processing.



Rare-Earth Metal

3. Rare earth industrial raw materials

Rare earth oxides and rare earth metals are rare earth industrial raw materials which are mainly used in rare earth magnetic materials with photoelectric materials and within other fields. Through the rare earth smelting and separation technology process, the total separation of 15 elements is realized, and the product purity can reach 99.999%.



MH-Ni Power / Ternary / LFP / Lithium Manganate

4. New energy industrial raw material

Hydrogen storage materials and lithium cathode materials are important components of batteries, which are widely used in new energy vehicles, 3C electronics, energy storage stations and electric tools.

Energy Materials —— Promote the development of the new energy industry

The high-quality ternary materials, lithium cobalt oxide and other mainstream lithium ion cathode materials produced by XTC have promoted the development of new energy vehicles and 3C consumer electronics; the self-developed photovoltaic tungsten filament has helped improve the quality and efficiency of the photovoltaic industry.

1. 3C Consumer Electronics

XTC New Energy Materials (Xiamen) Co., Ltd. (XWXN), a subsidiary company, has improved in quality and developed technological advantages through continuous exploration and innovation. Our products have gradually entered the world's 3C battery head enterprises. The products of XWXN after the 4.45V generation have been integrated into mainstream mobile phones, tablets and other terminal customer products. Each generation of lithium cobalt oxide products innovatively developed by XWXN, continues to promote the improvement of mobile phone endurance so that the charging speed is improved and the needs of users are constantly met. At present, XWXN has become an important material supplier of the world's mainstream 3C battery enterprises.



2. Field of New Energy Vehicles

XWXN is one of the earliest domestic teams to enter the field of new energy automotive materials and, in 2012, became the first domestic enterprise to export ternary materials to Japan and successfully apply them to hybrid electric vehicles (HEV). Through continuous innovation and iteration of products, the high-rate ternary material technology developed by XWXN holds a significant leading edge in the industry, establishing a good cooperative relationship with Panasonic, Japan, to jointly develop Panasonic's latest generation of high-rate ternary materials.

XWXN is the first energy material manufacturer to apply high-voltage monocrystalline ternary materials to electric vehicles (EV). Based on the technical advantages of monocrystalline materials, XTC has continuously developed several generations of monocrystalline products, such as 523, 622 and 6515, which have provided strong support for the rapid development of high-voltage electric vehicle batteries. The new high-voltage ternary materials developed by XWXN have been applied to electric vehicles with a range of more than 1,000 km.

XWXN has started the research and development of high nickel materials since 2014, and attaches great importance to and adheres to the high safety performance of high nickel materials. After years of effort, XTC has made some important breakthroughs in the development of high safety and high nickel materials, and has made substantial progress in the promotion of end-product materials. Going forward, XTC will continue to invest in research and development to launch high-nickel products with both high capacity and high safety performance so that the advantages of high-nickel materials can be better utilized.

3. Photovoltaic Industry

The photovoltaic tungsten filament independently developed by Xiamen Honglu Tungsten Molybdenum Industry Co., Ltd. is used in the cutting-edge field of solar cell silicon wafers. It has the characteristics of high strength, good toughness, good conductivity and easy refinement processing, which helps the rapid development of the photovoltaic industry.

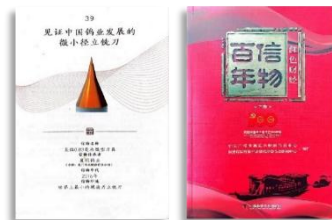


Transportation Applications
— Improve the manufacturing level of vehicles and promote technological progress in the field of transportation

The rapid development of vehicle manufacturing levels increases the requirements for manufacturing and processing. XTC consistently accelerates technological innovation, improves product quality, provides safe, efficient, clean and low-carbon modern industrial necessities, and contributes to the development of human transportation.

1. Provide vehicle parts processing and manufacturing solutions

High-temperature alloy, titanium alloy, stainless steel, composite materials and other difficult-to-machine materials in the field of vehicles needs a lot of cutting to complete. Cemented carbide precision tools meet the processing needs of key components of aircraft and automobiles with high efficiency, high speed and high precision. Based on excellent substrate technology, grinding technology and coating technology, XTC Precision Cutting Tools are characterized by high efficiency, high precision and long lifespan. All of which meet the needs of high-end manufacturing industries and are widely used in aerospace, automotive, dye, energy, heavy industry and general machinery fields.



0.03 mm micro-diameter end mills were selected into CCTV's "Red Financial Token for a Hundred Years"

2. Improve the energy conversion of vehicles

Rare earth elements play an important role in improving the magnetic flux and coactivity of magnetic materials. Rare earth magnetic materials are energy-saving and environmentally friendly materials which are widely used in automotive, aerospace, wind power generation, household appliances, health care and other industries. High-end rare earth magnetic materials produced by XTC are important components of motors. Rare earth permanent magnet motors have the characteristics of high efficiency, lightweight, energy saving and environmental protection, which meet the needs of high-end new energy vehicles in the technological progress of electric energy and kinetic energy conversion.



The application of rare earth permanent material

3. Contribute to green transportation

The rare earth oxides produced by XTC are widely used in automobile exhaust catalyst products. The use of rare earth catalysts can greatly reduce the emission of harmful gases from automobile exhaust. XTC provides ternary materials with innovative technology, products with high specific capacity which can support longer range. They are cost-effective, widely used in power vehicles and have become an important supplier of the new energy automobile manufacturing industry.



Rare Earth Oxides

Engineering Applications
— Provide high precision key components and help improve the efficiency of industrial engineering

Cemented carbide and its tool products known as industrial teeth, play an important role in oil and gas drilling, tunnel construction, iron and steel metallurgy, mining, coal mining, highway milling and other engineering fields. Meeting the requirements of efficient and safe construction and contributing to the rapid development of modern industry.

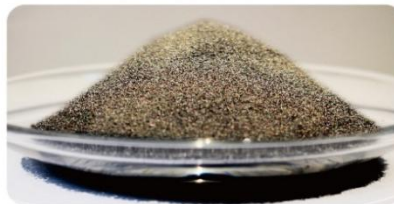
1. Support the efficient operation of the extractive industry

XTC has developed high-performance rock drilling tools and engineering tools suitable for various working conditions which are used in mining, engineering, construction and other working conditions. This is to meet the increasing demand for high efficiency in the mining, engineering, and construction industries.

XTC provides hard surface materials with high solidity, high wear resistance, high corrosion resistance, which is widely used in surfacing and the repair of mining, oil drilling, agricultural machinery, shield cutters, machining and other equipment. This provides customers with the opportunity to develop personalized solutions.



Rock drilling tool



Hard surface material

2. Support the construction and rapid development of the transportation network

Carbide milling teeth are used in the excavation and renovation of asphalt concrete pavement, and the milling and leveling of cement pavements which improve the efficiency of highway maintenance.

Shield construction is the most efficient method of urban subway and road tunnel construction. Carbide shield cutters are the primary working part of a shield cutting machine, which has the characteristics of high solidity, high wear resistance and high strength.



Pavement milling teeth



Shield alloy

Life Applications
— Provide high-quality tools and components in the field of household appliances and home goods for domestic use

The application of tungsten, molybdenum, rare earth materials and their tools in the field of household appliances has greatly improved the performance of key components of electrical appliances, promoted technological progress and has met broad market demands.

1. Support the processing and manufacturing of 3C products

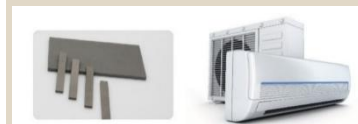
Tungsten 3C cutting tools are suitable for the processing of aluminum alloy, stainless steel, plastics and other materials in the electronic communications industry, which can meet the requirements of high efficiency and high surface quality processing to adapt to the continuous upgrading of 3C products.



3C cutter

2. Support the development of energy-saving household appliances

Rare earth permanent magnet motors made of high-end rare earth magnetic materials are widely used in variable frequency air conditioning compressors, which promotes the development trend of energy conservation and lightweight air conditioning. At the same time, diversified rare earth permanent magnet motors are indispensable in other transmission fields.



Permanent magnet materials for motors

3. Light up colorful life

Rare earth tricolor phosphor has the characteristics of high luminous efficiency and power conservation, which is used in lighting products for homes and shopping malls. XTC is one of the internationally renowned tricolor phosphor manufacturers and the largest tungsten filament manufacturer in the world. Tungsten filament independently developed by XTC is widely used in photovoltaic cutting, automotive glass, vacuum coating, microwave ovens, lighting and other products.



Rare earth tricolor phosphor

Intelligent Applications — Rare earth magnetic materials create intelligent, efficient and high-quality permanent magnet synchronous motors, boosting China's economic transformation and improving technologically

As a primary component of intelligent equipment, contributing to motion control and power conservation, the rare earth permanent magnet synchronous motor made of rare earth magnetic materials makes the energy consumption of intelligent equipment lower and the control more accurate and provides strong power support for the transformation and upgrading of equipment.

1.Improve the precision, quality and efficiency of industrial production

As a key component of intelligent equipment, the improvement of the precision, quality and efficiency of a rare earth permanent magnet synchronous motor comes from the motor's optimization. The rare earth permanent magnet synchronous motor, developed and manufactured by XTC Rare Earth Magnetic Material, provides more an accurate and efficient source of power for all kinds of high-end intelligent equipment.

Application Scenario: General Servo Motor Application Field



General Servo Motor

2.Stimulate energy saving potential and reduce industrial energy consumption

The rare earth permanent magnet synchronous motor is developed and manufactured by using new materials such as rare earth magnetic materials and new technologies can achieve improved energy conservation and a reduction in consumption by electric machinery.

Application Scenario: City Water Supply



Water pump motor

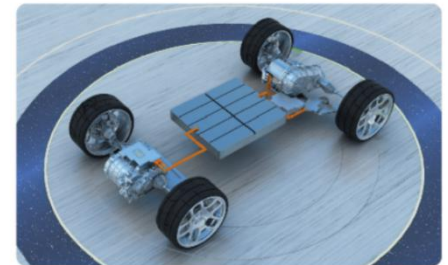
Application Scenario: Animal husbandry fan motor



Animal husbandry fan motor

3.Boost high efficiency of electric vehicles

The three core components of electric vehicles include the driving motor, the electronic controls and the battery. Among them, the rare earth permanent magnet synchronous motor scheme is widely used in the driving motor. The electric vehicle motor, its stator and rotor developed and manufactured by XTC Rare Earth Magnetic Material, provide a solution of electric driving products with high efficiency, lightweight, functional safety at a leading cost.



Integrated Product Development



Through the two engines of technological innovation and management innovation, XTC builds a customer-oriented product management system, consolidates the manufacturing foundation with lean production specifications and improves the level of product development and manufacturing.

XTC introduces IPD technology innovation management mode, builds market-oriented continuous product innovation capability, builds an efficient product management team that satisfies customers and builds a world-leading core technology platform. At present, the construction of XTC IPD systems has covered all business departments and subsidiaries carrying out R & D activities, realizing the combination of production, education and research, industrial collaboration and joint technological research, forming a stronger innovation capability in open cooperation.

XTC actively promotes the International Advanced Manufacturing (IAM) project, takes a customer-oriented approach, is target-driven, self-critical, people-oriented, and holds continuous improvement as its guiding philosophy. We are committed to creating a scientific management routine with high-end products that are stable, profitable, and with a sustainable manufacturing system. In the production process, we place an emphasis on the five professional pillars including production processing, production equipment, quality management, lean manufacturing, safety and healthy in the workplace and environmental. With efficient production and six Sigma as our starting point, we comprehensively promote the expansion of manufacturing capacity. By continuously improving the ability of independent R&D and innovation, XTC actively develops new products based on market demand.



Technological innovation

Undertook **26** national scientific research projects at all levels

Organized and carried out **36** enterprise-level key R&D projects

Maintained **3** engineering technology research centers

Maintained **3** postdoctoral workstations

Hired **1,499** technicians

In 2021, XTC focused on the application of technological development and basic theoretical research of the three major industries of tungsten and molybdenum, rare earth and new energy materials, relying on China National R&D Center for Tungsten Technology, National And Local Union R&D Center for High-end Energy Storage Materials, and Fujian R&D Center for Rare Earth Materials and Application Engineering.

Item	Awards
"Short-range regeneration technology and application of retired lithium-ion batteries"	Jiangxi Science and Technology Progress Award First Prize
"Key Technologies and Applications of Efficient Regulation and Control of Flow Field in Solution Leaching of Ionic Rare Earth Resources"	Jiangxi Science and Technology Progress Award First Prize
"Development and Industrialization of Key Technologies for High Performance Carbon Fiber Composite Cutting Tools Development of High Strength and Toughness Cermet Cutting Tools"	Xiamen Science and Technology Progress Award First Prize
"Key Technology and Application of High Precision and High Homogeneity Spiral Inner Cooling Hole Cemented Carbide Drill Material"	Xiamen Science and Technology Progress Award Second Prize
"Integration and Application of Key Technologies for Classified Treatment of Nonferrous Metal Beneficiation Wastewater — Quality and Diversion Reuse"	Jiangxi Science and Technology Progress Award Second Prize
"Research and Application of High Performance Superfine Gold Coated Molybdenum Wire"	Sichuan Science and Technology Progress Award Third Prize
"Key Technology and Application of High Quality Multi-sequence Single Crystal Ammonium Dimolybdate"	Sichuan Science and Technology Progress Award Third Prize
"W-containing R-Fe-B-Cu system sintered magnet and quenching alloy"	The 22nd China Patent Excellence Award
"A method for preparing a lithium cobalt oxide anode material"	The 22nd China Patent Excellence Award
"Method for preparing low-thorium and low-uranium neptunium oxide for pet"	Longyan City Patent Second Prize



XTC Technology Center

XTC Technology Center is an important research platform of XTC, with 243 full-time R&D personnel, including 14 with doctorates and 85 with master's degrees. As of December 31, 2021, the Technology Center has accepted and completed 9 independent R&D projects, including 1 project completed by China National R&D Center for Tungsten Technology and 8 projects completed by Fujian R&D Center for Rare Earth Materials and Application Engineering. The Technology Center has accepted and completed 23 R&D projects commissioned by XTC, including 11 projects completed by China National R&D Center for Tungsten Technology and 12 projects completed by Fujian R&D Center for Rare Earth Materials and Application Engineering.

In 2021, XTC Technology Center obtained 98 technical achievements, including 72 universal technologies, 24 applied technologies and 2 newly invented equipment.

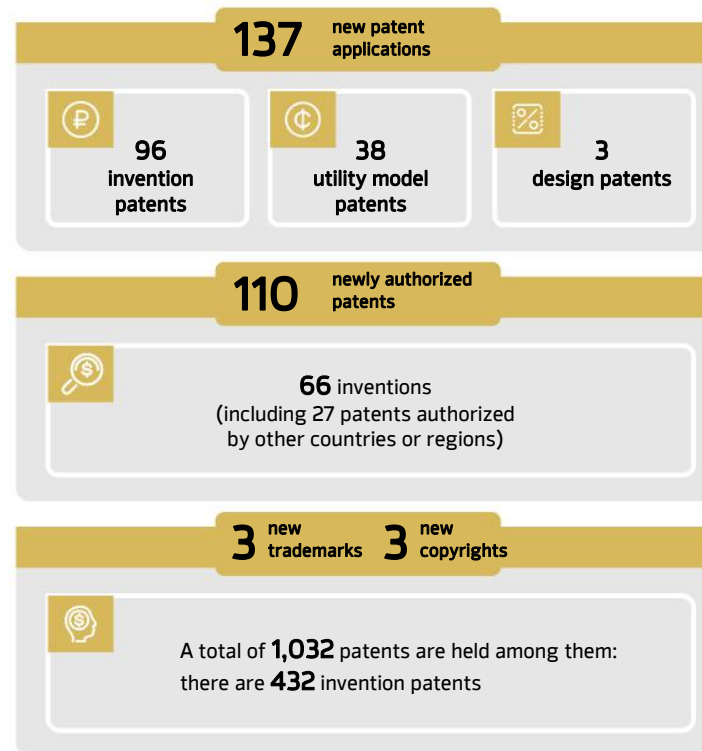
Intellectual Property Protection



Innovation is the internal driving force for the development of XTC. XTC attaches great importance to intellectual property protection. In accordance with the relevant national laws and regulations, XTC has formulated a series of intellectual property related management systems, such as the "New Product Management Measures", "Patent Management Measures", "Detailed Rules for the Implementation of Technological Innovation Management and Trade Secret Management Standards", which have made detailed provisions on XTC's new product research and development, as well the patent application and maintenance of technical secret protection.

By continuously optimizing and improving the relevant systems of intellectual property protection, XTC encourages product R&D innovation and intellectual property protection. At present, XTC's legal department is fully responsible for the management of intellectual property rights and rights protection affairs.

In 2021, XTC added 137 new patent applications, including 96 invention patents, 38 utility models and 3 pieces patents as well as 110 new authorized patents, including 66 invention patents. XTC holds a total of 1,032 patents. In 2021, XTC applied for 6 trademarks, of which 3 have been approved for registration. Also completed were 2 copyright registrations of works and 1 copyright registration of software.



Responsible Supply Chain



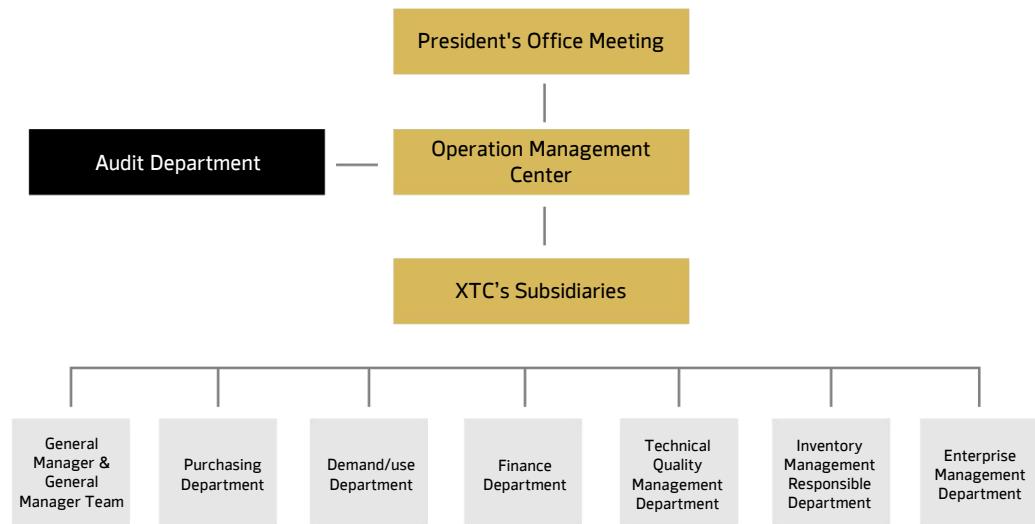
XTC is committed to working with its partners for joint development, building a responsible supply chain and achieving sustainable development.

Supplier Management

The head office of XTC formulates the guidelines for classified management of material suppliers, as the supplier classification management guidelines, for all subsidiaries, which further refine and implement the management guidelines and form specific management measures such as the "supplier management system" and the "supplier management procedure", so as to select and manage suppliers in accordance with the management measures in a fair and just manner. In line with the concept of mutual benefit and sustainable development, we have established long-term cooperative relations with high-quality and honest suppliers.

Management Architecture

The president's office meeting of XTC headquarters is responsible for the deliberation and decision-making of the relevant systems and norms of supplier management. The operation management center is responsible for preparing the relevant systems of supplier management, guiding, supervising and evaluating. The supplier management of each enterprise along with the audit department audits and supervises the compliance of supplier management.



Supplier Access

In order to ensure that the purchased materials meet the actual needs of production and continuously optimize the supplier resources, the responsible purchasing departments of XTC's subsidiaries formulate the supplier development and procurement plan for the next year at the end of each year and clarify the evaluation and selection criteria for new supplier access such as qualification certification, on-site certification and sample certification. All of this according to the characteristics of the planned purchase materials. Through strict supplier qualification review and due diligence, XTC evaluates its cooperation qualification. The suppliers shall be included in the list of qualified suppliers after passing the evaluation and shall be updated regularly by the department responsible for procurement.

Supplier Evaluation

For the qualified suppliers who have established cooperation, XTC establishes the corresponding supplier performance appraisal system and regularly feeds back the appraisal results to the suppliers to urge improvement and optimization. According to the characteristics of different classified materials, each subsidiary designs the assessment index and frequency of suppliers differently. For example, the assessment of suppliers by XTC New Energy Materials (Xiamen) Co., Ltd., which is a subsidiary company, covers multiple evaluation dimensions such as quality, R&D capability and environmental management. These are forwarded for improvement suggestions for the potential risks of suppliers according to their own internal control requirements. For suppliers whose evaluations do not meet the requirements, or there is room for improvement, they should be eliminated or coached for improvements.

Joint Development

Suppliers are long-term partners of XTC which have an important impact on product quality and enterprise development. XTC attaches great importance to maintaining close cooperation with suppliers for joint development and mutually beneficial cooperation. XTC maintains close communications with suppliers through the supply chain management platform and other channels and has set up various internal systems documents to standardize supplier management activities. This helps implement the responsibilities and authorities of various departments in the classified management of material suppliers and to build a supplier team with cooperative development advantages.



Responsible Procurement

XTC gradually integrates sustainable development requirements into supply chain management, incorporates environmental protection qualifications and social responsibility performance into supplier access and assessment factors and conducts regular audits.

Green Procurement:

XTC combines the green concepts of environmental protection and resource conservation in its procurement activities, requires suppliers to strictly abide by the laws and regulations of the state and place of operation on the environment, improve green management, reduce its impact on the environment and promise that any products provided do not contain any material requirements prohibited or restricted by environmental protection laws and/or regulations.

The supplier shall sign and strictly abide by the requirements of the Regulations on the Management of Hazardous Chemicals and other relevant laws and regulations in the raw material supply service agreement. XTC advocates to suppliers on energy-saving production, resource consumption conservation, and minimizing the adverse impacts of operation on the community, environment and natural resources. This contributes to achieving energy conservation and consumption reduction through technological innovation and strengthening management and vigorously develops secondary resource recovery business, therefore actively developing environmental protection and energy-saving products.



Responsible Procurement:

Each subsidiary requires new suppliers to make relevant commitments according to the characteristics of business operations. For example, XTC New Energy Materials (Xiamen) Co.,Ltd. requires new suppliers to issue social responsibility commitments letters, including commitments on business ethics, prohibition of child labor and forced labor.

Contents of Supplier's Social Responsibility Commitment	
Labor Management	Management System
Respect the right of all employees to form and join trade unions and to bargain collectively, with wages and working hours in accordance with the law and industry standards, without discrimination, without child labor, and without coercive and disciplinary measures.	To ensure that the code of conduct for social responsibility is fully implemented, regularly reviewed for compliance and publicized to all employees.
Occupational Safety and Health	Business Ethics
Ensure workplace health and safety, reduce occupational hazards and ensure that all employees receive health and safety training. Constantly strengthen safety and environmental protection management and improve the complete labor safety system.	Comply with the highest standards of integrity, operate honestly and protect the interests of consumers, shareholders and creditors. There is an attached importance to the relationship with suppliers and strategic partners to improve the quality of products and services and commit to conduct business with professionalism, honesty and integrity in all business transactions and relationships.

Responsible Mineral Management:

Companies are aware of the risks of mining, trading, processing and exporting minerals in conflict-affected and high-risk areas, and are proactive in fulfilling their obligations to respect human rights. XTC has developed a Supply Chain Due Diligence Management System, which is consistent with the Organization for Economic Cooperation and Development's Responsible Supply Chain Due Diligence Guidelines for Minerals from Conflict-Affected and High-Risk Areas (OECD Guidelines), and regularly publishes the Responsible Minerals Due Diligence Report on XTC's website. XTC and its tungsten smelters have passed the Responsible Minerals Assurance Process (RMAP) organized by the Responsible Minerals Initiative (RMI). Since 2013, XTC has accepted and passed the audit of RMAP.

XTC has developed the Conflict Affected and High Risk Area Identification Process to determine if there are Conflict Affected and High Risk Areas (CAHRA) in the supply chain as defined by the OECD guidelines and applicable to the RMAP standard requirements. According to the CAHRA identification process and the resources used, we define the risks of the source country and the types of risks involved. For the identified high risks, we conduct enhanced due diligence, participate in the upstream verification mechanism approved by RMI, and discuss risk mitigation measures with suppliers, customers and other stakeholders. Develop and implement a risk reduction plan and, in the process, decide on a management strategy to terminate, suspend, or continue the engagement.

XTC communicates the latest Responsible Minerals Policy and Supply Chain Policy to upstream suppliers, and incorporates due diligence requirements into legally binding agreements with suppliers and as part of annual supplier visit conversations.

In addition, XTC has established internal and external grievance mechanisms to encourage stakeholders to raise issues or suggestions related to the mining, trading, handling, export and liability of minerals. The mechanism includes a process for investigating concerns or complaints received, as well as a process for corrective and preventive action.

Company Commitment

To the extent reasonably possible, ensure that the minerals contained in the products supplied are sourced through responsible purchasing schemes, or equivalent third party certification or due diligence, and do not contribute to the benefit of, or become a direct or indirect source of funding for, armed groups that commit human rights abuses in countries/regions in conflict.

The protection of rights and interests of consumer

We adhere to the concept of "customer-centered", earnestly safeguards the rights and interests of customers, and are always committed to improving customer satisfaction.

According to the characteristics of its own business operations, XTC's subsidiaries have established a standardized customer service management mechanism in customer information management, relationship maintenance, property management, after-sales service and customer satisfaction survey through the establishment and improvement of customer management system, so as to ensure the implementation and promotion of customer service and improve XTC's service quality. By providing customers with timely, effective and high-quality services, we can protect customers' rights and interests and improve customers' satisfaction with XTC's products and services.

For example, the Cutting Tools Business Department of Xiamen Golden Egret Special Alloy Co.,Ltd., a subsidiary company, has formulated the Management Manual for Xiamen Golden Egret Cutting Tools Distributors V4.1 and the Management Measures for Xiamen Golden Egret Cutting Tools Product Service Providers V2.0 to support the selection and management of distributors. Xiamen Golden Egret protects the legitimate rights and interests of customers by standardizing the sales behavior of distributors and creating a good and fair market order. In addition, for domestic medium and large direct sales customers or industry benchmarking direct sales customers, XTC guides service providers to assist in sales services, after-sales services, technical services and other work by bringing in service providers and standardizing direct sales business in accordance with the corresponding policies, so as to improve the market share and brand influence of Jinlu cutting tools products in direct sales customers.

Customer Complaint Resolution and Satisfaction Survey

According to its own business characteristics, XTC's subsidiaries have formulated corresponding systems such as "Customer Service Management Measures" and "Customer Complaint Management Procedures" to analyze and identify the problems of customer complaints in a timely manner, formulate solutions and corresponding measures, and timely feedback and communicate with customers, and continuously track the customer's evaluation of the effect of complaint handling. In 2021, the resolution rate of customer complaints of XTC's subsidiaries reached more than 93%.

In order to better define the direction of improvement to meet the needs of customers and improve the overall satisfaction of customers towards XTC, XTC's subsidiaries regularly organize and carry out customer satisfaction surveys.

Through satisfaction questionnaires, field visits, online communications and other methods, we can deeply understand the demands and expectations of customers, collect their opinions and suggestions, analyze and summarize the problems in XTC's products and services and improve them, so as to improve customer satisfaction and services.

For example, Fujian Changting Golden Dragon Rare-earth Co.,Ltd., a subsidiary of XTC completed the annual customer satisfaction survey in all business sectors in 2021, covering the quality of products, the accuracy and timeliness of delivery, the service attitude of personnel, pre-sale and after-sale services, complaint handling and other aspects, and the overall customer satisfaction reached more than 90%. According to the results of the survey, the analysis and summary are carried out to further improve products and services, continuously improve customer satisfaction and enhance market competitiveness.



New product release and dealer conference of the Subsidiary Xiamen Golden Egret G-PAK

Customer Privacy Protection

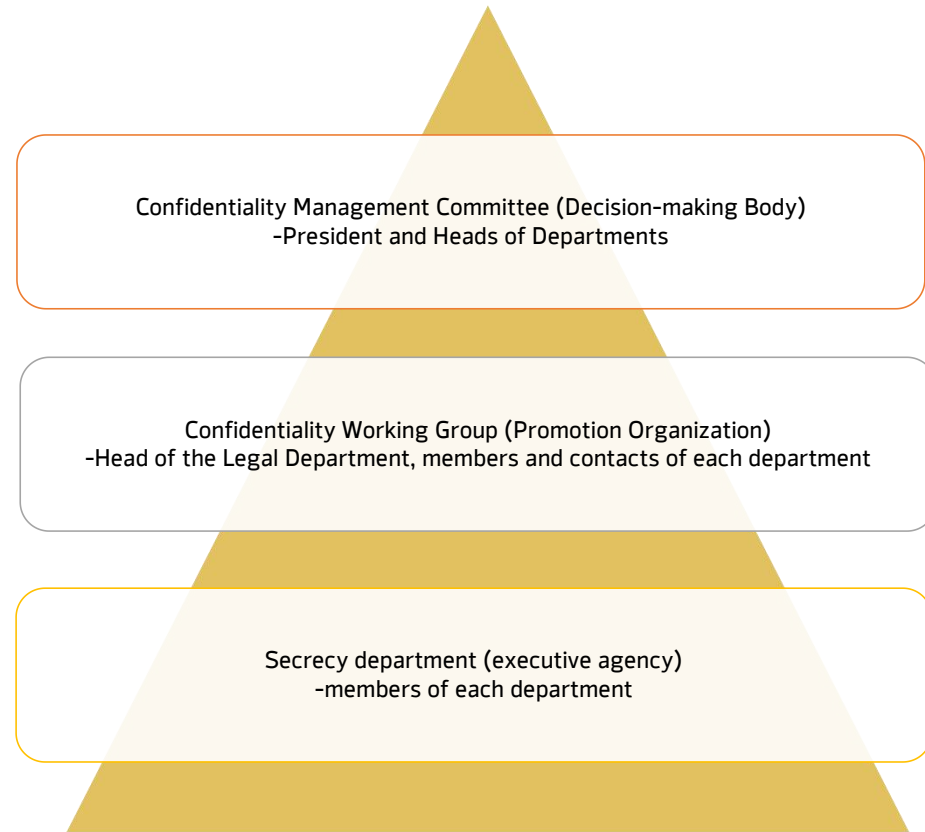
XTC strictly abides by the laws and regulations of the country or region in which it operates on the Protection of Consumer Rights and Interests and including, but not limited to, the Civil Code of the People's Republic of China. XTC formulates a number of internal systems such as the Norms for the Management of Trade Secrets and the Measures for the Confidentiality Management of External Affairs, and clarifies the definition, scope and division of responsibilities of trade secrets in the Norms for the Management of Trade Secrets of Headquarters.

XTC has set up a confidentiality management committee to be fully responsible for the decision-making of trade secrets, with the president of XTC as the director of the committee, responsible for leading the management of trade secrets. Through organizational guarantee and system implementation, prevent employees and third parties from illegally stealing, using and disclosing XTC's business secrets or infringing on customers' business secrets, ensure that customers' files and information are properly kept, and protect customers' privacy and safeguard customers' rights and interests.

Code for Management of Trade Secrets

Code for Management of Trade Secrets
Regulations on the Management of
Trade Secrets of Headquarters

Measures for the Administration of Foreign Affairs
Confidentiality



Digital Transformation



XTC continues to promote information systems construction, realize the value of reconstruction in each industrial chain and the innovation of business models through digital transformation (informatization), and improve the overall competitiveness of enterprises.

Information Systems Construction

We continue to implement information systems construction in XTC's headquarters and subsidiaries, and promotes the optimization of XTC's management mode in production processes, suppliers, human resources, safety and health, customer relations and other aspects through technical means, so as to improve the management level and efficiency.

In 2021, XTC further promoted the application of the Supplier Relationship Management (SRM) system, the Environmental and Occupational Health and Safety Management (EHS) system, the Total Plant Management (TPM) system and the BI system in all of its subsidiaries. XTC optimized, improved and expanded the application of basic systems, and actively developed and expanded new information and digital systems.

- The magnetic material production workshop of Fujian Changting Golden Dragon Rare-earth Co.,Ltd., the alloy and powder production workshop of Xiamen Golden Egret Special Alloy Co.,Ltd. and the production workshops of XTC New Energy Materials (Xiamen) Co.,Ltd. have customized and developed a collaborative manufacturing execution system (MES) platform
- Developed the collaborative management platform of the online manufacturing and operation management (MOM) department and promoted its application in the subsidiary enterprises such as XTC New Energy Materials (Xiamen) Co.,Ltd.
- Cooperated with external agencies to develop the new HR platform
- The ERP system and ERP peripheral systems of Xiamen Golden Egret Special Alloy Co.,Ltd. have been optimized and expanded

Information Security

We strictly abide by the relevant provisions on network information security in the laws and regulations of any country or region in which we operate, including, but not limited to, the Cybersecurity Law of the People's Republic of China. XTC establishes an information security management system, and formulates such system documents as the Group Information Security Management Measures, the Group Information System Management System and the Group Information System Data Management Measures to standardize and guarantee the effective implementation of information security management. It is implemented within the scope of all XTC's subsidiaries. In view of the complexity of cyberspace, XTC has formulated the Emergency Response Plan for Network Public Opinion and the Publicity Management System to strengthen the information management of XTC's network publicity and establish a good corporate image.

In 2021, XTC took the following technical measures to prevent network attacks, hardware failures, information leaks and other information security threats, further strengthening information security management, and effectively guaranteeing data information security:

- Enable the Forescout access system to control the access of devices connected to XTC's intranet, deploy the Lenovo enterprise network disk for daily office document exchange, and set permissions according to the document control requirements to ensure that the document flow is in control;
- Deploy all kinds of anti-virus software at the equipment terminal to block the spread of harmful software such as blackmail virus and ensure the safety of the cyber operating environment;
- The next generation firewall of Palo Alto is deployed at the network boundary to conduct security review of all external network and branch office access data traffic, defend against various network attacks and block network security threats;
- Enable the Tenable integrated network security threat monitoring system to monitor vulnerabilities and Web shell Trojans, network attacks, botnets and compromised hosts in a holistic way;
- Enable the Qizhi RIS operational and maintenance risk detecting system to realize unified access control of assets, behavior audit during asset access, command audit, file transfer audit, high-risk command restriction, automatic execution of scripts, regular password change of server accounts, etc., and audit the security behavior of server and system managers;
- Enable the Veeam Backup & Replication backup and recovery platform to realize data backup, rapid business recovery, disaster drill, sandbox laboratory for backup data, remote backup, etc. of virtual or physical servers to ensure data security;
- Use the Mail Data mail archiving system to archive company mail and to audit the archiving process in order to ensure the security of mail data.

Leading Industry Development



XTC takes advantage of its own resources, actively participates in the formulation of relevant national and industrial standards, and works with upstream and downstream enterprises to promote the ecological development of the industry. XTC has joined 89 associations, including:

Enterprise	Participating Association	Enterprise	Participating Association
Xiamen Tungsten Co., Ltd.	International Tungsten Association Member, Member of Technical Committee of Tungsten Consortium	Xiamen Golden Egret Special Alloy Co.,Ltd.	China Machinery Industry Metal Cutting Tool Technology Association Vice Chairman Unit
	TICMC(Tungsten Industry - Conflict Mineral Council) Governing Unit		Tool Branch of China Machine Tool & Tool Industry Association Standing Director Unit
	China Tungsten Industry Association Vice President Unit		National Technical Committee for Standardization of Cutting Tools Member Unit
	China Rare Earth Industry Association Vice President Unit	Chengdu Hongbo Molybdenum Industry Co.,Ltd.	Molybdenum Branch of China Nonferrous Metals Industry Association Vice President Unit
	China Mining Federation Standing Director Unit		China Electronic Materials Industry Association Standing Director Unit
	China Nonferrous Metals Industry Association Governing Unit	Chengdu Hongbo Industrial Co., Ltd.	China Vacuum Electronics Industry Association Standing Director Unit
	Strategic Alliance for Technological Innovation of China's Renewable Resources Industry Governing Unit	Bestool Tooling Technology Co.,Ltd.	China Machine Tools and Metal Cutting Tools Technology Association Governing Unit
	Strategic Alliance for Technological Innovation of China's Nonferrous Metals Industry Governing Unit		Tool Branch of China Machine Tool & Tool Industry Association Member Unit
	Strategic Alliance for Technological Innovation of Compulsory Resource Recycling Industry of China Material Recycling Association Board of Supervisors	XTC New Energy Materials (Xiamen) Co.,Ltd.	China Chemical and Physical Power Industry Association Governing Unit
	Rare Earth Society of China Unit in charge of the Council		Cobalt Branch of China Nonferrous Metals Industry Association Governing Unit
Chinese Society of Nonferrous Metals Member Unit	Ganzhou Highpower Technology Co.,Ltd.	Strategic Alliance for Electric Vehicle Power Battery Recycling Governing Unit	
National Nonferrous Metals Standardization Committee Member Unit		National Technical Committee for Standardization of Waste Chemical Disposal Member Unit	
Xiamen Honglu Tungsten Molybdenum Industry Co.,Ltd.		National Technical Committee for Standardization of Nonferrous Metal Member Unit	China Environmental Protection Industry Association Member Unit

XTC is mainly responsible for, or participates, in drafting and revising 42 national and industrial standards, of which:

Published national standards edited by XTC:

Enterprise	Standard No.	Standard Name	Standard type	Standard Property
Xiamen Golden Egret Special Alloy Co.,Ltd.	GB/T 3488.3-2021	Metallographic Determination of Microstructure of Cemented Carbides Part 3: Metallographic Determination of Microstructure of Ti (C, N) and WC/Cubic Carbide Cemented Carbides	Formulate	National Standard

Published national standards and industry standards compiled by XTC:

Enterprise	Standard No.	Standard Name	Standard type	Standard Property
Xiamen Golden Egret Special Alloy Co.,Ltd.	GB/T 2076-2021	Rules for Designation of Indexable Inserts for Cutting Tools	Revise	National Standard
Fujian Changting Golden Dragon Rare-earth Co.,Ltd.	GB/T 18115.2-2020	Methods for chemical analysis of rare earth impurities in rare earth metals and their oxides — Part 2: Determination of lanthanum, scandium, neodymium, scandium, thulium, thulium, praseodymium, holmium, ytterbium and yttrium in cerium	Revise	National Standard
	GB/T 18115.1-2020	Methods for chemical analysis of rare earth impurities in rare earth metals and their oxides — Part 1: Determination of rare earth impurities in lanthanum	Revise	National Standard
	XB/T 629.1-2020	Methods for chemical analysis of RE-Al master alloys — Part 1: Determination of rare earth elements content (XRF method) (ICP method)	Formulate	Line Marker
	GB/T 23588-2020	Nd-Fe-B Waste Production and Processing Recycled Material	Revise	National Standard
	XB/T 512-2020	Thulium-Terbium Metal Targets	Formulate	Line Marker
	XB/T 513-2020	Ultrafine Dysprosium Oxide Powder	Formulate	Line Marker
	XB/T 905-2020	Carbon Anode for Rare Earth Molten Salt Electrolysis	Formulate	Line Marker
	GB/T 23588-2020	Nd-Fe-B Waste Production and Processing Recycled Material	Revise	National Standard
	XB/T 512-2020	Thulium-Terbium Metal Targets	Formulate	Line Marker

3 GOOD HEALTH
AND WELL-BEING

Safety & Health

Our Goal

We consistently prioritize our employees' safety and health and care for the healthy development of each XTC employee. Based on the principle of "Safety First, Prevention Counts, Regulatory Compliance and Health Assurance", XTC strictly abides by the relevant laws and regulations such as the "Safety Production Law of the People's Republic of China" and "the Opinions of the Central Committee of China Communist Party and the State Council regarding Promoting the Reform and Development in Safety Production Field", accordingly XTC has established and improved upon the occupational safety and health management system. All the subsidiaries have established the corresponding systems according to their respective conditions and have strictly standardized the production process, targeted the safety production objectives, and achieved the good occupational safety and health environment.



Safety Production

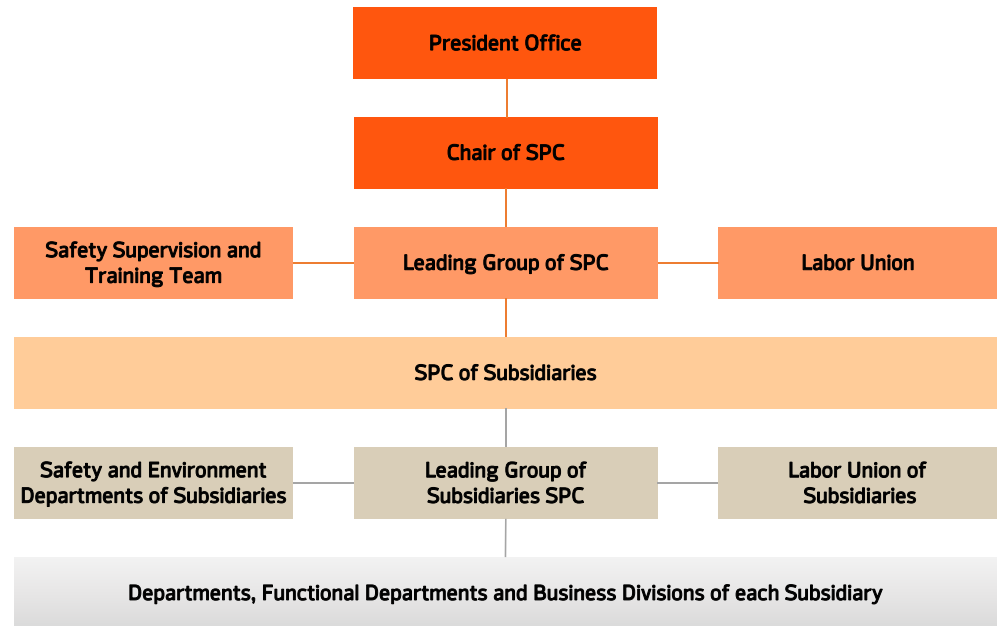


Safety Management System

In order to ensure the achievement of the safe production goal, XTC has established a top-down safety management system covering both of the XTC headquarters and all of its subsidiaries. The safe production responsibility system has been strictly implemented.

Being a safety supervision and management organization, the Safety Production Committee ("SPC") under XTC headquarters is headed by the chairman of the board of directors. The SPC, with a leadership group composed of XTC senior management, is responsible for safety production inspections, the supervision of safety rules implementation and the formulation of safety production systems and emergency plans. An expert team, formed by XTC internal personnel and external experts, is responsible for the implementation and evaluation of XTC group's safety production standards. The subsidiaries have also established their own SPCs, which are subject to the supervision of the SPC under XTC headquarters.

The relevant board members and senior management of XTC shall sign the appropriate "Performance Plan", and the responsible person of each subsidiary shall sign the "Occupational Health, Safety, Environmental Protection and Fire Safety Responsibility Letter". Through the assessment of safety and environmental protection indicators, the XTC management's annual bonuses are linked to XTC's safety and environmental protection performance.



System Construction:

In accordance with various national safety regulations, systems and standards, XTC has formulated and implemented the "Basic Standards for Safety Production", the "Regulations on Supervision and Management of Safety Production of the Group" and other occupational safety and health related systems and norms. XTC has also defined the management requirements and standards of safety management, hidden danger investigation, major hazard source monitoring, occupational health, emergency treatment, safety production, environmental protection, training and other standards. Under the guidance of the above documents, the respective subsidiaries has established and improved the corresponding occupational safety and health system.

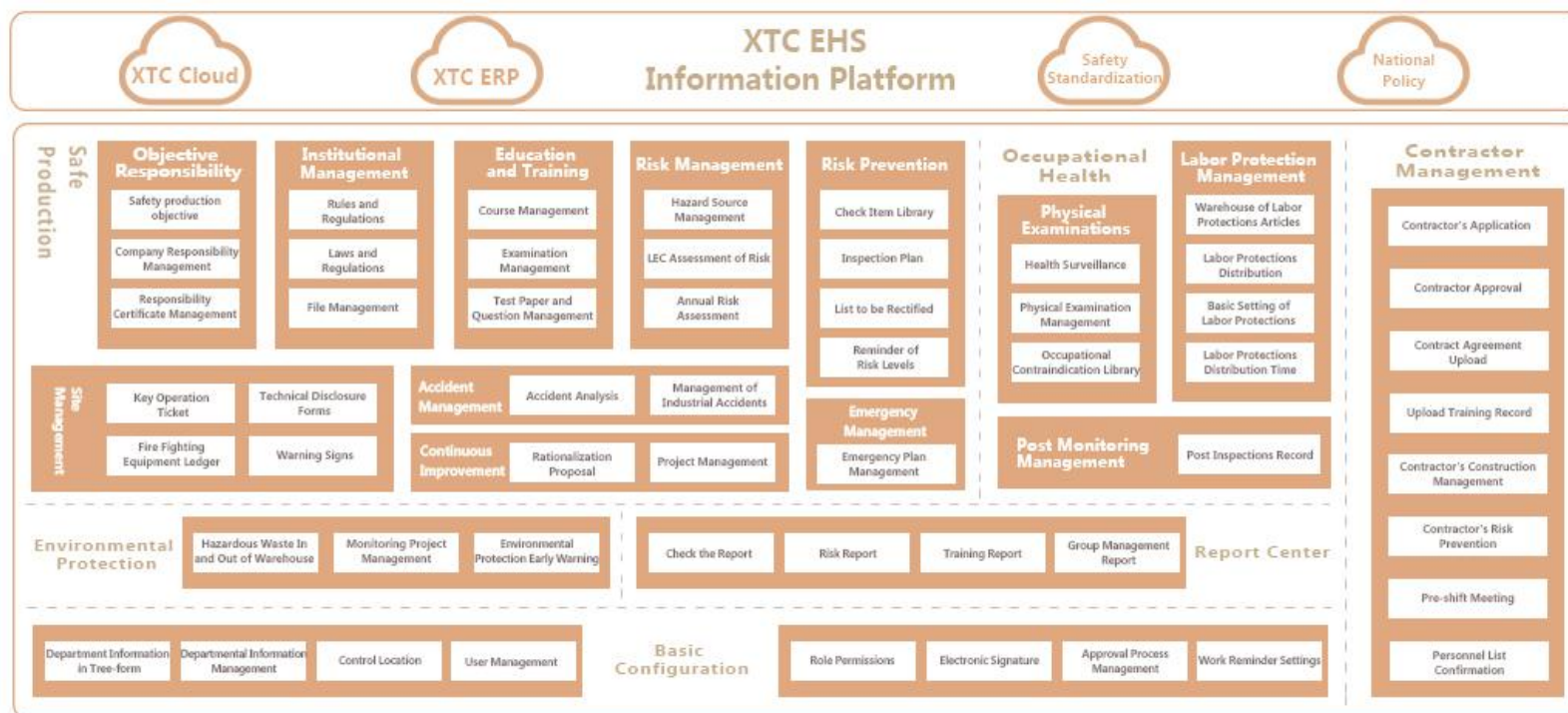
Certification of Qualifications:

In accordance with the requirements of the "Basic Standards for Enterprise Safety Production Standardization" (GB/T33000-2016), XTC has promoted the development of safety production standardization, and some factory zones have obtained the second-level qualification for safety production standardization. 19 subsidiaries, such as XTC Haicang branch, Xiamen Golden Egret Special Alloy Co.,Ltd., XTC New Energy Materials (Xiamen) Co.,Ltd., Ganzhou Highpower Technology Co.,Ltd., Xiamen Honglu Tungsten Molybdenum Industry Co.,Ltd., Xiamen Golden Egret Special Alloy (H.C.) Co.,Ltd., etc., have obtained ISO45001 certification, covering 53% of XTC group production enterprises; 21 subsidiaries, such as XTC Haicang branch, Xiamen Tungsten (H.C) Co.,Ltd., Xiamen Golden Egret Special Alloy Co.,Ltd., XTC New Energy Materials (Xiamen) Co.,Ltd., Xiamen Honglu Tungsten Molybdenum Industry Co.,Ltd., Chengdu Hongbo Industrial Co., Ltd., Ganzhou Hongfei Tungsten Molybdenum Materials Co.,Ltd., Chengdu Hongbo Molybdenum Industry Co.,Ltd., Chengdu Lianhong Molybdenum Co.,Ltd., Fujian Changting Golden Dragon Rare-earth Co.,Ltd. etc, have obtained ISO14001 certification, covering 58% of XTC group production enterprises.

Accident Reporting System under Safety Production Framework	Risk Announcement System
Potential Accident Investigation and Treatment System under Safety Production Framework	Potential accident closed-loop management system
Target Responsibility System under Safety Production Framework	Post Safety Operation Regulations
Regular Meeting System under Safety Production Framework	Safety Production Education and Training System
Occupational Health Management System	Safety Management System for Outsourced Projects
Construction of Safety Production Standardization	Safety Management System for Important Hazardous Locations, Equipment and Facilities
Management System for Procurement, Deployment and Usage of Labor Protection Articles	Enterprise Safety Production Assessment and Reward-Punishment System

Information Management

In 2021, XTC developed some functions of the Environmental, Occupational Health and Safety Management Information System (EHS), including risk control, hidden danger management, contractor management and other management modules. It has been piloted and promoted in Fujian Changting Golden Dragon Rare-earth Co.,Ltd., Xiamen Golden Egret Special Alloy Co.,Ltd., Ganzhou Hongfei Tungsten Molybdenum Materials Co.,Ltd., XTC New Energy Materials(Xiamen)Co.,Ltd. and Xiamen Tungsten (H.C) Co.,Ltd.



Safety Management Improvement:

In 2021, XTC took XIAMEN HONGLU TUNGSTEN MOLYBDENUM INDUSTRY CO.,LTD. as a pilot enterprise to carry out a special promotion of safety management. A third-party professional organization was hired to conduct a comprehensive investigation of the current situation of safety management, and a special safety management improvement leadership group, a working group and a practice team was setup to formulate 9 upgrading projects by following the five modules of the international safety management concept ("high-level commitment & participation, education and training, full participation, hazard identification & risk assessment and hazard control & elimination") to improve the overall safety management level of the pilot enterprise through the aspects of target performance, meeting communication, site management and cultural upgrading etc.



Xiamen Honglu Tungsten Molybdenum Industry Co., Ltd.

Responsible Product Development:

Suppliers of major raw materials shall provide product inspection reports and control the content of trace risk substances that may affect the environment and health in raw materials.

Laying special stress on the analysis and control of trace heavy metals and radioactive elements that may be inevitably introduced from the environment or process, so as to ensure the safety of employees and users.



Safety Education

XTC attaches great importance to the occupational safety education of employees. Special posts are required to complete the training and pass the examination in accordance with the "Management System of Employee Certificates for Special Posts" and the "Regulations on Safety Training for Operational Units". XTC has pre-job technical training and safety education training for new employees, and carries out corresponding safety re-education and pre-job assessment for employees who change their jobs or leave their posts for one year. At the same time, XTC regularly organizes safety education and training for employees to learn basic safety knowledge and enhance their overall safety awareness.

In 2021, XTC Operation Management Center and Xiamen Tungsten College jointly promoted the "Xiamen Tungsten Group Safety Micro Course" project with "full participation" as the starting point. The project has 7 series and a total of 120 training courses to encourage all XTC employees to use their fragmented time to learn safety knowledge efficiently.



Training on the New Safety Production Law

The XTC Operation Management Center organizes the whole staff of XTC headquarters and the subsidiaries to study the new Safety Production Law ("NSPL"), and formulates the corresponding measures and plans to implement the requirements raised by the NSPL, such as establishing a dual preventive working mechanism of risk classification management and control, hidden danger investigation and management, and a secondary safety production standardization system. Each subsidiary shall rectifies the 35 changes in the NSPL. Based upon the internal investigation, the XTC headquarters and all subsidiaries can meet the requirements of the NSPL. The expert group was organized to discuss and sort out the relevant laws and regulations. A total of 1,207 laws, regulations and relevant standards were sorted out, and out of which, 307 are applicable.



Safety Education and Training

In 2021, XTC organized a number of safety education and training sessions, with recorded training of 62,289 person-times, 2,026 safety risk identification sessions and 156 safety seminars. There are 164 safety risk bulletin boards in the eye-catching locations and key areas of the plant, and 2,162 safety risk notification cards have also been produced. XTC regularly organizes safety experts to discuss the identification of laws and regulations, secondary standardization of safety and dual prevention and control, so as to ensure safety management in an all-around way.

Safety Education and Training in 2021

62,289 person-time  

Risk Management and Control Fire Emergency

XTC attaches great importance to the management of safety risks, establishes a preventive mechanism of "Risk Management and Hidden Dangers Investigation", and carries out hierarchical management and control by identifying various risk points.

Risk Control

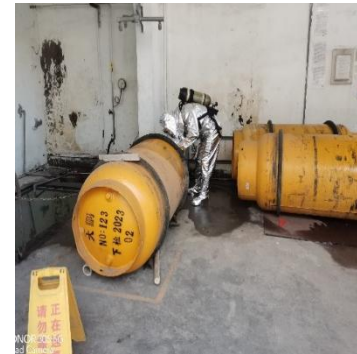
Risk is classified into four color-coded risk levels, i.e. "red, orange, yellow and blue", which correspond to "significant risk, high risk, general risk and low risk" respectively. Accordingly, a 4-tier, i.e., company, department, post and employee, risk management and control system is setup to identify the responsibility and risk points.



Fire drill

Investigate Hidden Dangers and Counter Measures against Findings

According to the application list of relevant laws and regulations, the investigation and management are carried out from the following four aspects, i.e. "Unsafe behavior of people, Unsafe state of Object, Environmental causes and Lack of management".



Liquid ammonia leakage drill

Fire Emergency Work

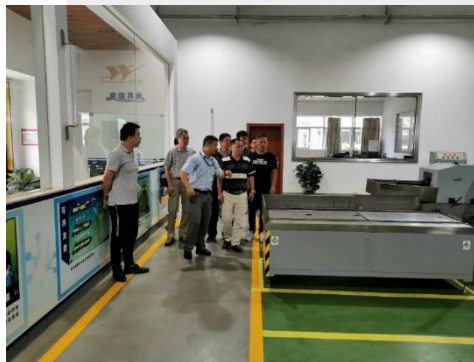
Determining the emergency plan for relevant accidents according to the "Regulations on Emergency Plan Management", performing periodic inspection and maintaining the fire emergency equipment, setting up emergency rescue teams, and organizing regular drills every year.



Blocking drill of powdered carbon tube furnace

In 2021, XTC conducted an annual safety cross-check against its 20 manufacturing subsidiaries, through investigation and management of the potential safety risks reside with important places, key equipment, key steps, especially dangerous chemicals and fire control management. A total of 414 problems were identified during the inspection, 99.03% of which have been rectified, and the remaining projects with a longer rectification cycle will be included in the key rectification projects of the subsidiaries in 2022. In addition, XTC organized the other 8 special safety investigation actions and found 242 potential safety hazards with a rectification completion rate of 100%.

In 2021, the Discipline Inspection and Supervision Office ("DISO") of XTC took various measures to carry out the safety production management by organizing self-examination and self-correction of XTC and its subsidiaries, on-spot random checks were also conducted by the discipline inspection team leaders in the district. The DISO officers of 74 subsidiaries were organized to inspect the safety production management of their respective companies and 19 problems were found, with a rectification completion rate of 100%. At the same time, the discipline inspection team leaders of each district were organized to conduct on-spot checks on the safety production management of 16 companies, and 15 problems were found, with a rectification completion rate of 100%.



Occupational Health



Caring for employees' "psychological capital"

Employee of XTC is an important factor in supporting the development of XTC. Considering the impacts brought to employees, such as external environment (such as the epidemic situation), the work pressure brought about by company's rapid development and the changing of employee age structure, XTC pays more attention to the physical and mental health of its employees.

In 2021, XTC took XIAMEN GOLDEN EGRET SPECIAL ALLOY CO.,LTD as a pilot entity to carry out the "psychological capital" project for employees.

From the perspective of employee management, the project diagnoses the psychological capital (positive psychological resources owned by individuals) of five categories key employees, namely, senior managers, middle and grass-roots managers, core backbone employees, senior employees and new employees, through scientific interviews and questionnaires. The project explores and analyses the reasons affecting their psychological capital, and guides them towards positive emotional investment, aiming to build a professional team with positive sunshine and physical and mental health through stimulation of the enthusiasm and vitality of employees.

Occupational Disease Prevention

XTC effectively prevents and reduces the occurrence of occupational hazards and occupational diseases by formulating health management objectives and promotion programs.

- Health management: for the post with possible occupational hazards, XTC will remind the employees of relevant occupational hazards through the terms of the "Labor Contract", regular training, eye-catching signs in the working area, etc. XTC regularly carries out physical examination for the operators with occupational hazards (organize pre-job, in-job and post-job physical examination according to the characteristics of the post), hires external doctors to carry out health counseling and regular training for the operators, and equips the employees with corresponding labor protection articles to ensure their health. For employees suffering from occupational diseases, XTC will offer timely treatment in accordance with the "Regulations on the Management of Employees' Industrial Injury and Industrial Injury Return", and adjust them to other appropriate posts.
- Health evaluation: XTC shall conduct occupational health and safety evaluations according to internal regulations, and report the corresponding occupational hazards to the local competent authority. In case of major changes, XTC shall conduct occupational health pre-evaluations and control-effect evaluations.





Green Development

Our goal

We have always adhered to the concept of sustainable development and the goal of "carbon peak and carbon neutrality". By vigorously developing green energy, efficient energy-saving products, increasing the comprehensive utilization of resources, strengthening energy conservation and consumption reduction, and building a green low-carbon production and operation system, we are committed to achieving the leading level of CO₂ emissions reduction in the industry and achieving green development.

Environmental Protection

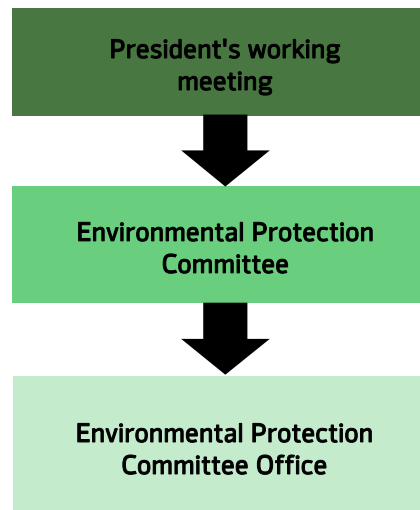


Environmental Management

XTC implements the development concept of "harmonious development with society" and strives to create a new green production mode with great potential for promotion, so as to achieve an environmentally-friendly and resource-friendly enterprise. By increasing technological R & D and innovation, XTC has created a green management system to achieve green cycle development. Ganzhou Highpower Technology Co.,Ltd. a subsidiary company, was awarded the first series of national green factories in 2017, Fujian Changting Golden Dragon Rare-earth Co.,Ltd. was awarded the national green factory in 2019, and Fujian Basic Electronic Materials Co.,Ltd. was awarded the provincial green factory in Fujian.

XTC strictly manages the impact on the environment caused by the development and utilization of mineral resources, and has established an environmental protection committee (hereinafter referred to as the "Environmental Protection Committee"), under which an office is set up to deal with the daily work of XTC's environmental protection committee, with the assistance of other departments.

In strict accordance with the requirements of the Measures for Self-Monitoring and Information Disclosure of National Key Monitoring Enterprises (Huan Fa [2013] No.81), XTC has formulated a self-monitoring plan for the enterprise's environment, clarifying the monitoring indicators, monitoring sites, monitoring frequency, monitoring methods, implementation of emissions standards and standard limits of pollutants discharged by XTC. It shall be made public according to the requirements of the local competent environmental protection department. The Audit Department of XTC regularly conducts environmental protection audits on XTC and its important subsidiaries, and supervises the achievement of relevant environmental protection indicators and energy-savings indicators, the progress of energy-saving transformation of relevant production processes, and the compliance of relevant environmental procedures.



Responsibilities of the Environmental Protection Committee

- According to relevant laws and regulations, formulate XTC's environmental protection and pollutant emissions reduction related rules and regulations, supervise and inspect the implementation of the system.
- Organize the formulation of XTC's environmental protections and pollutant emissions reduction plans and related action plans, and manage the use of environmental protection funds.
- Identify major potential environmental pollution hazards in production.
- Establish and improve the environmental protection responsibility system, post responsibility system and environmental protection assessment system, and regularly review the above systems.

Environmental Emergency Drill

In order to prevent environmental emergencies and improve the ability to deal with environmental emergencies, XTC has formulated a scientific and perfect emergency plan for environmental emergencies and submitted it to the relevant government departments for the record, assessed the environmental risks of enterprises, and established and improved the environmental emergency management system. To clarify the emergency work items such as prevention and early warning, emergency response, emergency monitoring, emergency disposal, safeguard measures and emergency training and drills.

In addition, XTC also regularly carries out emergency drills, such as flood drills and situation stability analysis and review before the flood season to ensure the safety of the tailings pond in the flood season, and organizes on-site emergency disposal plan drills to ensure environmental crisis response.



Emergency drill of Hushan tailings pond



Emergency drill of Xingluokeng Tungsten Mine



Table-top drill for leakage of tailings pipes



Emergency drill of Xingluokeng Tungsten Mine

Hazardous Emissions and Waste Management



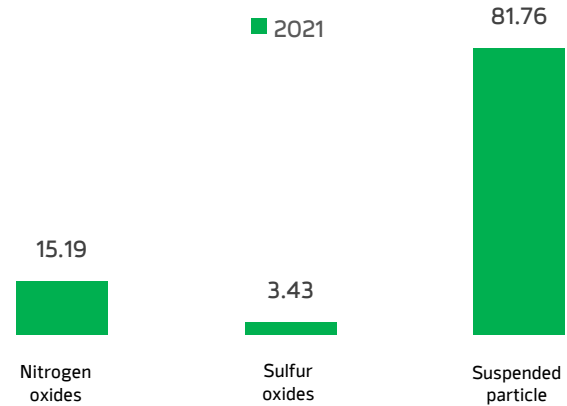
Atmospheric Emission

Reducing waste gas emissions and strengthening dust control are the key points of XTC's air pollution prevention and control work. As a leading enterprise in the industry, XTC promotes green manufacturing and achieves environmentally-friendly development through technological R & D and innovation.

The main air pollutants emitted by XTC in its production and operation include suspended particle and nitrogen oxides. XTC strictly abides by relevant laws, regulations and local policies in the countries and regions in which it operates, such as the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, implements internal emission management systems such as the Operating Procedures for Air Emissions Control, and clarifies the responsibilities of relevant departments and managers in air pollutant monitoring, operation and maintenance of air pollutant treatment facilities, and control of air pollutant emissions sources. In 2021, We emitted 81.76 tons of suspended particle and 15.19 tons of nitrogen oxides; the emissions intensity of suspended particle is 0.26 tons/100 million RMB of revenue, and the emissions intensity of nitrogen oxides is 0.05 tons/100 million RMB of revenue.

XTC's manufacturing subsidiaries shall set up safety and environmental protection departments or designate special personnel to be responsible for the supervision and management of atmospheric emissions, formulate self-monitoring schemes for atmospheric emissions of enterprises in accordance with relevant laws and policies, and regularly invite third-party professional organizations to detect the emissions of atmospheric pollutants in accordance with the regulatory requirements of the place where they operate, and shall be responsible for the supervision and management of atmospheric emissions. Ensure that the emission concentration and total amount of air pollutants meet the national and local standards.

Total Waste Gas Emissions (ton)



81.76 (ton) **0.26** (ton/100 million RMB revenue)

Suspended Particle

15.19 (ton) **0.05** (ton/100 million RMB revenue)

Nitrogen Oxides

In 2021, XTC's subsidiaries continued to increase investment in environmental protection, introduce clean production technology and efficient waste gas treatment technology, and vigorously promote clean production methods to reduce the impact of production and operation on the atmospheric environment:

- Aiming at the dust generated in the process of rock drilling, shoveling and transportation in the open pit of Ninghua Xingluokeng Tungsten Mining Co.,Ltd., the rock drilling equipment is equipped with dust catching devices, sprinklers and fog guns to control the dust.
- Luoyang Yulu Tungsten Mining Co.,Ltd. has installed high-efficiency wet dust collectors in each screening workshop, and the dust removal efficiency can reach 99%.
- The dust removal system of Fujian Changting Golden Dragon Rare-earth Co.,Ltd. has been transformed from a semi-open box-type dust removal system in the screening workshop to a bag-type dust collector, which improves the dust removal efficiency and effectively reduces the dust emissions. The emissions process of volatile organic compounds (VOC) has been improved from unorganized emissions to closed evacuation, and the gas of organic volatile acids has been collected and recovered. The clean production technology and efficient waste gas treatment technology are also applied in the corresponding operations, such as a leaching waste gas absorption treatment system, roasting waste gas treatment system, etc.
- XTC New Energy Materials(Xiamen)Co.,Ltd. carries out an ammonia recovery project. Ammonia is produced by a catalytic cracking reaction into nitrogen and hydrogen, of which hydrogen can be reused to effectively reduce ammonia emissions.

In order to improve the workshop environment and reduce dust emissions, Jiangxi Duchang Jinding Tungsten Co.,Ltd. invested one million RMB in 2021 to complete the dust removal renovation project of the screening plant, adopting the pulse belt dust removal technology promoted in the "Catalogue of Environmental Protection Technologies Encouraged by the State", and equipped with special spraying devices and vehicles on the side of the transportation road. It effectively reduces the generation of dust in the transportation process, and installs an inductive automatic car washing platform in the factory area. Sealed vehicles are used for outward transportation of products, which greatly improves the efficiency of dust control and effectively inhibits the diffusion of dust.



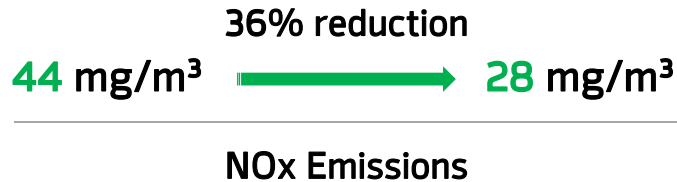
Dust remover



Luoyang Yulu Tungsten Mining Co.,Ltd.
Air pollutant emissions control has achieved remarkable results.

Luoyang Yulu Tungsten Mining Co.,Ltd., a subsidiary company, has implemented a coal-to-gas conversion project, with an average nitrogen oxide emissions concentration of 44 mg/m³ after the transformation, and upgraded the low-nitrogen burner, with an average nitrogen oxide emissions concentration of 28 mg/m³ after the upgrading, and a reduction of 36% in the emissions concentration before and after the upgrading. Particulate matter, sulfur dioxide and nitrogen oxides all meet the ultra-low emissions standards.

The drying workshop adopts a high voltage electrostatic wet dust removal process, the dust removal efficiency of the process can reach more than 99%, the annual collection of dust removal products can reach 2.64 tons, and the maximum economic benefit can reach 70,000 RMB.



Technical Innovation—— Waste Organic Reuse System

Fujian Changting Golden Dragon Rare-earth Co.,Ltd., a subsidiary company, actively carries out the treatment of volatile organic waste gas. In addition to reducing the use of high-carbon chain materials such as kerosene at the source, it has also independently developed a waste organic recycling system to effectively reduce the emission of organic waste gas. XTC strengthened the collection and treatment of volatile organic waste gas and reduced the emission of volatile organic waste gas by adding VOCs treatment facilities in the extraction workshop, magnetic sintering workshop and surface treatment workshop.



Waste Management

In order to reduce the production of various wastes, strengthen the reuse of wastes, and reduce the impact on the environment and personnel in the process of storage and disposal of hazardous wastes, XTC has formulated a series of waste management systems, such as the Management System of Hazardous Solid Wastes and the Management System of Hazardous Wastes. Hazardous waste identification marks have been set up in places where waste chemicals are stored. Strictly regulate the storage, transportation and disposal processes of wastes to ensure that the management of wastes conforms to the provisions of relevant laws and regulations of the countries or regions in which it operates, such as the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes, the Pollution Control Standards for Storage and Disposal Sites of General Industrial Solid Wastes, and the Pollution Control Standards for Storage of Hazardous Wastes.

Disposal of Waste

General Waste

When we built a new machine-made sand workshop at the end of the beneficiation, the coarse tailings were screened and sold as machine-made sand, and the remaining tailings were stockpiled in the tailings pond.

The waste rock is discarded and enriched in the screening process of the concentrator, the discarded waste rock is sold as building aggregate, and the rest is stockpiled in the waste dump, so as to reduce the discharge of waste rock.

Other general wastes shall be handed over to a third-party professional disposal unit for comprehensive disposal.

Hazardous Waste

For hazardous waste, XTC builds special hazardous waste storage sites according to relevant hazardous waste management regulations, classifies and stores hazardous waste, and standardizes the management and disposal of waste engine oil.

Hazardous wastes have been handed over to qualified units for disposal, and the transfer manifest system has been strictly implemented.

XTC's secondary resources business department carries out secondary recycling of hazardous wastes, such as waste tungsten, waste batteries, etc., to realize the recycling of internal resources and achieve the purpose of recycling hazardous wastes.

Water Resources Management



In terms of water resources management and protection, XTC strictly abides by relevant national laws, regulations and policies, and strives to improve water resources management. In accordance with the Environmental Protection Law of the People's Republic of China and other laws and regulations, XTC has formulated the Basic Standards for Environmental Protection to regulate XTC's water use and wastewater treatment behavior and improve water resources management.



In the production process, XTC continues to improve the utilization rate of water resources, while treating wastewater to reduce the negative impact of enterprises on local water resources. According to the situation of each production-oriented subsidiary, XTC establishes the Water Use (Water Saving) Management System, sets water quotas, and strengthens water use statistics and inspection of water supply equipment. Each production enterprise is equipped with backwater systems and purification facilities to increase the recycling of production water.

For example, XTC's ultrasonic cleaning equipment will reuse the clean water in the end section and send it back to the front section for further use; part of the surface water flows to the sedimentation tank through drainage ditches and flood intercepting ditches, and after primary or secondary sedimentation and clarification, it will be used as reclaimed water for dust reduction, greening and cleaning operations; non-production enterprises are gradually replacing facilities with better water-saving methods, such as water-saving toilets. In the future, XTC will continue to increase water-saving measures and publicity efforts, improve staff awareness of water conservation, and strengthen water resources management.



Washing water concentration treatment system

XTC attaches great importance to the possible impact of mining operations on local water quality and actively takes corresponding measures to manage it. During the early development of the fourth section of Wuping Industrial Park, XTC entrusted the Environmental Engineering Assessment Center of the Ministry of Ecology and Environment and Kunming University of Science and Technology to formulate a water environment tracking and monitoring plan for the environmental characteristics of the ore block and the possible environmental pollution risks caused by rare earth mining, with a total of 8 surface water and 6 groundwater monitoring points in order to fulfill the responsibility of water resources protection.

Wastewater Treatment



We have formulated the Basic Standards for Environmental Protection, which clearly stipulates that the wastewater discharged from production must be effectively treated and discharged up to that standard. According to relevant laws and regulations, XTC has formulated the corresponding wastewater treatment management system, and regularly inspected the wastewater treatment facilities, on-line monitoring systems and sewage outlets to ensure the normal operation of the facilities without damage, cracks and overflow.

Our wastewater is mainly divided into production wastewater and domestic sewage of employees. After being treated by the sewage treatment center, the wastewater is discharged into the sewage treatment plant through the municipal pipe network through the same discharge outlet. Sealing measures have been taken for waste water transmission pipelines and waste water storage and treatment facilities, and waste gas recovery and treatment facilities have been set up to prevent the volatilization of chemical odor gases.

The main pollutants of the wastewater produced in the production process of XTC are solid pollutants (SS), aerobic pollutants (COD), acid-base pollutants (pH), nutritional pollutants (ammonia nitrogen), inorganic chemical poisons (heavy metal pollutants) and so on.

Our wastewater discharge is mainly in accordance with the Integrated Wastewater Discharge Standard (GB8978-1996) and the Water Quality Standard for Sewage Discharged into Urban Sewers (GB/T31962-2015).

We regularly employ qualified independent third-party testing institutions to conduct sampling and testing at wastewater outlets to ensure that wastewater meets the discharge requirements. For possible environmental emergencies such as waste water pipeline leakage, XTC entrusts a third party to prepare emergency plans and risk assessment reports, which are filed with relevant environmental protection departments.

Our existing wastewater treatment facilities mainly include an oil removal and COD removal system, a neutralization and sedimentation system, a sedimentation system, a dosing system, a chemical reaction system, an ultrafiltration and nanofiltration membrane filtration system and a biochemical system, which can ensure that the wastewater is discharged after being treated up to the standard. Aiming at the common problem of high salt content in wastewater in the industry, XTC adopts industry-leading processes and technologies to reduce the salt content of wastewater.



Total Amount of Sewage Discharged (m³)

3,036,337.34



2021

Fujian Changting Golden Dragon Rare-earth Co.,Ltd., a subsidiary of XTC, has added a zero-discharge system for chromium-containing wastewater in the surface treatment galvanizing production line, which realizes the reuse and recovery of chromium solution, eliminates the discharge of highly toxic heavy metals, meets the requirements of total amount control of heavy metals in the region, and protects the natural water body in the region.

Jiangxi Duchang Jinding Tungsten Co.,Ltd., a subsidiary of XTC, has effectively controlled the COD of wastewater by upgrading the existing water treatment system and changing the implementation standard of COD from 100 mg/L to 84 mg/L; a new backwater system has been added to increase the backwater pumping capacity from 2.5 million m³/year to 3 million m³/year.

Technological Innovation —— Zero Discharge Project of Rare Earth Smelting and Separation Wastewater

Fujian Changting Golden Dragon Rare-earth Co.,Ltd. ("Golden Dragon"), a subsidiary of XTC, has jointly carried out the research and development of the project of zero discharge of rare earth wastewater resources recovery with Central South University, changing the production process of rare earth smelting and separation from calcium saponification to ammonia saponification, and recycling ammonia and chlorine in wastewater to achieve zero discharge of saline wastewater.

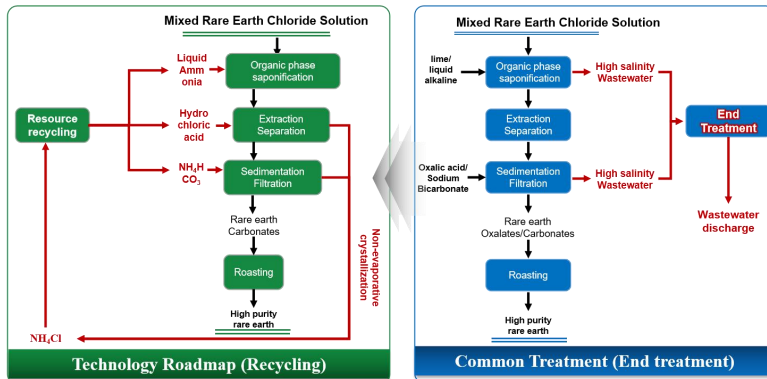
Golden Dragon has invested in the construction of a resource recycling production line with an annual treatment capacity of 228,000 tons of rare earth smelting wastewater. The project has entered the commissioning stage in 2021 and is expected to be put into operation in 2022. After going into operation, the project can treat 228,000 tons of rare earth smelting wastewater annually and realize the regeneration of water resources. Compared with the existing process flow, the project can reduce the discharge of 228,000 tons of high-salt wastewater per year, accounting for more than 80% of the total wastewater, greatly improving the utilization rate of resources, with obvious energy savings and emissions reduction effects.

Technological Innovation —— New Technology of Ammonia Nitrogen Microbial Treatment of Rare Earth Tail Water

In view of the tail water treatment of the mine, Longyan Rare-earth Development Co.,Ltd., a subsidiary company, and Fujian Normal University jointly developed a new technology for the microbial treatment of ammonia nitrogen in rare earth tailings water.

After the rare earth mine tailings water is treated by the above technologies, the ammonia nitrogen concentration can be reduced to 15 mg/l specified in the Discharge Standard of Pollutants for Rare Earth Industry, which meets the discharge standard and forms normal influent and effluent. This technology is one of the most efficient technologies for the treatment of ammonia-nitrogen wastewater from ion-type rare earth mines in southern China.

Technology Roadmap: Resource Recovery from Wastewater



Zero Discharge Project of Rare Earth Smelting and Separation Wastewater



Photobioreactor

Energy Conservation and Emission Reduction



In 2021, XTC's greenhouse gas emissions (scope 1 & scope 2) * were

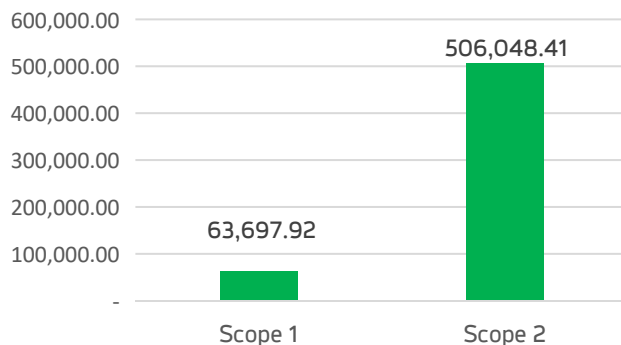
569,746.34

tons of carbon dioxide equivalent (tCO₂e).

The emission density was **1,788.72**

tons of carbon dioxide equivalent/100 million RMB revenue.

Greenhouse Gas Emissions (tCO₂e)



*"Scope 1: Direct GHG Emissions" in this report only includes greenhouse gas emissions involved in transportation facilities, energy combustion and raw material combustion of XTC's subsidiaries of XTC New Energy Materials (Xiamen) Co.,Ltd. and Fujian Changting Golden Dragon Rare-earth Co.,Ltd., for our carbon inventory has not been completed.

We attach great importance to energy conservation and emissions reduction, and are committed to minimizing energy consumption and environmental impacts in all aspects of production through green mining, green smelting, green processing and green recycling.

Green Mining

Our existing mines optimize the mineral processing process, increase the waste disposal process and non-metallic mineral separation process, reduce the unit consumption of mineral processing, improve the level of comprehensive utilization of resources, therefore further improve the efficiency of mines, and realize the green development of mines.



Energy Conservation and Emission Reduction



Green Smelting



The company has continuously innovated in the new technology of tungsten smelting, and cooperated with the Central South University to invent the "green tungsten smelting technology of sulfur-phosphorus mixed acid system", which has realized the clean and efficient smelting of low-grade associated tungsten ore, and its technical, economic and environmental protection indicators have reached the international leading level. This technology also realized the comprehensive utilization of tungsten molybdenum phosphorus, next to zero discharge of waste water, and allowed the exuded residues in the production process being compressed into construction materials and subsequently reduced the processing costs.

The implementation of green smelting technology realizes the high efficiency, economy and environmental protection of tungsten smelting production, and relieves the double pressure of environmental protection and economy in tungsten smelting, and guarantees the great demand of the country for strategic metal tungsten. This technology has won the second prize of the National Technology Invention Award, the first prize of science and technology in the non-ferrous industry, and the gold prize of China's invention patent, and has been listed as an energy-saving and emission-reduction technology in the "China Tungsten Industry Development Plan (2016-2020)" and the "Cleaner Production Technology Implementation Plan for Key Industries of Water Pollution Prevention and Control" jointly issued by the Ministry of Industry and Information Technology and the Ministry of Environmental Protection.

Green Processing

We actively achieve the goal of energy saving and emissions reduction through process transformation and clean energy use. At the same time, in terms of energy-saving transformation of infrastructure, XTC gradually replaces and refits existing equipment according to its own actual situation, improves efficiency while reducing energy consumption, reduces carbon dioxide emissions, and achieves green and low-carbon production and operation.

The subsidiary Luoyang Yulu Tungsten Mining Co.,Ltd., through technical transformation and upgrading, installed air compressor waste heat recovery device and water pump frequency converter, saved 344,800 kWh of electricity in 2021 compared with 2020, reducing carbon emissions by 181.26 tons; reduced natural gas consumption by 45,370 m³, reducing carbon emissions by 94.13 tons. A total of 102.71 tons of standard coal were saved and a total of 273.21 tons of carbon emissions were reduced.



Waste heat water tank

Jiangxi Duchang Jinding Tungsten Co.,Ltd., a subsidiary of XTC, has improved the comprehensive utilization of tailings resources, from 10 tons of tailings in 2020 to 372,000 tons of tailings in 2021, thus reducing the load of tailings transportation and reducing the power consumption of tailings transportation.

Energy Conservation and Emission Reduction



Xiamen Golden Egret Special Alloy Co.,Ltd., a subsidiary of XTC, carried out the replacement of high energy-consuming equipment, photovoltaic research and monitoring of waste gas indicators. The total electricity consumption was 162.8073 million kWh, and the energy consumption per unit product was 0.68 tons of standard coal per ton, which was 14.89% lower than 0.7998 tons of standard coal per ton in 2020.

Ninghua Xingluokeng Tungsten Mining Co.,Ltd. ("Xingluokeng"), a subsidiary company, explores the application of new energy electric vehicles in stope ore and stripping transportation through vehicle improvement to reduce carbon dioxide emissions. Xingluokeng started using new energy electric vehicles from 2021, striving to basically eliminate the use of diesel vehicles by 2023, and in 2021 diesel consumption was reduced by about 400 tons and carbon emissions by 1,250 tons. In addition, Xingluokeng also actively promotes new technologies such as permanent magnet motors and YX3 motors.



New Energy Electric Vehicle of Xingluokeng Tungsten Mine

In 2021, in order to improve production efficiency, achieve technological progress and further reduce the production cost of mineral processing, Xingluokeng started the construction of a waste enrichment project of crushing system in line with the mineral processing principle of "throwing as early as possible and collecting as early as possible", under the condition of successful experiment and completion of preliminary design and demonstration. After the completion of the project, the annual amount of pre-selected waste rock (tailings) can be 54.45×10^4 t, this part of pre-selected waste rock does not enter XTC's beneficiation production process, which can greatly reduce XTC's energy consumption and power consumption. Xingluokeng Tungsten Mine has also carried out the technical transformation of water treatment in the 53-meter thickening tank. Through a number of measures such as front-end dosing, the overflow water in the 53-meter thickening tank has been basically clarified. The power consumption of the backwater pumping system before entering the plant has decreased by 0.66 kWh/ton of raw ore compared with that of 2020, with a decrease of 24%, which can save about 94,500 kWh per month.

Green Recycling

We attach great importance to resource recycling, and started tungsten recycling business since 1997. After nearly 30 years of development, XTC has gradually developed the reprocessed tungsten raw material recycling industry and waste battery recycling industry, their operational scales ranks highly in the industry of China.

XTC and its subsidiary Ganzhou Highpower Technology Co.,Ltd. have passed the examination of the Ministry of Industry and Information Technology and become enterprises that meet the requirements of the "Industry Standardization criterions for Comprehensive Utilization of Waste Power Batteries for New Energy Vehicles".

XTC has long been committed to the research and development of recycling technologies for recycled tungsten raw materials and high value-added metals such as cobalt and nickel, and has independently developed the global tungsten industry's leading, low energy consumption, low emission, green and clean recycling technologies for renewable resources, also developed short process of waste batteries, low energy consumption recycling technologies and zero discharge of wastewater. The company has obtained 79 patents. While recycling precious metal resources such as tungsten, cobalt and nickel, the company promotes the protection of primary mineral resources and ecological environment, and pushes forward the high-quality, green and sustainable development of tungsten and new energy industries.



Energy Conservation and Emission Reduction



Greenhouse Gas Emissions Management

XTC's manufacturing plants have gradually introduced the ISO14064 greenhouse gas emissions management system, quantified statistics and accounting of carbon dioxide emissions equivalent, and taken effective measures to reduce carbon emissions. XTC is promoting the incorporation of carbon emissions per unit of output and profit into XTC's statistical index system as an important basis for evaluating the advanced nature of manufacturing.

The Sanming, Ningde and Haicang production bases of the subsidiary XTC New Energy Materials (Xiamen) Co.,Ltd. ("XWXN") carried out ISO14064 system certification in 2021, and organized a special task force to conduct a comprehensive identification and data accounting of the emissions sources in 2020, forming a greenhouse gas inventory report and proposing specific emissions reduction plans. Many employees of XWXN successfully completed the ISO14064 greenhouse gas internal inspector training course, and all of them obtained qualification certificates after passing the examination.

Fujian Changting Golden Dragon Rare-earth Co.,Ltd. ("Golden Dragon Rare-earth"), a subsidiary company, achieved carbon reduction, cost reduction and efficiency improvement through energy saving and energy efficiency improvement in the whole production process.

In 2021, Golden Dragon Rare-earth began to carry out carbon investigation, investigating its emissions composition, government power policy, enterprise carbon reduction mode and external unit qualification, and determining the main ideas and future plans for carbon investigation and carbon reduction. Under the guidance of external certification bodies, Golden Dragon Rare-earth completed the carbon emissions verification in 2020 with reference to ISO14064-1:2018 standard, and completed the establishment of a carbon emissions management system with reference to Beijing Enterprise Carbon Emission Management System Requirements, which is currently in trial operation.



Process optimization and energy saving project of extraction production line: after the implementation of the project, the use of a 142-stage extraction tank will be canceled, 30 motors will be reduced, about 65,000 kWh of electric energy will be saved, and about 46 tons of carbon dioxide emissions will be reduced.

Measures to be taken to achieve the dual-purpose goal

1. Producing clean electricity

- Improve the utilization rate of existing factories and carports, and continuously expand the proportion of photovoltaic power use;

2. Buy clean electricity

- Track policy trends in time and expand the purchasing power of nuclear power and clean electricity

3. Save energy and reduce consumption, and improve energy efficiency

- Technology: By means of technological innovation, new technologies and processes are adopted to fundamentally reduce carbon emissions, such as elemental chlorine emissions reduction, one-step method, resource recovery and other projects; Constantly explore the company's energy-saving and emissions-reduction measures and carry out energy-saving technical transformation projects, such as improving the energy efficiency ratio of air compressors; Promote energy-saving motors; Perfect heat preservation measures for kilns and heating equipment.
- Management: The Safety and Environment Management Department establishes a carbon management system and uses the performance model to control the carbon emissions of various undertakings, such as using smart power to control the energy consumption of the company, and looking for space for energy efficiency improvement and energy conservation and consumption reduction; Continuously carry out TPM; Include performance appraisal, such as annual/quarterly/monthly energy consumption per unit product, etc.



Energy-saving transformation of permanent magnet motor in the extraction workshop: about 1.43 million kWh/a of electricity is saved, and about 1,007 tons of carbon dioxide emissions are reduced every year.

Clean Energy Utilization



XTC introduces low-carbon and green energy to improve the energy structure and achieve sustainable development.

XTC New Energy Materials (Xiamen) Co.,Ltd., a subsidiary company, actively introduced nuclear power as a source of power for production, and signed a nuclear power purchase contract with China Nuclear (Fujian) Power Service Co., Ltd., a subsidiary of China Nuclear Industry Corporation. As a low-carbon and intensive energy source, nuclear power can replace coal-fired and gas-fired power generation, which will effectively reduce XTC's greenhouse gas emissions.

Golden Dragon Rare-earth, a subsidiary company, actively promotes the use of clean electricity, such as solar energy, and installs solar power generation equipment on existing factories and dormitories. At present, Jinlong Rare Earth has established a distributed photovoltaic installed capacity of 2.359 MW, generating 2.6425 million kWh in 2021, reducing carbon dioxide emissions by about 1,859.02 tons.



Ecological Restoration



The mining enterprises under XTC attach great importance to the possible impact on the ecology in the process of business operations. By strictly controlling every stage of project operations, XTC prevents pollution, restores the environment, and achieves environmental co-construction and harmonious development.

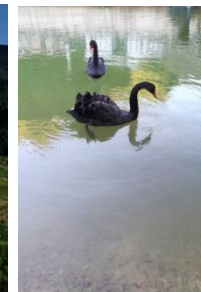
Biodiversity and Land Conservation

XTC has 4 tungsten mines. Among them, Ninghua Xingluokeng Tungsten Mining Co.,Ltd. and Jiangxi Duchang Jinding Tungsten Co.,Ltd. are state-level green mines. Before mining, XTC will assess the ecosystem within the scope of influence, including the species composition and key protected species in the mining area, and formulate relevant management measures.

We prohibit mining activities in cultural heritage protection areas, nature reserves and other ecological red line sensitive areas designated by the state or the operation site. At present, all mines of XTC are not located in environmentally sensitive areas or high biodiversity areas, and have not caused any impact on biodiversity.



Ninghua Xingluokeng Tungsten Mine



Intercepting seepage pond



Open pit

Ecological Protection Policy



Pay equal attention to pollution prevention and ecological environment protection



Both ecological environment protection and ecological environment construction



Give priority to prevention and combine prevention with treatment



Comprehensive treatment of process control

XTC strictly abides by all relevant laws and regulations such as the Law of the People's Republic of China on the Protection of Wildlife, the Regulations of the People's Republic of China on Nature Reserves and the Regulations on the Protection of Wild Plants, and plays an active role in biodiversity conservation. In addition, XTC has formulated a water environment tracking and inspection plan in key plant areas to promptly comprehend the impact of production activities in the project area on the surrounding water environment.



"Reclamation while mining"

Ninghua Xingluokeng Tungsten Mining Co.,Ltd. ("Xingluokeng"), a subsidiary of XTC, continued to carry out ecological and environmental protection construction, adhered to the principle of "reclamation while mining" in the process of mine production and construction, and promptly carried out ecological restoration and environmental protection management. In 2021, Xingluokeng completed the soil covering and greening work of the 15th sub-dam of the tailings reservoir, planting 22,000 m² tea trees and turf greening the area. The slope of the open pit is covered with green by hanging nets and spraying seeds, and the dump is planted with various trees and grass plants, greening about 55,000 m². These measures not only prevent and control soil erosion, but also improve the ecological environment of the region. At the same time, we should improve the cleaning of sedimentation tanks at all levels downstream of the dump to ensure the effective sedimentation volume, and the leaching water discharged from the dump should meet the Integrated Wastewater Discharge Standard (GB8978-1996). Table 4 Requirements of Level I Standard.

Xingluokeng pays attention to the coordinated development of enterprise economic benefits and environment, earnestly implements the Management Measures for Mine Geological Environment Restoration Fund, and strictly implements the "three simultaneous" systems of environmental protection (environmental protection facilities must be designed, constructed and put into operation simultaneously with the main project), so as to effectively protect the natural environment of the mining area and its surrounding areas. In 2008 and 2017, Xingluokeng entrusted Fujian Metallurgical Industry Design Institute to prepare the Geological Environment Protection and Restoration Plan. Through dedicated deployment and strict implementation of the plan, the level of mine geological environment restoration and control has reached the average level of the region. Xingluokeng attaches great importance to the prevention and control of geological disasters in mines, and no major geological disasters have occurred in recent years.



Before slope greening



After slope greening

Jiangxi Duchang Jinding Tungsten Co.,Ltd. ("Duchang Jinding"), a subsidiary company, fulfilled the requirements of "ecological priority and green development", fulfilled the main responsibility of environmental restoration and management of enterprises, and entrusted Jiangxi Geological and Mineral Resources Exploration and Development Co., Ltd. to compile the "Yangchushan Tungsten-Molybdenum Mine". Continuously promote the work of ecological environment protection. It has successively completed the restoration and treatment of the Qipanshan tailings reservoir, 1 # dump #1 and other areas, and adhered to the principle of "mining while treating" for the final platform, high and steep slope, tailings reservoir dam and ore transport road formed in the production and operation. In 2021, the slope reinforcement and greening earth covering on the north side of the slope will be completed, with a slope support area of 4,846 m² and an earth covering area of 1,500 m²; the sub-dam stacking and turf paving of Phase 34/35/36 of the tailings pond will be completed, with a paving area of 9,775.8 m², effectively reducing soil erosion. In January 2021, Duchang Jinding entered the national green mine list.

Duchang Jinding has always adhered to the coordinated development of enterprise development and ecological and environmental benefits, established a mine ecological restoration fund, which is specially used for mine ecological restoration and management, with a fund of 2.405 million in 2021; strictly implemented the "three simultaneous" systems of environmental protection, and protected and restored the overall ecological function of the mining area through regional restoration and management. In April 2021, Sinosteel Maanshan Mining Institute Engineering Survey and Design Co., Ltd. was entrusted to prepare the Report on the Stability Analysis of the Current Situation of the Dump, which prepared the prevention and control work against geological disasters in advance. No major geological disasters have occurred in recent years.



Treatment and Greening of Tailings Dam



Regreening of Waste Dump



Growing Together

Our Goal

We adhere to the principle of "seeking progress steadily, expanding the market and gaining long-term benefits". XTC continuously promotes corporate governance and comprehensive budget management to integrate finance and business, and is committed to becoming a world-class innovative enterprise with high-quality development while achieving rich returns for shareholders.

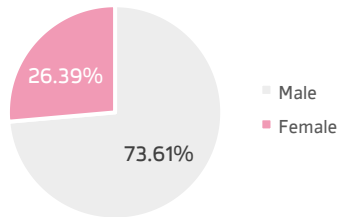


Employee Management

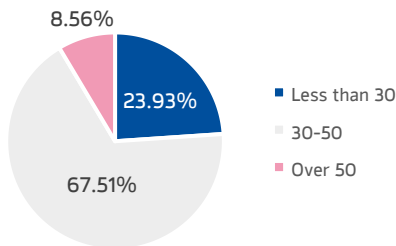


As of December 31, 2021, XTC and its affiliated enterprises had a total of 14,508 employees, of which female employees accounted for about 26.39% and male employees accounted for about 73.61%; there were 659 management personnel, of which female management personnel accounted for about 11.84% and male management personnel for about 88.16%.

Employee by Gender



Employee by Age

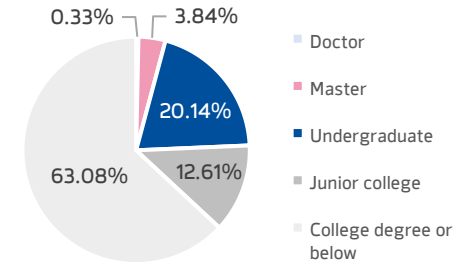


XTC takes comprehensive performance management as its core concept to establish XTC's human resources management mechanism, implements the performance management culture of "goal traction, results oriented, guided by process and continuous improvement", and ensures the implementation of the human resources management mechanism through the below four supporting mechanisms:

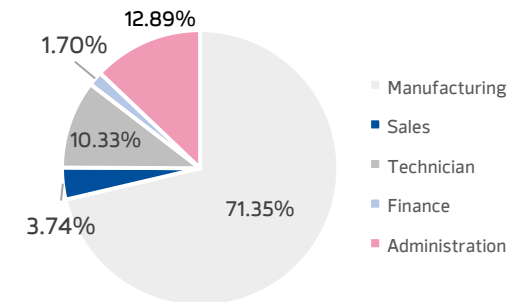
- Organization and Authorization Management Based on Clear Attribution of Performance Responsibilities
- Employment and Efficiency Management Based on Continuous Optimization of Human Efficiency Output
- Incentive and Distribution Management Based on Diversified Performance Contributions
- Evaluation and Development Management Based on Talent Performance

Around the four mechanisms, a series of institutional norms have been formulated, such as the "Responsibility and Authorization Management System", the "Management Measures for Key Talents Hiring", the "Personnel Management Measures", the "Target and Performance Management System", the "Detailed Rules for the Evaluation of Results-oriented Performance Management Standards", the "Management Measures for Personnel Training and Development", and the "Guiding Principles for the Construction of Post Qualification System". These efforts effectively ensure that performance responsibilities are clearly attributed, performance objectives are resolved and accepted step by step, human resources input is properly formulated, with the focus of efficiency management and human efficiency improvement. Performance results are taken as an important support for staff ranking and salary adjustment and for staff promotion and talent assessment, also for staff motivation and development, so as to effectively form a culture of "Being accountable and proactive in collective result delivery".

Employee by Educational Background



Employee by Type



Rights Protection

Protection of Rights and Interests of Staff

XTC attaches great importance to the protection of employees' human rights and strictly abides by the laws and regulations related to labor, such as the "Labor Law", the "Labor Contract Law", the "Special Provisions on the Labor Protection of Female Employees and the Provisions on the Prohibition of Child Labor". XTC has formulated a series of policies and systems related to internal labor management, such as the "Personnel Management Measures", the "Employment Contract Management Measures", the "Recruitment Management Measures", the "Salary Management Measures" and the "Attendance and Leave Management System". These are to ensure legal compliance in recruitment and promotion, salary and dismissal, working hours, rest and vacation, equal opportunities, anti-discrimination, anti-coercion and other welfare benefits, and effectively protect the rights and interests of employees.

Xiamen Tungsten (H.C) Co.,Ltd. ("Xiamen Jialu"), a subsidiary of XTC, has formulated the "Norms for the Protection of Human Rights" and the "Norms for the Protection of Child Workers, Juvenile Workers and Female Workers", which strictly prohibit discrimination, harassment, abuse and coercion, and is committed to creating an equal, harmonious and mutually respectful working environment in which employees can request relief through complaint procedures; The recruitment of child labor is strictly prohibited in the existing control systems, and rescue control procedures will be taken immediately after the discovery of mistaken recruitment, and preventive measures have been duly ensured.

In terms of protective measures for female workers, Xiamen Jialu adheres to the principle of equal pay for equal work for men and women, arranges work reasonably during the period of special protection, provides regular health checks and carries out relevant publicity and education to protect the rights and interests of female workers. In 2021, several training activities on the protection of labor rights and interests were carried out to publicize and educate employees in the areas of anti-discrimination, anti-harassment, anti-abuse, anti-coercion, prohibition of the use of child labor and minor workers, protection of female workers, working hours and wages and benefits, freedom of association and labor negotiations, and channels for complaints, so as to raise their awareness of human rights protections. Employees are encouraged to defend their rights through internal grievance mechanisms.

The headquarters of XTC have signed the "Special Collective Contract for the Protection of the Special Rights and Interests of Female Employees" with the labor union to guarantee the rights of female employees to participate in daily management, obtain career development opportunities and enjoy welfare benefits; the subsidiary Xiamen Jinlu Special Alloy Co., Ltd. has signed the "Enterprise Collective Contract" with the labor union to guarantee employees in terms of the labor contract, labor remunerations, labor protections and social insurance. The number of employees participating in labor unions in the group headquarters and subsidiaries accounts for more than 95% of the total number of employees.

Equal Employment

XTC follows the principles of fairness and competitiveness in terms of employment, salary and personnel training, provides equal employment opportunities for workers, provides equal career development opportunities for employees, and ensures fair treatment by recruiting and promoting talents through fair competition. XTC promises that workers will not be discriminated against because of their nationality, race, place of origin, gender, age, religion, belief, color, sexual orientation, political affiliation, marital and childbearing status, disability, etc. At the same time, it also prohibits any graphic propaganda and related words and deeds with discrimination in the workplace, and provides employees with complaint channels to actively assist employees in ensuring equal rights.



Talent Cultivation and Incentive



Full-Cycle Talent Training System

XTC attaches great importance to the training and development of talents, and has always been committed to creating a "platform for talent gathering" through the innovation of talent training and development system and mechanism. By establishing a comprehensive and sustainable talent training and development system, XTC broadens the growth channels of employees, stimulates their potential, promotes the improvement of talent quality and ability, and cultivates a competitive talent team for the development of enterprises.

XTC's talent training and development system consists of a talent standards system, talent training system, and an incentive and development system. In terms of the talent standards system, XTC divides the talent development channels into sequences according to the characteristics of the posts, and each sequence is divided into different ranks. On this basis, XTC sets up a qualification and post competence model to open up a multi-dimensional career path for employees to develop horizontally and vertically within XTC, and promotes the growth and promotion of employees through comprehensive, full-cycle, multi-level and distinctive training projects or courses. Through the combination of a promotion/demotion/elimination mechanism, a cadre management mechanism, a salary incentive mechanism and a results-oriented performance management mechanism, XTC has established a robust staff rewards and development system.

XTC strives to provide all-around and life-cycle training for every employee in their career development, whether for new employees, ordinary employees or managers, to provide fair and diverse career development channels for employees, to encourage employees to continuously improve their abilities, and to enable employees to realize their self-value on the development platform provided by XTC.

XTC Institute

In order to implement the talent training mechanism, systematically accelerate the growth of talents, and comprehensively improve the organizational capacity, XTC adheres to "problem-oriented" approach as the starting point and foothold of training, and has established the XTC Institute. XTC Institute formulates the annual training plan, designs the training courses, and is responsible for the organization and implementation of corresponding trainings, as well as the training results evaluation according to the "XTC Industry Education and Training Program" and the needs of the group headquarters and its subsidiaries.

In terms of a training concept and mode, XTC Institute adheres to the principle of "learning from issues that arise, learning on the fly, learning with priorities, learning with immediate delivery results", with learning and practical application. XTC promotes a learning on the job approach and integrates training and execution seamlessly, furthermore, XTC assesses the training application results to enhance the training effectiveness and encourages the trainees to apply training knowledge and routines into daily operations.

In addition, XTC and its subsidiaries also actively carries out internal training in professional skills, safety and management systems education, and summarizes and evaluates the training effects through training effects evaluation questionnaires and post-training examinations, etc.

Internal Training of XTC Institute in 2021



According to the talent training plan in line with XTC's characteristics, XTC Institute has launched a series of trainings in 2021, mainly for XTC's key international advanced manufacturing (IAM) talents, management team, professional personnel and graduate students, among which:

IAM key talent series training centres on the international advanced manufacturing management culture of XTC, mainly including 8 training sessions of XTC IAM Advocate, XTC IAM Practitioner and XTC Lean Six Sigma Green Belt; the training scope of the management team includes senior management, middle-level cadres, talent management reserves, with a total of 12 training sessions.

The training contents of the professional sequence covered procurement, sales, safety, production, human resources, finance, etc., and a total of 18 training sessions were carried out. The training of fresh college students covered professional mentality, knowledge mapping, work skills, etc., and two 5-day intensive training sessions were carried out.

At the same time, according to the requirements and deployment of normalization of epidemic prevention and control measures, XTC Institute has launched an online learning platform "Xiaoming Learning", which provides training courses through online live broadcasting and recording, and constructs an online training operation system to realize multi-level structure training management, whole-process learning control, visualization of learning files and systematization of training resource management. ation of learning files and systematization of resource management.

38 Training Courses

1,644 Trainees

192 Managers Trained

204 Fresh College Students Trained

209 IAM Key Talent Development

IAM Key Talent Series Training

In order to promote the construction of XTC International Advanced Manufacturing Systems, following the philosophy of "consolidate ideas and mentality, introduce theories and methods, promote results-oriented actions and efficiency improvement, and establish evaluation and certification", XTC Institute assists in building an international advanced manufacturing (IAM) talent training system to support the implementation of IAM projects. According to the IAM talent training plan, XTC Institute organized eight training sessions, including one IAM advocate training session, three IAM practitioner training sessions and two Lean Six Sigma Green Belt training sessions, with a total of 209 trainees, and issued certificates to the trainees who met the certification standards after completing the training.



Management Sequence Training

In order to provide a steady stream of leadership talents for business development, XTC Institute assists the Human Resources Center of the headquarters in the construction of XTC Management Talents echelon. According to the talent training plan of the Human Resources Center, XTC Institute organized training for 192 people, including senior management and senior management reserves, middle-level cadres and middle-level cadres reserves, and other team members. The training covers strategic management, comprehensive budget management, performance management, safety awareness, legal awareness and management skills improvement, which lays a solid management foundation for the development and growth of XTC.



Professional Sequence Training and Undergraduate Training

In order to solve the problems encountered in the actual work of various professional lines, XTC Institute has formulated various specialized courses for the backbone talents of various professional sequences, and planned training contents suitable for actual business scenarios according to the differences between job requirements and status quo, so as to improve the effectiveness of professional training.

In August every year, XTC Institute implements the spirit of the document "XTC Graduates Training Program", which organizes the training of fresh college students, and helps them complete the transformation from campus to society through trainings, so as to integrate into XTC faster and more effectively and to take root in XTC.



Employee Motivation

Through the practice and exploration during the "13th Five-Year Plan" period, XTC has established an incentive mechanism for knowledge elements to participate in incentives distribution, this has stabilized XTC's core management and technical backbone, and maintained XTC's leading competitive advantage in the three core business areas. By increasing the amount of equity incentives and employee stock ownership plans, XTC extensively mobilizes the enthusiasm of directors, senior managers and key employees; By implementing the reforms of joint-ownership with employees in subsidiaries, while effectively controlling risks, XTC greatly bound the interests of employees with the interests of XTC's development, effectively combined the interests of shareholders, companies and operators, improved the management quality of XTC, built a high-level talent team with strong independent innovation ability and promoted the healthy and sustainable development of XTC.

In 2021, XTC implemented the first phase of the employee stock ownership plan, which involves 59 directors, senior managers, core backbone and ordinary employees of XTC, holding a total of 1,101,170 shares of XTC.

In 2021, XTC implemented the 2020 Restricted Stock Incentive Plan, which targets directors, senior managers of listed companies and management and technical backbone employees who have a direct impact on the operating performance and sustainable development of listed companies. Up to now, the total number of incentive participants is 98, holding 12,413,000 shares of XTC in total. This plan sets challenges to unlock performance conditions and realize the organic unity of employee and enterprise value.

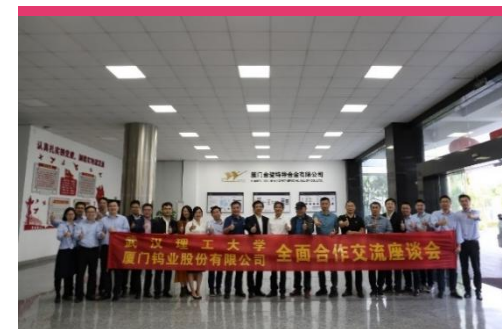
Cooperation Between School and Enterprise

XTC actively carries out cooperation projects with universities, explores the mode of school-enterprise cooperation, gives full play to the role of enterprises and schools in R & D innovation and personnel training, complements each other's advantages, shares resources, and promotes the comprehensive cooperation of production, learning and research between schools and enterprises:

XTC and Wuhan University of Technology have exchanged opinions on school-enterprise cooperation. XTC will carry out comprehensive cooperation with Wuhan University of Technology in tackling key technical problems and personnel training in combination with its development plan. Both sides will innovate the mode of school-enterprise cooperation, tap the potential of cooperation and strive to build a model of school-enterprise cooperation.

Fujian Changting Golden Dragon Rare-earth Co.,Ltd., a subsidiary company, has established a joint postgraduate training base and a school-enterprise cooperation talent training base with Central South University to promote the transformation of enterprise science and technology and talent training. Changting Golden Dragon has also carried out practical education and professional practice cooperation with Fuzhou University, Northeast University and Nanchang Aeronautical University.

Xiamen Golden Egret Special Alloy Co.,Ltd.("Xiamen Golden Egret"), a subsidiary company, cooperates with the College of Mechanical Engineering and Automation of Fuzhou University to build an employment practice base for college students, and more excellent interns are selected and recommended by the college to practice in Xiamen Jinlu.



A Forum with Wuhan University

Employee Benefits



XTC attaches great importance to the humanistic care of its employees, providing them with birthday gifts, wedding and childbirth benefits, illness and funeral condolences, health check-ups and other benefits. Some subsidiaries provide employees with welfare policies such as public housing rental, including single dormitories and family rooms, and interest-bearing loans for key employees to buy houses.

In 2021, XTC and some subsidiaries actively carried out employee assistance schemes, provided subsidies for several employees in difficulty, and also provided grants for some employees' children.

In 2021, XTC and its subsidiaries actively organized various staff activities to enhance the vitality of employees, enhance team cohesion and create a healthy and upward cultural atmosphere.



Employee Communication



XTC promotes the joint-development of enterprises and employees by establishing a good communication mechanism for employees.

XTC encourages employees to provide feedback directly to XTC's management through internal instant messaging software, and also sets up a complaints hotline and mailbox for employees. XTC Party Committee regularly organizes democratic life meetings, extensively solicits employees' opinions before Party meetings and solicits employees' opinions in the form of seminars, so as to rectify the issues put forward by employees. XTC Party Committee also understands the problems of employees by introducing front-line surveys, company notice boards, company intranet and other channels to help employees solve problems and enhance their sense of happiness and security. Some subsidiaries have standardized and clarified the procedures of employee complaints and feedback through such systems as the "Measures for the Management of Employee Complaints" and the "Regulations for the Management of Rational Proposals", so as to guarantee the right of expression and supervision of employees, or to listen to opinions and suggestions through employee exchange seminars.

XTC headquarters and some subsidiaries also conduct employee satisfaction surveys in the form of annual questionnaires and make statistical analyses of the survey results to understand the demands and expectations of employees, and implement rectifications according to the rational proposals of employees.





Community Involvement

Our Goal

We have always taken fulfilling our social responsibility and seeking harmonious development with society as our mission. We fulfill our commitment to give back to society and promote community development in many ways.

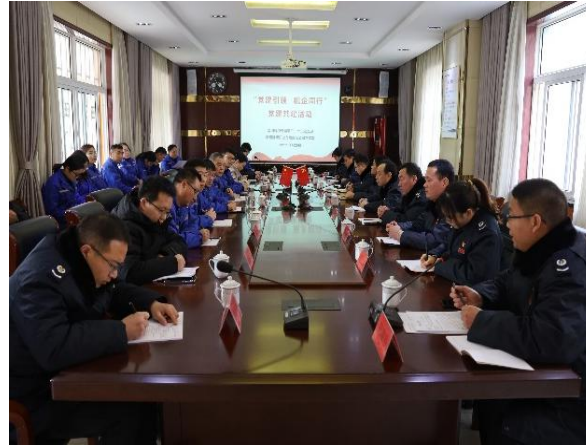


Community Engagement



XTC and its subsidiaries have established a good cooperation and co-construction mechanism with the local community.

Among them, Luoyang Yulu Tungsten Mining Co.,Ltd and Luanchuan County Tax Bureau jointly carry out Party building and co-construction activities, learn and exchange through party building as well as cultural and sports friendship activities. They signed the "Party Branch Pair Co-construction Agreement" to realize the assistance of organizational construction, education management, resource sharing, so as to achieve its goal, i.e. promoting the linkage and complementariness of work tasks, public welfare undertakings and cultural activities.



The Party Building and Co-construction Activities of Luoyang Yulu and Luanchuan County Tax Bureau

Community Investment



XTC utilized of its own advantages to support the development of the community in terms of environment and education.

- Assist in improving the local community environment by monitoring the this environment. Some subsidiaries, such as Wuping Chengshi Rare-earth Development Co.,Ltd., Changting Chiyou Rare-earth Development Co.,Ltd. and Pingnan Rare-earth Development Co.,Ltd., regularly organize personnel to local community residents' residences to extract well water samples for water quality testing. Every year, Pingnan Rare Earth organizes dredging work in Fengdun Natural Village, Fenglin Village, Tangkou Town, to avoid adverse effects on local residents' lives due to river blockage.
- Support the human development of local communities through charitable donation activities.The subsidiaries, such as Luoyang Yulu Tungsten Mining Co.,Ltd., Jiangxi Duchang Jinding Tungsten Co.,Ltd. and Wuping Chengshi Rare-earth Development Co.,Ltd. donated various kinds of stationery and books to the schools around the local communities; Jiangxi Duchang Jinding Tungsten Co.,Ltd. provide cash assistance to freshmen from poor families in the towns around the mining area; Luoyang Yulu Tungsten Mining Co.,Ltd. organized employees to participate in the "Charity Day Donation" to support community charity and public welfare undertakings.
- Actively participate in local community service through volunteer service activities. Organize community public welfare activities such as "caring for autistic children", "caring for elderly homes", "sharing helmets" and "I do practical things for the masses". In 2021, a total of 2,777 hours of volunteer service were orgnized by XTC.



Luyang Yulu Subsidiary
Charity Donation



Duchang Jinding Subsidiary Provide
Financial Support To the Colledge Students



Ningde New Energy
Subsidiary
Chrity Support to the
Rest Homes

Targeted Poverty Alleviation and Rural Revitalization



Ninghua Xingluokeng Tungsten Mining Co.,Ltd.

- Invest 1.5 million RMB in the construction of water storage facilities in the local area to solve the problem of irrigation caused by the lack of precipitation in the nearby farmland and ensure the production and living water for the surrounding residents. Through the reconstruction and repair of Shangdongshan Reservoir and the construction of sidewalks and landscapes around the dam crest, the surrounding environment of the village is improved and the quality of life of the local people is improved
- Set up a "village-enterprise joint construction" Party branch with the surrounding village committees to collaboratively promote the construction of "safe village & enterprises", build a strong social security prevention and control network, ensure that the local people live and work in peace and contentment, and jointly create a "safe village residence"
- Purchase about 1,500 KG of rice for canteen purpose from the village every month to support the development of rice cultivation in Chenjia Village
- Donate 2 million RMB to the Ninghua County Education Development Fund to support the development of culture and education in Ninghua County

Jiangxi Duchang Jinding Tungsten Co.,Ltd.

- Provide financial support for the construction of village, Party member activity centers and new rural construction in the surrounding villages of the mining area
- In order to effectively improve the living conditions and quality of life of villagers, support the construction of new rural infrastructure in the surrounding villages of the mining area, and subsidize about 1,400 cubic meters of stone for construction
- Add new production lines and jobs to provide employment opportunities for villagers in surrounding villages

Changting Chiyou Rare-earth Development Co.,Ltd.

- Has been working with Hetian Town for a long time to revitalize villages and enterprises, and has invested 1.886 million RMB in rural public welfare projects, such as local drinking water projects, road and bridge reconstruction and expansion

XTC New Energy Materials (Xiamen) Co.,Ltd.

- Hold the "Lighting Lonely Stars with Love" autistic-children-caring activities through ice-breaking action, painting graffiti, love donation and other activities in Haicang District Ba Xueyuan Special Needs Children Service Center, bring full social warmth and care to autistic children
- Organize workers to carry out the "1 + 1" public welfare fund-raising campaign for maternal health in 2021, and actively help poor mothers to fight against "two cancers"
- Jointly organize and carry out the volunteer service activity of "Love Warming the City - Sending Blessings to Thousands of Families" with the surrounding villages, donate hearing aids to the elderly with hearing difficulties in the villages, and support the development of local communities

Wuping Chengshi Rare-earth Development Co.,Ltd.

- Donated 100,000 RMB to Yanqian Town Education Development Fund of Wuping County to support the development of culture and education in Wuping County

Luoyang Yulu Tungsten Mining Co.,Ltd.

- Donated 2 million RMB to Funiushan Rural Revitalization Talents Education Center in Luanchuan County to support the development of cultural education in Luanchuan County



Luoyang Yulu donated 2 million RMB for Rural Revitalization

Fight the Epidemic Together and Support the Community



In 2021, the Rubik's Cube of life in Fujian, especially Xiamen, where the headquarters and main subsidiaries of XTC are located, was disrupted by the resurgence of COVID-19. In response to the zero tolerance measures of epidemic prevention and control, XTC established the working mechanism of epidemic prevention and control at the first opportunity and according to the changes in the epidemic situation, XTC implemented various workplace epidemic control and prevention measures and attached great importance to the safety and health of employees, and promoted the prevention and control of the epidemic situation and the resumption of production.

- Through the information platform, XTC monitors the body temperature of employees in real time, collects the dynamic data of employees' health status, and distributes epidemic protection supplies to all employees
- To ensure production and avoid safety hazards caused by crowd gatherings, we adjust the working shifts of front-line employees and arrange functional departments and technical managers to work remotely
- Implement epidemic prevention measures such as regular and fixed-point disinfection of office and operation areas and delegate meal delivery to canteens

- Through XTC's website, electronic bulletin, notice board, Wechat group and other online and offline channels to forward the "2021 COVID-19 Epidemic Prevention and Control Knowledge Manual", promptly implement the new requirements of epidemic prevention and control, and publicize public policy and scientific knowledge of the epidemic
- Monitor the health of employees, provide emotional support and psychological counseling for employees
- During the critical period of epidemic prevention and control in Fujian in August 2021, the Discipline Inspection and Supervision Office organized the subsidiaries to carry out supervision and inspection of epidemic prevention and control; According to the development trend of the epidemic situation, we have organized and formulated a series of documents, such as the "Checklist for Normalization of Epidemic Prevention and Control", the "List of Epidemic Prevention and Control Supervision during Large-scale Meetings and Training", and the "Rapid Response Mechanism for Normalized Epidemic Control Supervision and Emergency Epidemic Supervision" and etc to urge enterprises in epidemic-related areas to implement epidemic prevention and control. We will further ensure that the prevention, control and supervision of sudden epidemic emergencies are responded to in an effective and orderly manner

- Provide medical support channels, obtain medical and healthcare support from the guarantee hospital through contact, provide relevant medical or health channels for companies in the Xiamen area, and ensure the orderly development of epidemic prevention and control measures. Make every effort to ensure the physical and mental health of all XTC employees and maintain normal production order



While ensuring the safety of XTC personnel and the stability of production, XTC actively practices its social responsibility, devotes itself to the front-line work of community anti-epidemic, and jointly works towards the normalization of daily life.

Publicity video "XTC Volunteers have the duty to fight against the epidemic" was produced to mobilize volunteer work against the epidemic.

The Party Committee of XTC headquarters has set up 24 volunteer teams of Party members to participate in the epidemic prevention and control work in their communities, and to cooperate with medical staff and grass-roots cadres. Xiamen Golden Egret Special Alloy Co.,Ltd., subsidiary of XTC, organized 52 Party members to collaborate with local community members and cooperate with medical staff to carry out inspection, disinfection, protective isolation and nucleic acid testing. The total person-time of Party members participating in the first-line epidemic prevention work organized by XTC has reached more than 1,000.

XTC is concerned about and consoling the staff volunteers who are fighting the epidemic on the front line, and distributes food and beverages and other materials to them. In order to ensure the local epidemic prevention and control work, Xiamen Centto Servo-Motor Technology Co.,Ltd., a subsidiary of XTC, organized employees to install seven outdoor sites for nucleic acid testing sampling points of Longshan Primary School in Xinyang Street of Xiamen overnight to improve the working environment of nucleic acid sampling.





Data Summary

GRI Standards Content Index



Data Summary

	Indicators	Unit	2021
Environmental	Emissions		
	Greenhouse Gas(GHG)		
	Scope 1: Direct GHG emissions*	ton CO ₂ e	63,697.92
	Scope2: Indirect GHG emissions from purchased energy		506,048.41
	Total GHG emissions		569,746.34
	GHG emission intensity	ton CO ₂ e/100 million RMB revenue	1,788.72
	Gas Pollutants		
	Nitrogen oxide emissions	ton	15.19
	Sulfur oxide emissions		3.43
	Suspended particle emissions		81.76
	Water Waste and Water Waste Pollutants		
	Wastewater discharge amount	m ³	3,036,337.34
	Ammonia nitrogen emissions	ton	19.64
	COD emissions		237.15
	Fuel Consumption of Vehicles		
	Gasoline consumption	liter	312,464.50
	Diesel consumption		1,483,425.00
	Hazardous Waste		
	Disposal amount of waste chemicals containers	ton	61.14
	Disposal amount of waste resin		68.68
Disposal amount of waste acid	60.98		
Disposal amount of waste paraffin	152.55		
Disposal amount of toxic organic solvents	413.72		

"Scope 1: Direct GHG Emissions" in this report only includes greenhouse gas emissions involved in transportation facilities, energy combustion and raw material combustion of XTC's subsidiaries of XTC New Energy Materials(Xiamen) Co.,Ltd. and Fujian Changting Golden Dragon Rare-earth Co.,Ltd.,for our carbon inventory has not been completed.

Data Summary

Environmental	Indicators	Unit	2021	
	Resource Consumption			
	Energy			
	Power consumption	kWh	1,320,019,912.25	
	Steam consumption	ton	278,905.08	
	Natural gas consumption	m ³	9,850,320.79	
	Coal consumption	ton	5,692.00	
	Petrol (stationary source) consumption	liter	11,988.94	
	Diesel (stationary source) consumption		51,486.05	
	Water Resources			
Total water consumption	m ³	6,754,152.70		
Water consumption density	m ³ /100 million RMB revenue	21,204.67		

Safety Production	Indicators	Unit	2021	
	Safety Training Performance			
	Total person-time of occupational safety training	person-time	62,289	
	Total hours of occupational safety training	hour	117,019	
	Production Accidents			
	Number of extremely severe accidents	case	-	
	Number of severe accidents		-	
	Number of larger accidents		-	
	Occupational Safety and Health Performance			
	Number of work-related severe injuries	person	-	
Number of work-related deaths	-			
Work-related death rate	%	0.00		

Data Summary

Employment	Indicators	Unit	2021
	Total Number of Employees	person	14,508
	Employee Structure		
	Employee by Gender		
	Male	person	10,679
	Female		3,829
	Employee by Age		
	Less than 30 years old	person	3,472
	30-50 years		9,794
	Over 50 years old		1,242
Employee by Education Background			
Doctor	person	48	
Master		557	
Undergraduate		2,922	
Junior college		1,829	
College degree or below		9,152	

Data Summary

	Indicators	Unit	2021
Employment	Employee by Type		
	Manufacturing	person	10,351
	Sales		542
	Technical		1,499
	Finance		246
	Administration		1,870
	Gender distribution at management level		
	Male management	person	581
	Female management		78
	Percentage of female managers	%	11.84
	Labor contract signing rate	%	95.25
	Employee Turnover		
	Total number of turnover	person	4,852
	Total number of employees at the beginning of the year		13,147
	Annual total number of new recruits		5,564
	Annual turnover rate	%	25.93
	Staff Training		
	Total investment of staff training in the whole year	million RMB	10.50

Data Summary

Marketing	Indicators	Unit	2021	
	Investment in R&D			
	Total amount of funds invested in R&D	million RMB	1,275.75	
	Patent			
	Number of new patent applications	piece	137	
	Number of new patents granted		110	
	Non-associated suppliers (distributed by region)			
	Mainland China	number	4,355	
	Other regions		172	
Total	4,527			

Community	Indicators	Unit	2021	
	Volunteer service			
	Number of volunteers	person	576	
	Volunteer hours	hour	2,777	
Amount of Community Donations		million RMB	7.24	

GRI Standards Content Index

GRI Standards Content Index

The content index of this report includes the Global Reporting Initiative Sustainable Development Reporting Standard (GRI Standard) and the China Corporate Social Responsibility Reporting Guidelines (CASS-CSR) issued by the Corporate Social Responsibility Research Center of the Chinese Academy of Social Sciences.

General Disclosures	GRI Indicators	Indicators Description	Chapter
Organizational Profile	102-1	Name of the organization	About XTC
	102-2	Activities, brands, products, and services	About XTC Advanced Manufacturing
	102-3	Location of headquarters	About XTC Standardized Governance
	102-4	Location of operations	
	102-5	Ownership and legal form	Standardized Governance
	102-6	Markets served	About XTC Advanced Manufacturing
	102-7	Scale of the organization	About XTC
	102-8	Information on employees and other workers	Employee Management
	102-9	Supply chain	Responsible Supply Chain
	102-10	Significant changes to the organization and its supply chain	About XTC
	102-11	Precautionary Principle or approach	Risk Management
	102-12	External initiatives	Not Covered In This Report
	102-13	Membership of associations	About XTC
Strategy	102-14	Statement from senior decision-maker	Chairman's Statement
Ethics and Integrity	102-16	Values, principles, standards and norms of behavior	Chairman's Statement Standardized Governance
Governance	102-18	Governance structure	Standardized Governance

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General Disclosures	GRI Indicators	Indicators Description	Chapter
Stakeholder Engagement	102-40	List of stakeholder groups	Sustainable Development Management
	102-41	Collective bargaining agreements	Rights Protection Data Summary
	102-42	Identifying and selecting stakeholders	Sustainable Development Management
	102-43	Approach to stakeholder engagement	Sustainable Development Management
	102-44	Key topics and concerns raised	Sustainable Development Management
Reporting Practices	102-45	Entities included in the consolidated financial statements	About This Report
	102-46	Defining report content and topic boundaries	About This Report Sustainable Development Management
	102-47	List of material topics	Sustainable Development Management
	102-48	Restatements of information	Not Covered In This Report
	102-49	Changes in reporting	Not Covered In This Report
	102-50	Reporting period	About This Report
	102-51	Date of most recent report	Not Covered In This Report
	102-52	Reporting cycle	About This Report
	102-53	Contact point for questions regarding the report	About This Report
	102-54	Claims of reporting in accordance with the GRI Standards	About This Report
	102-55	GRI content index	GRI Standards Content Index
	102-56	External assurance	Independent Limited Assurance Report

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GRI Standard		Chapter
GRI 200: Economic		
205	Anti-Corruption	
103 -1	Explanation of the material topic and its Boundaries	Business Ethics and Anti-Corruption
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	
205-2	Communication and training about anti-corruption policies and procedures	
Innovation and R & D		
103 -1	Explanation of the material topic and its Boundaries	Integrated Product Development Intellectual Property Protection Data Summary
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	
GRI Standard		Chapter
GRI 300: Environmental		
302	Energy	
302-1	Energy consumption within the organization	Energy Conservation and Emission Reduction Clean Energy Utilization Data Summary
302-3	Energy intensity	
302-4	Reduction of energy consumption	
302-5	Reductions in energy requirements of products and services	
303	Water and Effluents	
303 -1	Interaction with water as a shared resource	Water Resources Management Wastewater Treatment Data Summary
303 -2	Management of water discharge-related impacts	

GRI Standards Content Index

GRI Standard		Chapter
GRI 300: Environmental		
304	Biodiversity	
304-3	Habitats protected or restored	Ecological Restoration
305	Emissions	
305-1	Direct (Scope 1) GHG emissions	Energy Conservation and Emission Reduction Clean Energy Utilization Data Summary
305-2	Energy indirect (Scope 2) GHG emissions	
305-4	GHG emissions intensity	
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	
306	Waste	
103 -1	Explanation of the material topic and its Boundaries	Hazardous Emissions and Waste Management Data Summary
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	
306-1	Waste generation and significant waste-related impacts	
306-2	Management of significant waste-related impacts	
306-3	Waste generated	
307	Environmental Compliance	
103-1	Explanation of the material topic and its Boundaries	Environmental Protection
103-2	The management approach and its components	
103-3	Evaluation of the management approach	
307-1	Noncompliance with environmental laws and regulations	

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GRI Standard		Chapter
GRI 400: Social		
401	Employment	
401-1	New employee hires and employee turnover	Employee Management Employee Benefits Data Summary
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	
403	Occupational Health and Safety	
103 -1	Explanation of the material topic and its Boundaries	Safety&Health Data Summary
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	
403-1	Workers' representation in formal joint management-worker health and safety committees	
403-2	Types of injury and rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities	
403-5	Worker training on occupational health and safety	
403-7	Prevention and mitigation of occupational health and safety	
403-2	Hazard identification, risk assessment and incident investigation	
403-5	Worker training on occupational health and safety	
403-7	Prevention and mitigation of occupational health and safety	
404	Training and Education	
404-1	Average hours of training per year per employee	Talent Cultivation and Incentive
404-2	Programs for upgrading employee skills and transition assistance programs	
413	Local Communities	
413-1	Operations with local community engagement, impact assessments and development programs	Community Engagement Community Investment Rural Revitalization Data Summary

GRI Standards Content Index

GRI Standard		Chapter
GRI 400: Social		
414 Supplier Social Assessment		
414-1	New suppliers screened using social criteria	Responsible Supply Chain
414-2	Negative impacts of supply chains on society and actions taken	
416 Customer Health and Safety		
103 -1	Description of substantive topics and their implications	Responsible Supply Chain
103 -2	Management methods and components	
103 -3	Assessment Management Measures	
416-2	Health and safety violations involving products and services	
418 Customer Privacy		
103 -1	Description of substantive topics and their implications	Responsible Supply Chain
103 -2	Management methods and components	
103 -3	Assessment Management Measures	
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	
419 Socioeconomic Compliance		
103 -1	Explanation of the material topic and its Boundaries	Standardized Governance
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	
419-1	Noncompliance with laws and regulations in the social and economic area	
Pandemic		
103 -1	Explanation of the material topic and its Boundaries	Fight the Epidemic Together and Support the Community
103 -2	The management approach and its components	
103 -3	Evaluation of the management approach	



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Independent Limited Assurance Report

To the Directors of the Board of Xiamen Tungsten Co.,Ltd.

We were engaged by Xiamen Tungsten Co.,Ltd. (the "Company") to undertake a limited assurance engagement of the key indicators (the "Indicators") for the period from January 1, 2021 to December 31, 2021 included in its ESG Report 2021 (the "Report").

The Company's Responsibility

The Company was responsible for selecting the Criteria, and preparing and fairly presenting information presented in the Report in accordance with that Criteria. This responsibility includes establishing and maintaining internal controls, adequate records and making estimates that are reasonable in the circumstances.

RSM's Responsibility

Our responsibility was to express limited assurance conclusions on the Indicators as defined in the "what we assured" column in the tables below.

We conducted our procedures in accordance with the International Federation of Accountants' International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ISAE 3000) and the terms of reference for this engagement as agreed with the Company. The procedures we performed were based on our professional judgement, and for our reasonable assurance scope, our work was carried out only at the Company's headquarters. Our assurance procedures included:

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Report and methods used to collect and process the Indicators
- Performing analytical procedures on the Indicators
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria
- Recalculating the Indicators.
- Other procedures that we deem necessary



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Independent Limited Assurance Report

<p>Greenhouse Gases</p> <ul style="list-style-type: none"> · Scope1: Direct GHG emissions (ton CO₂e) · Scope2: Indirect GHG emissions from purchased energy (ton CO₂e) · Total GHG emissions (ton CO₂e) · GHG emission intensity (ton CO₂e/100 million RMB revenue) 	<p>Gas Pollutants</p> <ul style="list-style-type: none"> · Nitrogen oxide emissions (ton) · Sulfur oxide emissions (ton) · Suspended particle emissions (ton) 	<p>Hazardous Waste</p> <ul style="list-style-type: none"> · Disposal amount of waste chemicals containers (ton) · Disposal amount of waste resin (ton) · Disposal amount of waste acid (ton) · Disposal amount of waste paraffin (ton) · Disposal amount of toxic organic solvents (ton) 	<p>Resource Consumption</p> <ul style="list-style-type: none"> · Power consumption (kWh) · Steam consumption (ton) · Natural gas consumption (m³) · Coal consumption (ton) · Petrol (stationary source) consumption (litre) · Diesel (stationary source) consumption (liter)
<p>Water Waste and Water Waste Pollutants</p> <ul style="list-style-type: none"> · Wastewater discharge amount (m³) · Ammonia nitrogen emissions (ton) · COD emissions (ton) 	<p>Fuel Consumption of Vehicles</p> <ul style="list-style-type: none"> · Gasoline consumption (liter) · Diesel consumption (liter) 	<p>Water Resources</p> <ul style="list-style-type: none"> · Total water consumption (m³) · Water consumption density (m³/100 million RMB revenue) 	<p>Safety Training Performance</p> <ul style="list-style-type: none"> · Total person-time of occupational safety training (person-time) · Total hours of occupational safety training (hour)

<p>Production Safety Accidents</p> <ul style="list-style-type: none"> · Number of extremely severe accidents (case) · Number of severe accidents (case) · Number of larger accidents (case) 	<p>Occupational Safety and Health Performance</p> <ul style="list-style-type: none"> · Number of work-related severe injuries (person) · Number of work-related deaths (person) · Work-related death rate (%)
<p>Total Number of Employees (person)</p>	<p>Employees by Gender</p> <ul style="list-style-type: none"> · Male (person) · Female (person)
<p>Employees by Age</p> <ul style="list-style-type: none"> · Less than 30 years old (person) · 30-50 years (person) · Over 50 years old (person) 	<p>Employees by Education Background</p> <ul style="list-style-type: none"> · Doctor (person) · Master (person) · Undergraduate (person) · Junior college (person) · College degree or below (person)
<p>Employees by Type</p> <ul style="list-style-type: none"> · Manufacturing (person) · Sales (person) · Technical (person) · Finance (person) · Administration (person) 	<p>Gender Distribution at Management Level</p> <ul style="list-style-type: none"> · Male management (person) · Female management (person) · Percentage of female managers (%)

<p>Labor contract signing rate (%)</p>	<p>Employee turnover</p> <ul style="list-style-type: none"> · Total number of turnover (person) · Total number of employees at the beginning of the year (person) · Annual total number of new recruits (person) · Annual turnover rate (%)
<p>Staff training</p> <ul style="list-style-type: none"> · Total investment of staff training in the whole year (million RMB) 	<p>Investment in R&D</p> <ul style="list-style-type: none"> · Total amount of funds invested in R&D (million RMB)
<p>Patent</p> <ul style="list-style-type: none"> · Number of new patent applications (piece) · Number of new patents granted (piece) 	<p>Non-associated suppliers (distributed by region)</p> <ul style="list-style-type: none"> · Mainland China (number) · Other regions (number) · Total amount (number)
<p>Volunteer service</p> <ul style="list-style-type: none"> · Number of volunteers (person) · Volunteer hours (hour) 	<p>Amount of Community Donations (million RMB)</p>

Limited Assurance

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We have not performed assurance procedures in respect of any indicators relating to prior reporting periods, including those presented in the Report.

We need to remind the users of the Report that for non-financial Indicators, there is no recognized system of assessment and measurement standards, so there is a lack of uniform measurement methods, which will affect the comparability of data between companies.

Our Conclusions

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria described in the Report.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

RSM CHINA CPA LLP

Beijing, China

March 29, 2022

Reader Feedback

Thank you very much for reading the 2021 ESG Report of Xiamen Tungsten Industry Co., Ltd. despite your busy schedule. In order to further improve the quality of ESG management and reporting, we sincerely invite your valuable comments and suggestions on this report to help us continue to improve. We will give full consideration to your opinions and suggestions, and promise to properly protect your information from being obtained by third parties.

1. Which type of stakeholders do you belong to?			
Employees	Customers	Suppliers and partners	Shareholders or investors
Government or regulators	Peer companies	Community residents	Media institutions
NGOs	Research institutions	Banking	Others (please specify) : _____
2. Do you think this report has fully reflected the Company's social responsibility performance in 2021?			
Very much	Generally yes	Partially	Not fully reflected
3. Do you think the information disclosed in this report is true?			
Very much	Generally yes	Partly true	Totally not true
4. How do you think of the framework of this report?			
Clear	Normal	Okay	A bit confusing
5. Do you think this report is easy to read?			
Very much	Generally yes	Low readability	Difficult to read
6. Do you have any opinions and suggestions on the Company's social responsibility work?			
No	Yes, _____		
7. Please leave your name and contact details.			
Name: _____		Contact information (mobile phone number or email address) : _____	

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We are committed to making employees realize their self-value, providing users with satisfactory services, obtaining rich returns for shareholders, and seeking harmonious development with society, so as to become a respected world-class enterprise.

Xiamen Tungsten Co., Ltd.