



2022

**ENVIRONMENTAL, SOCIAL
AND GOVERNANCE
REPORT**

CABIO BIOTECHNOLOGY (WUHAN), INC.



13 Governance

- Scientific governance enables stability and durability

Governance by Three Organs	15
Information Disclosure	16
Investor Relations	17
Internal Controls and Risk Management	17
Compliance Management	18

19 Society

- Advance with interested parties in reward for society

Focus on nutrition and health and optimize product quality	21
R&D and Innovation	23
Join hands with customers to develop the future	27
Supply Chain Development	29
Care for employees and grow together	31
Be enthusiastic about public welfare activities to reward the society	38

41 Environment

- Green, low-carbon, energy-saving and environmentally

Low carbon production, green and environmentally friendly	43
Conclusion: Outlook on 2023	46

Board Chairman's Message	03
About the Report	05

06 About Us

Corporate Culture	07
Development Strategy	08
Global Landscape	09
Honors and Prizes	10
ESG Management Strategy	11
Communication with Interested Parties	12

BOARD CHAIRMAN'S MESSAGE

In the past three years full of challenges, we have taken opportunities to concentrate on our main business while working hard in two supporting fields. We implemented a development strategy in its entirety designed to make extensions on three fronts and erect and explore deeper into the technological platform of synthetic biology. When we started the business, we created everything out of nothing, boosted by a firm determination to survive failures. At present, we will switch the focus of our development to availability, sustainability, and high quality

Dedication to sustainability and quality

As a strategic emerging industry that China focuses its effort on for the 14th Five-year Plan, bioeconomy serves as a powerful boost for green, low-carbon economic and social development because of its strategic technological momentum. As biomanufacturer, we use core strains as fundamental tools to perform novel biofermentation and biocatalysis processes, thereby transforming and processing substances in a mode that is green, low carbon, and sustainable at the core. In the financing of and investment in the polyunsaturated fatty acids (PUFA) and microencapsulation production line completed in the fiscal year 2022, we integrated biomanufacturing with smart manufacturing & design while introducing digital operating into the entire manufacturing process in order to make our workshops greener, more environment-friendly, and more scientific.

In the fiscal year 2022, the thread of our development strategy — a main business, two supporting fields, and extensions on three fronts — became clearer. We implemented a unique biomanufacturing technology innovation system and built a technological closed loop. In addition to these, we opened our arms widely to synthetic biology, initiating new explorations and landscapes in regard of underlying technological development and the future development of the industry. In October 2022, we commenced an R&D center (also a synthetic biology innovation center) in Optics Valley in Wuhan, our third securities market earnings-funded project which, upon completion, will be playing a strategic, leading and decisive role in the whole synthetic biology sector. In cooperation with our contractors and partners, we will make the center a synthetic biology business incubator of national renown to help build a synthetic biology development zone in Central China with its own technological advantages.

In the fiscal year 2022, we redesigned and upgraded our corporate value and culture system. We put forward the brand concept of “biotechnology nurtures life,” one that breaks the limit of human nutrition products by extending the vision and mission to cover not just human nutrition, animal nutrition, personal care products and makeup, but also biomedicine, synthetic biology, and more fields, in an effort to nourish all life.”

At the same time, we persist in introducing young people to an international perspective and working experience in multinational corporations. We have a strategic pillar team of talents specializing in leading-edge biotechnology, international marketing and international operations. Together, they are devoted to forging Cabio as an international

We are committed to growing arm in arm-with our customers, providing them with not just products and technical support; we will never stop exploring from their perspectives to develop a diversity of solutions and create unlimited value for them.

Reward society with our strengths

As pioneer in the Chinese microbial oil industry, we always regard industry leadership and exploration as our obligation. Besides, we have continually made the most of our strengths to shoulder social responsibility in professional talent education and development. Last year, we invested more in social education support as well as a platform integrating R&D, manufacturing and education in an effort to train more topnotch professionals and deliver research findings of great value.

We are trying to come up with more support plans for community care. Take pregnant and lying-in women with low income, disability, or disadvantage. We not only give them material aid, but also educate them on correct nutrition solutions and scientific infant feeding in the hope that down-to-earth action will help with postnatal care and infant growth.

He who would climb the ladder must begin at the bottom. In every step we take in the future, we will keep with faith a green, low-carbon, public interest-oriented inclusive road of sustainability. We will employ technological innovation as a core driving force behind the quality, growth, and sustainable development to create sustained value for our customers, employees, shareholders, and all the interested parties in an effort to transform into a veritable global life-nourishing social enterprise.

Cabio Board Chairman:



About the Report

Cabio Biotechnology (Wuhan), Inc. (“Cabio” or “Company”) hereby releases the ESG Report 2022 to the public in order to present an objective report on its corporate social responsibility-related concepts, methods, and actions to the shareholders, customers, employees, government and other interested parties.

Timeframe of the Report

This annual report covers the fiscal year 2022, from January 1 to December 31, but with the aim of improving its comparability and anticipability, it contains some information outside of the specified timeframe.

Scope of the Report

The report presents information mainly on Cabio Bioechnology (Wuhan), Inc., while covering affiliated companies and subsidiaries at the same time. Except where otherwise specified herein, the report parallels Cabio’s annual reports in scope

Basis for Preparation

We prepared this report on the basis of the “Core plan” provided by the Global Sustainability Standards Board (GSSB) while referring to such official documents as the Notice on Requesting Corporate Social Responsibilities of Public Companies and on the Issue of the Guide to Information Disclosure by SSE-listed Public Companies (issued by SSE); the Guide to Preparing Corporate Social Responsibility Reports (GB/T36001-2015); Guide 4.0 to the Corporate Social Responsibility of Chinese Enterprises: Food Sector (issued by the Chinese Academy of Social Sciences); and other Chinese or international standards and practices regarding corporate social responsibility reports. Based on these documents, we finalized the content of the ESG report 2021.

Data Source

All the report data come from our official documents, financial reports, etc. Except where otherwise specified, this report uses the Chinese yuan as a unit of measurement for any amount.

Access to the Report

This report can be searched for and downloaded in electronic version from our website and the website of SSE. (www.sse.com.cn).

Feedback

contact us through the following avenues if you have any recommendations or questions about the report.

Address: 999 Gaoxin Ave., East Lake High-tech Development Zone, Wuhan, Hubei

Postal Code: 430073

Phone: 027-6784528

About Us



Company Profile

Founded in 2004, Cabio (Stock Symbol: 688089) went public on the SSE Science & Technology Innovation Board (STIB) in December 2019. It is the first STIB-listed food biotechnology company at home and the first STIB-listed company headquartered in Hubei.

Cabio ranks among the earliest Chinese high-tech firms producing polyunsaturated fatty acids (PUFA) and fat-soluble nutrients using microbial synthesis. It is dedicated to providing global nutrition and health sector customers with quality functional materials and innovative solutions. It is not only the Chinese pioneer in arachidonic acid (ARA), but also has commercialized multiple products (e.g. DHA, β -Carotene, sialic acid (SA) and so on) that are widely applied in human nutrition, animal nutrition, personal care, makeup and more.

Corporate Culture

Since the foundation, we have stuck to our values — creativity, cooperation, openness and integrity. Since technological innovation serves as a core driving force, we are continually aiming at leading-edge biotechnology while sticking to basic research so as to unleash the unlimited possibilities in the biotechnology field. We cooperate earnestly with all the interested parties, sharing resources, capabilities and development opportunities. As a global enterprise, we bring together topnotch talents from the world to build an open platform for business and talent development. Besides, we stick to business integrity, devoting ourselves to balancing social responsibility, environmental protection, and business activity.

CABIO 嘉必优

Biotechnology Nurtures Life

Mission

We employ technological innovation as a core driving force behind the quality, growth and sustainable development to create sustained value for our customers, employees, shareholders and all the interested parties.

Vision

We aim to become a world-leading biotechnological company enabling nutrition and health for life.

Values



Integrity



Cooperation



Openness



Innovation

Development Strategy

Guided by the principle of technological platform, smart manufacturing, digital operating, international marketing, industry ecosystem, and human capital, we implement a strategy that supports extension on three fronts and forms a business landscape including the main business and two supporting fields. We set internationalization goals, bring the capital market into use, forge core competitiveness, improve international operating capability, and try our best to enhance our scale and market performance.

Three Fronts and Two Supporting Fields:

Human nutrition, animal nutrition, personal care and makeup

Extensions on Three Fronts:

A greater product category, more applications, and more market shares

Four Products:

ARA, DHA, SA, and β -Carotene

A Line of Five Products:

Human nutrition, animal nutrition, personal care & makeup, biomedicine, and synthetic biology

Six Policie:

Technological platform, smart manufacturing, digital operating, international marketing, industry ecosystem, and human capital

Global Landscape

We persist in an internationalization strategy in an effort to forge ourselves as a globally-competitive innovative biotechnology corporation. We have put in place production lines, operating and management systems in conformity with international standards, with our main product line recognized by EU Novel Food and FDA GRAS, among much other food safety and QA criteria that many multinational food manufacturers set out for their quality global suppliers. To this date, we have operations in 30+ countries and areas, including China, the U.S., Europe, Australia, New Zealand, South Korea, and Southeast Asia, as the supplier to 500+ global enterprises, including Cargill, DSM, Nestlé, Danone, Feihe, Yili, H&H, and more.



Honors and Prizes



2022 Honors and Prizes

Awarded

- | | |
|--|--|
| 1. The China National Light Industry Council First Prize 2022, awarded for a research project — Key Technology to Produce Microbial Lipid Nutrition with High Efficiency and Application | The China National Light Industry Council |
| 2. The Hubei Microbial Oil Engineering Research Center | The Hubei Development and Reform Commission |
| 3. The Chinese Enterprise with an Intellectual Property Strength | The China National Intellectual Property Administration |
| 4. The China Research Center for Light Industry Functional Lipid Engineering Technology | The China National Light Industry Council |
| 5. The Original Ingredient Prize | The Fifth Lists of China Prospective Innovative Natural Raw Mterials |
| 6. The Dark Horse Prize on Healthy Snacks | The Summit of Leading-edge New Nutrition Suppliers |
| 7. The Innovative New Ingredient Prize | The International Conference on Innovative Cosmetics |
| 8. The Technological Innovation Prize | The Forum on Personal Care Products & Technologies |

ESG Management Strategy

We introduce the concept of ESG management into routine production and operation to maintain a robust ESG working mechanism contributes to quality improvement.

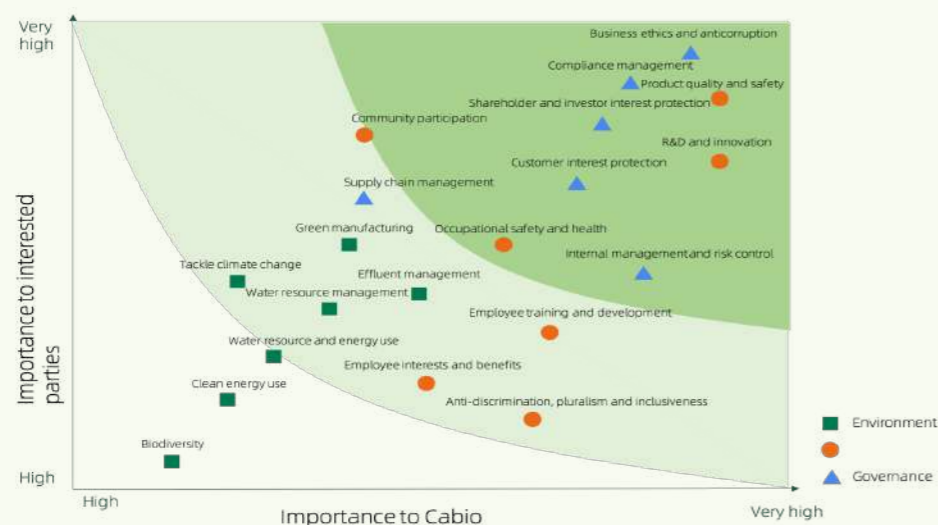
With the aim of pressing ahead with our ESG goals with high efficiency, we are taking further steps to optimize and enhance the ESG system.

For example, we have a Strategy and ESG Management Committee in place and an ESG architecture consisting of three levels — decision-making, management and execution. The Strategy and ESG Management Committee under the Board of Directors coordinates the implementation of the various ESG tasks.



Substantial Topics

We benchmarked ourselves against the relevant Chinese and foreign ESG standards, guidance, and trade topic disclosure. Based on our context of sustainable development and development roadmap, we took substantiality, integrity and the involvement of interested parties into account. Meanwhile, we identified and assessed the significant topics within the reporting period in two dimensions — significance to our sustainable development and significance to the sustainable development of the interested parties — as they expected. Consequently, we identified Cabio's substantial topics for the fiscal year 2022.



Importance to interested parties

Interested party	Exchange ideas on issues	Communication and responses
Shareholders and investors	<ul style="list-style-type: none"> Scientific corporate governance Compliance management Prevent operational risk Enhance profitability Secure shareholder interests 	<ul style="list-style-type: none"> Optimize corporate governance Intensify internal controls and risk management Promote business development Ensure the dividend plan runs stably Improve information disclosure governance Enhance investor relations management
Government and regulatory authorities	<ul style="list-style-type: none"> Legal compliance Pay tax according to law Protect the local environment 	<ul style="list-style-type: none"> Legal compliance management Pay tax in time and according to law Conduct emissions management well
Supplier	<ul style="list-style-type: none"> Comply with business ethics and be honest and trustworthy Fair open procurement Grow together with the industrial chain 	<ul style="list-style-type: none"> Implement strict supplier requirements Open bidding procedure Grow hand in hand with industrial chain partners
Customer	<ul style="list-style-type: none"> Product safety and quality Quality service Respond to and solve complaints 	<ul style="list-style-type: none"> Zero food safety accident Quality, production and safety management system Customer technical support Solve customer complaints well and in time
Employee	<ul style="list-style-type: none"> Remuneration and benefits Occupational health and safety Career enhancement and development Female employees 	<ul style="list-style-type: none"> Remuneration and benefit system Employee training and promotion Occupational health management Special care for female employees
Community	<ul style="list-style-type: none"> Create jobs Boost community development Commonweal and charity 	<ul style="list-style-type: none"> Create jobs and recruit undergraduates Generalize nutrition and health knowledge Conduct social welfare activities
Environment	<ul style="list-style-type: none"> Comply with environmental laws Pollution control Respond to climate change 	<ul style="list-style-type: none"> Treat wastewater, waste gas and solid waste safely Save energy and cut emissions Green manufacturing

G



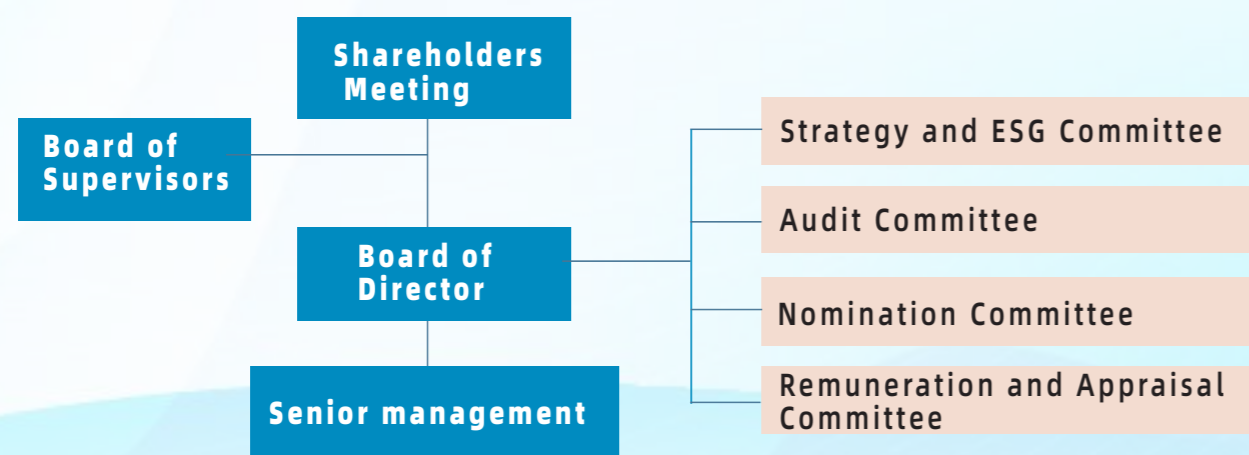
GOVERNANCE

Scientific governance
enables stability and
durability



Governance by Three Organs

We have a complete and scientific legal person governance structure and an internal control system in place as demanded by the Companies Act, the Public Company Governance Rules and related laws and legislation. This structure enables the authority organ, the decision-making organ, the supervisory organ, and management to act on their respective powers and responsibilities, operate through effective checks and balances, make decisions scientifically and coordinate well. In the reporting period, the three organs worked in strict compliance with applicable laws to make information disclosure in a true, accurate, unbiased, timely and complete way. Investor relations management proved highly efficient and professional, and the internal control system worked efficiently, successfully securing the legal inour shareholders and ushareholders.



Shareholders Meeting

We standardize the convention, holding and decision-making procedures in strict compliance with the applicable laws, regulations, legislation and the Articles of Association. In fiscal year 2022, we called two shareholders' meetings, reviewing and passing resolutions on such important matters as the restricted stock incentive plan, profit distribution, related transaction, annual report preparation and remunerations for directors and supervisors. We combined onsite voting with online voting to provide convenience for shareholders to exercise their rights. For small and midsize investors, a separate count is applied when it comes to an important matter. In order to secure equality for all shareholders, we employed legal counsels to give legal opinions on the legitimacy of the Shareholder's Meeting.

Stress on Return to Shareholders and Consistent Dividends

While stressing sustainable development, we gave due consideration to the fair return to shareholders by implementing consistent dividend plans for three consecutive years. We set up a scientific, sustainable, consistent, transparent shareholder return mechanism.

Cabio Annual Dividend Plan Details

	Dividend plan, including tax	Amount
2020	¥3.3 in cash per 10 shares	¥39.60M
2021	¥3.3 in cash per 10 shares	¥39.60M
2022 (Preliminary plan)	¥3 in cash per 10 shares	¥36M

Board of Directors and Tasked Committees

The Board of Directors consists of nine directors, including three independent directors, accounting for 1/3 of the Board. There are two female directors. Under the Board of Directors are the Auditor Committee, the Strategy and ESG Committee, the Nomination Committee, and the Remuneration and Appraisal Committee, all of whose members are board directors. Except for the Strategy and ESG Committee, the committees have their membership predominated by independent directors who also act as conveners. The size and makeup of the memberships of the Board of Directors and of the tasked committees conform to the stipulations of applicable laws, legislation and the Articles of Association. In fiscal year 2022, the Board of Directors called nine meetings, the Audit Committee called seven meetings, the Strategy and ESG Committee called three meetings, and the Remuneration and Appraisal Committee called three meetings, all with 100% attendance. The convention, holding and voting procedures of the meetings complied with the stipulations of applicable laws, legislation and the Articles of Association. The tasked committees exercised their powers within the sphere of the authorization of the Articles of Association and the Board of Directors in an effort to support the Board of Directors scientifically and effectively in decision-making.

监事会

The Board of Supervisors exercises due diligence in carrying out its responsibilities in strict compliance with such laws and legislation as the Companies Act in addition to the Articles of Association and the Rules of Procedure of the Board of Supervisors. In the reporting period, the Board of Supervisors called nine meetings, with 100% attendance, reviewed and passed the resolutions on such important matters as the restricted stock incentive plan, annual profit distribution and related transactions with the aim of supervising company operating and management in all aspects.

Information Disclosure

We are strict in performing obligations of information disclosure in compliance with the Rules of Public Trading of the SSE STIB-listed Stocks, the Articles of Association, the Rules of Information Disclosure Management, and applicable laws, legislation and norms, and internal control systems. We publish periodical reports and temporary notices without delay in appointed media, e.g., China Securities Journal, Shanghai Securities News, STCN, Securities Daily, and SSE (Website: <http://www.sse.com.cn>) while keeping confidential information and insider information highly secret before disclosing important information. In the fiscal year 2022, we disclosed **63** temporary notices, **4** periodical reports, and **61** other online materials to ensure all the shareholders have the right to know about important matters and our operating.

Investor Relations



We put a premium on investor relations management by communicating actively with our investors on their recommendations and advice on company operating and future development in the form of investor hotlines, fax, email, performance briefings or SSE E-interaction platform, securities trader strategy reviews and online investigations for the purpose of maintaining good investor relations. In the fiscal year 2022, we received **529** public investigations from investors and **420** institutional investors in addition to **3** performance briefings.

Internal Controls and Risk Management

We have never stopped improving our internal control mechanism and risk management mechanism. We are forever strengthening internal audit management. While exercising routine supervision and special supervision as part of internal controls, we make internal control self-assessments on a yearly basis and disclose the Internal Control Self-assessment Report in order to provide a favorable internal environment for fast growth, high operating efficiency and sustainable development.

Internal Audit

We review whether the internal control management-related procedures and mechanisms are executed effectively with the aim of improving corporate management procedures and strengthening risk control and establishing and improving internal control mechanisms.

The Audit Committee conducted **8** special audits for the operating division and operating activities based on the annual audit plan 2022, which reviewed and objectively assessed current operations management and internal controls. The Audit Committee identified the risk control points in the audits and rectified the problems with the execution process. As for incomplete management bylaws and support mechanisms yet to be established, scientific advice was given, and rectifications followed up to implement the relevant corporate bylaws and maximize company interests.

Compliance Management

Intensified Legal Compliance Management

Since its establishment, we have operated legally by abiding by international laws, legislation and various regulations. We have continually upgraded various management systems and legal compliance bylaws, and standardized such work processes as contract review and trademark registration to comply with laws. At the same time, we educate the staff constantly and increasingly on legal consciousness, organize periodical in-house legal training for our employees, conduct legal governance increasingly, and transform legal compliance into a consistent driving force for modern corporate governance

Anticorruption Practices

We press ahead with anticorruption practices for our suppliers, customers, and employees and implement resolute crackdowns on commercial bribery and corrupt practices. Before dealing with the suppliers and customers, we sign a letter of commitment to incorruption, and a letter of the committee to anti-corruption.

In the Employee Handbook, we set forth various operating and management bottom lines by establishing anticorruption procedure approval and decision-making mechanisms for our employees and internal complaint & reporting mechanisms.

Meanwhile, we provide senior management and mid-level management with anticorruption training programs, demanding they sign the Letter of Commitment to Senior Management Self-discipline and Corporate Bylaw Compliance in a written form to make a commitment to, and, if applicable, accept the liability for the violation of six fundamental principles — legal compliance, responsibility, confidentiality, integrity & self-discipline, anticorruption and rejection of bribes, and setting of an example of anti-corruption.

We were involved in no suit in connection with employee corruption in 2022.

IP Management

We accord great importance to IP management capability. We have established a scientific affairs office responsible for R&D programs and IP management in accordance with the Chinese Patent Act, the Particulars of the Chinese Patent Act and applicable laws and legislation. Also in place is the Intellectual Property Management Handbook prepared according to our circumstances in order to consistently improve the IP management system, complete multiple trademark registration formalities, and protect our legal interests. By December 31, 2022, we boasted **112** patent grants, including **103** inventions, **6** utility models, **3** appearance designs, and **1** software copyright. Pending are **124** domestic invention patents and **2** Australian and New Zealand patents.



Social

Advance with interested parties in reward for society



Focus on nutrition and health and optimize product quality

Our slogan is that each of our cans of milk nourishes your baby. It is also what we have pursued as our unwavering mission in nutrition and health for two decades. We persist in providing safe, healthy and quality nutritional products and valuable solutions with the aim of helping the public stay fit through nutrition adjustment. We stick to a quality-centric development strategy."

Green-sourced quality product

ARA: World-leading industry leader

The first Chinese company to produce and commercialize ARA to supplant imported ARA products.

SA: A multifunctional food ingredient with beauty enhancement effects

The fermentation process secures 98%+ purity. Widely applied in baby formulas, health foods and makeup.

SA

β-Carotene
Natural pigment and safe Vitamin A



Highly-pure natural carotene products prepared with the fermentation process is a perfect substitute for chemically synthesized products. Our singular solution ensures product stability in different applications.



DHA: Top quality promises unlimited potential

Environmental natural sources. Certified for EU Novel Food, FDA GRAS and USDA Organic.

Strict food safety crafts quality

Strict quality control

Our management and culture rest on food safety. We have always clung to strict food security standards, keeping up with the most recent Chinese and international technological requirements for food safety and quality management. Our ARA products e.g. are recognized for **EU Novel Food** and **FDA GRAS** certification. We have established a strict comprehensive food safety management system acknowledged by many multinationals for long-term, strict international supplier inspection.

We base our management system on **ISO9001** and **FSSC22000** and multinationals management systems. It covers R&D, contract review, supplier management, ingredient purchasing, warehouse management, production process control, product inspection, shipment, identification & traceability, and HSE intended to make the HSE management system operate effectively and achieve sustainable development.



Inspection management is crucial to product safety. In 2022, we increased inspection items relevant to raw/assistant material, process, final product, risk control, etc. to **602**, coming to **¥5.34M** in total.

On September 25, 2022, our test center obtained CNAS accreditation and renewed its authority as an accreditation institution. On August 18, 2022, our test center, or laboratory, built in accordance with state-of-the-art international lab design standards, became formally operational. It is a ¥12M+ investment and totals 1,800 m²+ test center, or lab, marking yet another advance we made as a professional test authority. It will continue to back our product safety.

Close Product Safety Control

The State Administration for Market Regulation issued the Directive for Food Manufacturer Responsibilities regarding Product Safety (#60) on September 22, 2022. Now we have a food safety management team — including the food safety overseer, food safety inspectors, etc. — to work in step with our business growth. We have specified the responsibilities of major superintendents, overseers and inspectors while establishing a dynamic management system based on safety risk control. We see our product safety control system function efficiently on a daily, weekly and monthly basis.

R&D and Innovation

R&D Ecosystem

In 2022, we continued to consolidate external resources, and expand our R&D ecosystem via strategic partnerships entered into with multiple universities and institutes for the purpose of postgraduate programs.



Partnerships with universities and institutes

The Chinese Academy of Sciences	The Institute of Applied Plasma Science The Research Center of Applied Alga Biology	The China National Institute of Standardization	The Research Center of Agricultural Standardization
The Chinese Academy of Agricultural	The Oils Quality Chemistry and Nutrition Innovation Program	The Chinese Academy of Inspection and Quarantine	Food & Drug Safety Assessment Center
Tsinghua University	The National Strategic Laboratory of Chemical Engineering	Wuhan University	The National Key Laboratory of Virology
Tianjin University	The Center of Leading-edge Synthetic Biology	Shenzhen University	The Shenzhen Key Laboratory of Microbial Genetic Engineering
Zhejiang University	The National-Regional Laboratory of Industrial Biocatalysis Engineering	Hubei University	The National Key Laboratory of Biocatalysis and Enzyme Engineering
Huazhong University of Science and Technology	The National Research Center of Nanomedicine Engineering	South-Central Minzu University	The Food and Bioengineering Institute
Nanjing Tech University	The National Research Center of Biotechnology Engineering	Wuhan Institute of Technology	The Platform of Chemical Engineering and Technological Disciplines

Erect synthetic biology platforms

We are continually updating underlying technologies for synthetic biology, extending the scope of research into more chassis cells, developing industrial strain libraries, and improving as always applications for the data platform of synthetic biology.



Embarkation on synthetic biology programs



On October 19, 2022, we laid the cornerstone for a securities market earnings-funded project in the Bioscience City, part of Optics Valley in East Lake High-tech District, Wuhan. The same day saw the cornerstone ceremony for the Wuhan Synthetic Biology Innovation Center, positioned as an industry leader in Huazhong and expected to play a holistic strategic guiding role in the sector. By building a representative national-level incubator, the center will put a premium on biotechnological projects which promise commercial potential and business value. The center is expected to give a strong boost to the Optics Valley Technological Innovation Corridor, quicken the commercialization of bioscience findings in Wuhan, provide benefits for quality incubator projects and talent from out of Wuhan, and bring into existence a synthetic biology industry in Central China with advantages of its own.

Continuously promote product development

We combine our existing R&D advantages with the synthetic biology technology to guide the industrialization of laboratory technologies, thus providing high-quality products and services for customers in the fields of human nutrition, animal nutrition and personal care.

Pilot test completed for	2'-FL	Industrialization underway
	astaxanthin	
Strain construction completed for	α-arbutin	Pilot test forthcoming
	ectoine	
	3'-SL	

Strengthen research on and popularization of raw material functions

Regarding developing the core raw material, sialic acid, for cosmetic applications, **14** new sialic acid products were released in 2022. Currently, **15** brands (totaling **22** products) have been submitted for registration. In May 2022, the application for function extension of sialic acid was completed, aiming to recognize its role as an **anti-wrinkle agent, antioxidant" and skin protectant.**

Case: Youngwoo, a brand for women' health



Zhongke Yanyuan is a company partially funded by CASOV, a wholly-funded subsidiary of Cabio Biotechnology (Wuhan), Inc. Its brand Youngwoo is committed to exploring the deep needs of women and providing women with high-quality health products, beauty products and beauty solutions. We have developed six sialic acid series for it, of which three sialic acid chewable tablet series and 2 sialic acid effervescent tablet series have been successfully launched, and one sialic acid gummy series has been proof-tested and acknowledged, with the first large-scale batch of products to be produced and released soon.

Functional research on and application of raw materials

- Development of DHA infant moisturizing and repairing recombinant product series, and DHA anti-aging, anti-inflammatory, and penetration-promoting co-delivery carrier series
- Study on the preventive effect of DHA on myocardial ischemia-reperfusion and on sialic acid's effect in alleviating non-alcoholic fatty liver diseases
- Signed agreements with global partners to start research on the clinical beautification efficacy of orally-administrated SA..
- Planned to conduct research on the targeted functions of new HMO products, to provide innovative solutions for the infant formula market



Join hands with customers to develop the future

Protect customer interests and refine customer

Adhering to the customer-centered business philosophy, we provide all customers with all-round, high-quality and one-stop services, and actively respond to customers' customization requirements.

Collaborated with the customer Feihe Group to jointly apply for the first prize of the China National Light Industry Council.

Respond to the new national standard on DHA/ARA increases in infant and toddler formulas, customize formulas for customers according to their needs and enable their registration materials, provide regulatory advice, and cooperate with customers in providing the materials required for registration.



Actively participate in industrial exhibitions

We actively participate in various exchange activities in the industry and share frontier insights and the latest research results. As an important supplier for previous CFAA FIC industrial conferences, we have been rated as an Excellent Service Provider for many times and as a strategic partner favored by the customers



Strengthen technical support and deepen cooperation & exchanges

We always regard customers as our close partners on the road of growth. We not only provide products for customers, but also explore tirelessly from the perspective of customers, seeking to provide diverse application and solutions and bring infinite value to customers.

Case: Help customers grow together

- Provide high-quality fish oil powder products and related solutions to Danone, Yili, Beingmate and other customers. Its high content of EPA can help prevent cardiovascular and cerebrovascular diseases. Also, we helped Danone develop its Dare to Stride series, help Yili develop its Xinhuo series, and help Beingmate develop its Shuxinli series, as our contribution to the Gray Hair Program and health enhancement for senior citizens.



- Provide sialic acid products and solutions to Suzhou CamiC Food Co., Ltd. to help it develop innovative ice cream products for women's beautification purposes. Its core functional ingredient, sialic acid, has the functions of anti-oxidation, collagen production promotion, and anti-glycation, which can help upgrade consumption.



- Assist Hangzhou Qingziyang in completing R&D and marketing of DHA popping beads, participate in live broadcasting, endorse DHA algae oil products, promote product marketing, and provide an impetus for the innovation of DHA algae oil solutions.

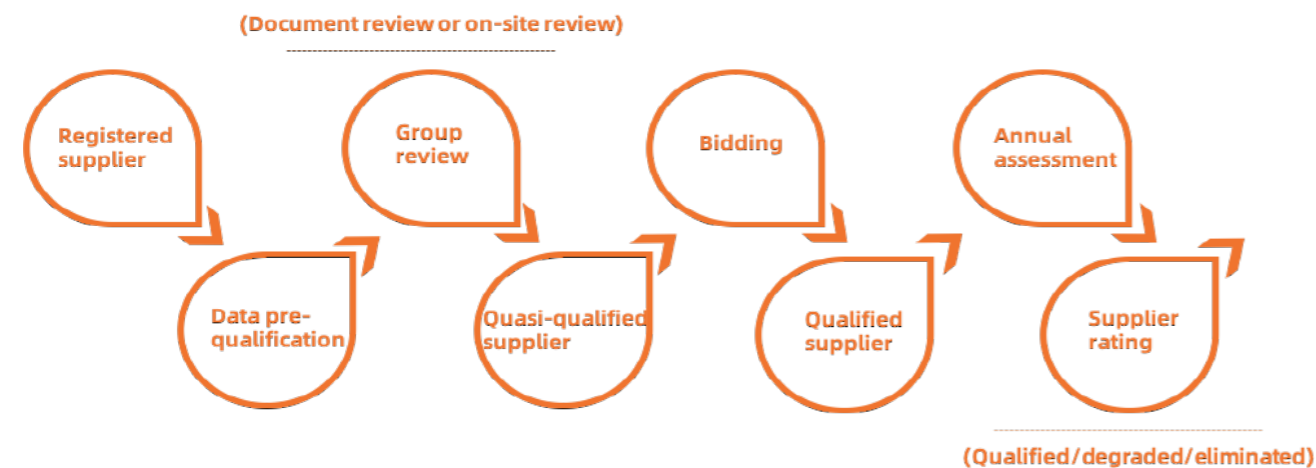
Supply chain management

Improve and upgrade the supplier management system

We have established a strict procurement system to control legal compliance, quality management, production control, warehousing management, transportation protection and other links for the suppliers, and conducted regular on-site or online audits and annual assessments of the suppliers. In 2022, the company revised the Cabio Tendering Management System to standardize bid invitation, bid evaluation rules, bidding requirements and penalties to provide suppliers with a fairer, more just, and more open transparent procurement platform.



Supplier life cycle management system



Practice sustainable



Our supplier review and evaluation system has set clear standards for the suppliers' production capacity, production process, delivery cycle, product quality control, etc. Suppliers that meet food safety requirements will be selected for cooperation, and environmental protection requirements will be followed to promote sustainable procurement.

Supply chain cooperation for a win-win



We have established a long-term and stable partnership with suppliers. In 2022, when COVID-19 hit many places, the Russia-Ukraine war broke out, and the supply was tight, we worked closely with suppliers to share risks and thus offered a firm guarantee for normal production and operation. Completing our intelligent warehouse in 2022 will greatly increase storage capacity, providing strong support for our new capacity and large-scale procurement. Relying on our reliable quality and food safety management system, product storage space, delivery, quality, food safety, etc., are systematically guaranteed to ensure the legal rights of the suppliers, customers and consumers.



Commemorative medals
30-year Supplier Cooperation



Smart 3D Warehouse

Care for employees and grow together

Putting people first, we respect the legitimate rights and interests of every employee, attach great importance to the introduction, training and incentives of various talents, and realize the common growth of the company and employees by establishing a complete salary and welfare system, setting up a sound and effective equity incentive mechanism, and providing a broad development platform.

Legal employment and equality for employees

In accordance with the Chinese Labor Act, the Chinese Contract Act and other relevant national laws, regulations and rules, we sign employment contracts with employees on the basis of equality, voluntariness and equal negotiation, and persist in recruitment diversity. We forbid any discrimination concerning gender, age, nationality, race, religion, disability, etc.. Originals of the ID documents are strictly examined. No child or forced labor is allowed; in 2022, we signed employment contracts with 100% of our employees.

Female employees account for 33.6% of our employees

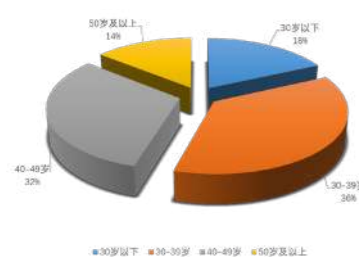
33.6%

Women account for 29.8% of management

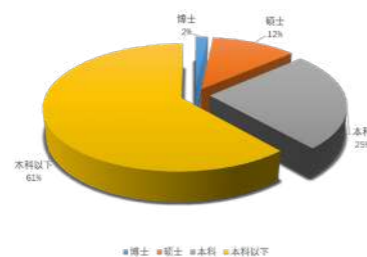
Disabled employees account for 1.7% of our employees

1.7%

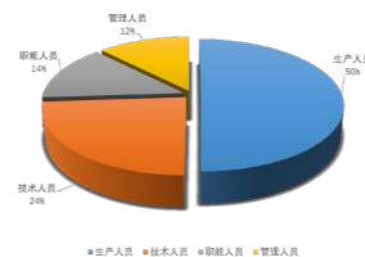
Ethnic minority employees account for 2% of our employees



By age



By education



By employee

Anti-discrimination and care for female employees



- Strictly implement the Regulations on the Scope of Forbidden Labor for Female Employees, and provide female employees with statutory maternity leave and breastfeeding leave to protect the legal rights and interests of female employees in labor.
- Adjust jobs for pregnant and breastfeeding female employees.
- Treat men and women employees equally in terms of salary setting, salary justment and welfare benefits, and give full play to the positive role of female employees in business operations.
- On the Women's Day, we strictly implemented the relevant directives of the State Council and give all female employees half-day leave as well as special gifts to show solicitude .



Competitive salary system



- We are continually improving our HRM system and salary and incentive mechanism, providing institutions and protection for employees' rights and interests such as salary, benefits, working hours, holidays, and labor protection.
- We conduct salary investigation and benchmarking against the external market every year. Based on internal performance we make timely adjustments in salary for employees with obvious deviations and front-line low-income employees, and adopt short-term and long-term salary incentive mechanisms for strategic supporting staff and scarce talents.
- We have a flexible salary structure made up of base, performance bonus, cash allowance, project bonus, year-end bonus, equity incentive, + insurance, and other personalized benefits.
- In January 2022, we launched the 2022 restricted stock incentive plan to further improve our long-term incentive mechanism.

Diverse employee



- We and our subsidiaries maintain pension, health insurance, unemployment insurance, work injury insurance and maternity insurance for employees. What's more, we maintain commercial insurance such as accident injury insurance and supplementary health insurance for employees and their children.
- Provide employees with canteen meals, accommodation, and bus service, as well as health examination every year. Employees enjoy all national statutory holidays and holiday gift money, gifts, and birthday cake coupons.
- Actively organize a variety of activities such as team extension training, ball games, department gatherings, and corporate annual meetings to enrich the work and life of employees.

Continuously improve employees' living and working environment

In 2022, we redecorated and upgraded the offices, dormitories, and recreation areas and other working and living spaces to create a more comfortable and beautiful working and living environment for employees and further enhance their sense of belonging.



Seek physical and psychological pleasure through cultural and sports activities

- Organize various office cultural activities and team building activities to create a positive team atmosphere.
 - Encourage employees to exercise healthily and live happily.
- Organize large-scale online employee amusements during the pandemic, including cloud-based singing competitions, the Spring Festival Gala, and year-end amusements.



Employee exercise



Cloud-based karaoke



Online year-end amusements: Cloud-based Spring Festival Gala

Meticulous care for employees

Protect the health of employees

- Provide cotton clothes, warm quilts, etc. for employees in winter.
- Scientifically prevent the pandemic. Protect employees, customers, and production. and provide care packages before the pandemic control measure is lifted. Offer disinfection items and essential medicine to ensure that all infected employees can take medicine in time and improve and recover quickly.



Distribute cotton clothes and other warm and cold-proof supplies



Anti-pandemic medicine



Distribute "Love Packs: pandemic fighting supplies and other supplies

Talent development

Dual career ladder

Promotion channel for management:

- Oriented to management positions.
- Based on our needs for strategic development and the departments.
- Evaluate based on work performance, work experience, promotion records, training participation, performance evaluation results, and work reports.

Professional development channel:

- For professional, technical, and research positions.
- Assess work performance, education background, work experience, qualifications, training participation, and performance evaluation. Those who qualify will attend job rank review meetings to be further assessed for promotion.

Formulate employee development strategies by category

We adhere to the talent development concept of "advancing together with employees and seeking a win-win situation" to couple the employees' development with our strategic plans. In 2022, we assessed our current traditional business and future innovative business and identified talents at different levels and with different skills to formulate key talent introduction and development programs. We have a recapitulate the information on the key talents of each division, create a digital talent profile database, and continuously implement customized training and development programs for different employees based on our talent development strategy.



Boost personal growth through training and learning

- We have established the dual career ladder for management and technical staff. We have an online/offline training system available to allow employees to improve themselves through diverse training/learning activities and seize the development opportunity.
- In 2022, we carried out online/offline training in an orderly manner, made full use of flexible office hours, and increased the proportion of online training. Offline training chiefly targets operation and qualification. We strengthened the training on employees' awareness of "basic knowledge and basic skills", safety (including fire safety), food safety and other must-know knowledge. We continued with the previous year's category-based training program for different types of employees, customized comprehensive training camps, and invested a total of ¥449K in employee training and development, with an average 79 learning hours per capita.
- Meanwhile, we introduced 32 quality, novel and prime interactive courses, such as newbie/new employee basics, rhetoric and oration, workplace etiquette, project management, thinking, team communication, upward and downward management, and new manager training, to offer learning guide for young and highly prospective employees, key position candidates, and new managers from various departments.



Interactive courses for key



Best learning



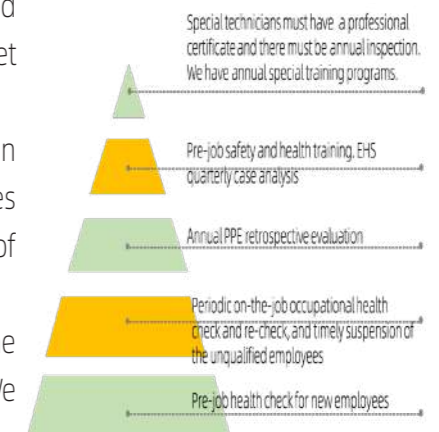
All-round manager training

Occupational health and safety management

We have a complete occupational health management system under the charge of the EHS department. We also have a comprehensive occupational health and safety management system that covers behavioral safety management, high-risk operation approval and management, occupational disease management, special equipment management, fire emergency management, and related party management.

Occupational health management

- We organize training for new employees on basic knowledge such as the policies, systems, management systems, laws and regulations related to the environment and occupational health and safety. They must get qualified before they take their jobs.
- For other employees, the EHS Department arranges for training on knowledge relevant to the environment, health and safety procedures and accidents every quarter. Attendance and qualification form part of employee performance assessment.
- Special technicians must obtain special training certificates from the regulatory authorities, and regularly participate in annual inspections. We conduct professional training and assessments every year.
- We inspect and evaluate the hazard factors in the workplace every year while organizing routine health checks and professional health checks in accordance with the relevant standards on a regular basis before and after induction to the office. Those failing the check will do a second check, and those failing the second will be suspended from the current office. We conduct occupational health checks for those who quit their jobs or were dismissed. We also organize PPE retrospective evaluation every year.



EHS training hours	Hours per capita (h)	Certificated emergency medics and paramedics
3059	7.5	21

Safe production management

- In 2022, we completed safety training for all employees on the Production Safety Act, and the Life-saving Rules to enhance their self-protection awareness further.
- Push ahead with the Production Safety Month Initiative, formulate the Production Safety Month Program, and schedule fire emergency competitions. Employees must learn to suppress a small fire with a fire extinguisher and a large fire with a fire hydrant. Through competition instead of training, We enhance the staff's safety skills in the form of a competition in place of a drill.
- Implement the production safety award system. We handed out the milestone awards for the first anniversary of the Production Safety Initiative in Jiangxia.
- In 2022, our Jiangxia-and-Gedian-based factories strengthened and improved STOP implementation. We implemented 816 rounds of STOP to understand employees' safe/unsafe behavior through STOP.



Fire drill



Production Safety



First Anniversary of



Safety



Emergency management

- We strengthen employee emergency management training, covering fire management, personal accident management, and food safety accident management. We carry out drills regularly to put emergency management into practice.
- In 2022, we organized two general drills, two food poisoning-related special drills, two personal injury and rescue drills, and two fermentation workshop evacuation drills.

Pandemic prevention and control

- In response to major risky issues such as the pandemic, we established a special prevention and control team. In accordance with the strategic deployment of the Board of Directors, we draw up the pandemic prevention manual while preparing pandemic prevention supplies. We allocate the supplies in emergency to the various branches. We give daily pandemic briefings and release information on unusual situation handling, thus effectively ensuring normal production and operation during the pandemic.

Be enthusiastic about public welfare activities to reward the society

As a pioneer in China's microbial oil industry, we always take industry leadership and scientific exploration as our responsibility. While undertaking the corporate mission, we are also committed to developing talents for society and to continue influencing and improving the public's awareness of nutrition and health.

Social education support

Cabio Scholarship

- To support the education cause and develop outstanding talents for the industry, we established the Cabio Scholarship at CAS Hefei Institute of Physical Science. In 2022, we invested ¥200K in encouraging graduate students who were hardworking, aspiring, innovation-pursuing and academically pursuing applied sciences.
- In February 2023, to fulfill social responsibilities, support the development of higher education, and develop professional talents and teachers, we signed a donation agreement with the Education Development Foundation of Central China Normal University. As specified, we will donate ¥1.2M each year to financially award students and excellent young teachers.



Industry-education integration, and school-enterprise cooperation

We operate the following projects:

- Hubei Enterprise-School Joint Innovation Center for Functional Oils and Fats [Cabio in collaboration with Wuhan Institute of Technology]
- Cabio and CAS Hefei Institute of Physical Science jointly established a laboratory
- School-level Bioengineering Joint Innovation Center [Cabio in collaboration with South-Central Minzu University]

New projects in 2022:

- Hubei University-CABIO Joint Postgraduate Institute. Cabio and Hubei University jointly built a postgraduate training base where graduates can get training as probationers at a biotechnology innovation base and where Cabio can develop bioengineering talent for society;
- Wuhan Institute for Expert Science and Technology Innovation. We cooperated with the CAAS Oil Crop Research Institute on this program to build up innovative resources, make key technological breakthroughs, intensify university research program commercialization, accelerate technological innovation industrialization, enhance ongoing core competitiveness, and create a new engine for high-quality development.

Public Welfare Activities

Care for community development

- **Youyu New Sprout Sunshine Care Program.** This is a public welfare program we launched to focus on maternal care and scientific feeding of newborns for low-income, disabled and other vulnerable groups in society, using our expertise to share knowledge on maternal nutrition, scientific feeding of newborns, new national standards for infant formulas, and postpartum emotional regulation, and donating maternity packs to low-income families expecting a baby or with newborns.



Cabio Care led the chairperson of the Women's Federation of Gedian Economic Development Zone and others to visit the community



- In 2022, we actively participated in social welfare activities organized by the Food Safety Association, set a benchmark for the local food industry, and contributed to the regulation. For these, we were rated as an "Exemplary Entity" by the Ezhou Food Safety Association.

Continue to participate in Alashan SEE's environmental protection program

- As a member of the Alashan SEE, we continue to provide financial support to its environmental protection projects.
- Alashan SEE is currently one of China's most influential entrepreneurial environmental protection organizations. Through the association, we participate in environmental protection-related public welfare projects and contribute our share of effort to environmental protection and sustainable development.



Popularize science knowledge to enhance public awareness

In 2022, we continued to actively participate in and organize nutrition and health knowledge popularization activities, and spread nutrition and health knowledge through various channels such as WeChat, livestreaming classrooms, and professional knowledge sharing, thus improving the public's knowledge and understanding of nutrients, earnestly fulfilling the corporate social responsibilities, and creating a responsible corporate social image.



Innovative applications in synthetic biology



Innovative R&D and application of No. 001 new raw material



New beautification functional factor - sialic acid



Sialic acid is a food with beauty

E nvironment

Green, low-carbon,
energy-saving and
environmentally
friendly



Low-carbon production, green and environmentally friendly

Adhering to green, low-carbon, energy-saving and environmental biomanufacturing, and a sustainable development principle, we integrate the sustainable development concept into operation, constantly reinforce environmental management, lower environmental risks in operation, actively advocates green office solutions, and continuously explore paths for green development, thus contributing to China's "peak carbon undertaking and carbon neutrality undertaking."

Environmental management system

To strengthen environmental management, we have established a full-featured environmental management system, including the Environmental Health and Safety Organization, the Environmental Management System, Water Pollution Management, Resource Economy Management, Solid and Hazardous Waste Management, Air Pollution Management, Noise Management, and Environmental Emergency Response. We got the ISO14001 environmental management system certification in August 2021, thus specifying the responsibilities of various divisions (e.g. production, storage and transportation, and waste disposal, etc. All work is done as stipulated, and all tasks are performed controllably.



Green manufacturing

In 2022, the National Development and Reform Commission officially released the 14th Five-Year Plan for Bioeconomy Development, placing emphasis on green low-carbon development as one of the key goals of bio-economy. Strategic biotechnology is deemed a powerful impetus for green low-carbon development of economy and society. In essence, the bio-manufacturing industry uses core bacterial strains as a basic tool in bio-fermentation and bio-catalysis to transform and process substances via bio-fermentation and catalysis. This scenario is expected to fundamentally improve the overdependence of traditional manufacturing (chemicals, pharmaceuticals, material, energy, food, and light industries) on fossil fuel. Changes to a high-pollution-and-emissions-involving economic model can bring into existence a green, low-carbon and sustainable development mode for industrial manufacturing. Our main products are all produced by microbial fermentation. As one of the main methods of biosynthesis, microbial fermentation has the advantages of high production efficiency, safe and non-toxic products, mild process conditions, and little environmental pollution.



Waste management

Investment in environmental protection

¥1307.85^M

Wastewater

322500^t

Treatment

100%

[Exhaust gas: Pass]

NOx

0.17^t

Pass

100%

SO2

0.14^t

Pass

100%

Hazardous waste

10.762^t

Treatment

100%

Common waste

1852.61^t

Treatment

100%

Wastewater management



Production and domestic wastewater is treated in strict accordance with the General Standards for Wastewater Discharge, with wastewater discharged meeting the standards of third-party testers. In 2022, the treatment capacity of our wastewater treatment facility rose from 800 m³/d to 1,200m³/d.

Exhaust gas management

Particulates in organized emissions are tested by third parties to comply with the General Standards for Air Pollutant Emissions. In 2022, NOx and SO2 emissions met the standard.



Solid waste management

The sludge, containing rich plant nutrients, was tested by a third-party qualified tester to meet the landfill standards. The sludge is delivered to qualified fertilizer manufacturers to produce organic fertilizer. Office and domestic waste is recycled by qualified entities, and hazardous waste is delivered to qualified



Noise management



Noise mainly comes from mechanical equipment in the workshop and power unit rooms. Noise at the factory boundary is tested and proved by a third party to meet the limits of the Environmental Noise Emissions Standards at the Boundary of Industrial Enterprises.

Fight climate change

Aiming at the goal of low-carbon and sustainable development, we strengthen the role of technological innovation give full play to clean energy resources, and foster new models and patterns featuring low-carbon development.



Carbon emissions reduction and energy saving solutions

For the whole year of 2022, we reduced carbon dioxide emissions by a total of 32,302.148 t. Meanwhile, through project transformation and the use of clean energy, we continued to reduce of the consumption of CO2-generating energy through project transformation and clean energy.

□ In 2022, we invested ¥1.5M to recycle and reuse automatic condensate recovery pumps. Upon commissioning, they are expected to recover more than 25,000 t of soft water per year, and reduce carbon emissions by more than 10,000,000 kg/a;

□ In 2022, we increased cooling capacity by 10% by introducing more energy-saving and environmentally-friendly refrigerants, which feature high efficiency and energy saving, greater latent heat of evaporation, and faster cooling speed per unit time. Upon full commissioning, the average energy-saving efficiency can exceed 20%; □ In 2022, we invested ¥2.2M in recycling equipment cooling water through the use of plate heat exchangers and the isolation of buffer pool, thus reducing water consumption. A preliminary estimate suggests that upon commissioning, over 49,500 t of water will be saved a year and that over 19,800,000 kg less of carbon emissions will be discharged a year.



Except for the manufacturing process, all our employees use the OA system for electronic office work handling, thus reducing paper consumption. Meanwhile, we actively advocate daily low-carbon office work among all employees. For example, we use A4 format in place of A5 format to reduce paper consumption. In offices, we reasonably manage the time and temperature settings of air-conditioners. All interior decoration adopts environmentally friendly materials and the minimalist style, thus fully practicing the concept of a low-carbon and environmentally friendly office.

Conclusion: Outlook on 2023

In the future, we will continue to adhere to our strategic planning and technological innovation as the core driving force. We will focus on such lines of business as human nutrition, animal nutrition, personal care and cosmetics, synthetic biology and biomedicine. Centering on human nutrition and synthetic biology, we will target cutting-edge biotechnology and explore infinite possibilities in biotechnology so as to empower life nutrition and health.



CABIO BIOTECHNOLOGY (WUHAN), INC.