GenScript
Make Research Easy

2023

GenScript Biotech Corporation

Environmental, Social and Governance Report 2023

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About the Report

Overview

This report is the eighth Environmental, Social, and Governance Report (the "Report" or the "ESG Report") issued by GenScript Biotech Corporation ("GenScript," or "We"), together with its subsidiaries (collectively, the "Group"). This report is published on a regular basis every year to provide information on the Company's environmental, social, and governance ("ESG") policy development and performance and objectively disclose the Company's management and effectiveness in respect of sustainable development to respond to the expectations of our stakeholders.

Reporting Scope and Boundary

The report discloses the management and results of ESG related issues for the period from January 1, 2023, to December 31, 2023 (the "Reporting Period" or the "Year"), and part of the information dates to the previous year or covers the first quarter of 2024. For details on the Company's business, please see the 2023 Annual Report.

Basis of Preparation

The Report has been prepared strictly in accordance with the requirements of the Environmental, Social, and Governance Reporting Guide (the "ESG Reporting Guide") as set out in Appendix C2 (previously Appendix 27) of the Listing Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "HKEX"), and is based on the following principles:

Materiality: The Report discloses the procedures of identifying material ESG factors, including stakeholder identification and survey, materiality assessment using the materiality matrix, and reporting of ESG-related material factors and issues.

Quantitative: The Report measures key performance indicators, discloses quantitative data as required by the ESG Reporting Guide issued by the HKEX, and specifies the scope of statistics and basis of calculation.

Balance: The Report provides an unbiased and objective picture of our ESG performance.

Consistency: The Report uses consistent methodologies and sets out statistical methodologies and standards.

Process of Preparation

The contents of the Report have been determined based on a set of systematic procedures. Such procedures include, among others, forming a working group, identifying key stakeholders, conducting interviews with the stakeholders, identifying and prioritizing material ESG related topics, deciding the scope of the ESG Report, collecting relevant materials and data, determining the framework, report compiling, report designing and review by relevant departments and the senior management.

Data Sources and Reliability Statement

The information and data disclosed in the Report are derived from the statistical reports and formal documents of the Company and have been reviewed by relevant departments. The Company confirms that there is no misstatement or misleading representation contained in the Report and takes responsibility for the truthfulness, accuracy and completeness of the contents of the Report. Unless otherwise stated, all the money amounts in the Report are denominated in US dollars and the intensity data are all based on annual report revenue data.

Acknowledgment and Approval

Subject to the acknowledgement of the Management, the Report has been approved by the Board on March 9, 2024.

Availability of the Report

This report is published in electronic form on the website of the HKEX and the Company's website available at https://www.genscript.com.cn/.

We value the opinions of all stakeholders and are open to your feedback through the following contact information. Your opinions will help us improve the Report as well as our ESG performance.

Email: IR@genscript.com

[1] Subject to the average rate for CNY to USD at 7.05089

Message from Our CEO

Dear stakeholders,

I am pleased to present GenScript's Environmental, Social, and Governance (ESG) report to share with you our ESG progress. 2023 marks a significant year for our ESG practice. We have initiated a series of actions to build a systematic approach to sustainability and to ensure that the Company embeds ESG practice into our operations and strategic planning, through the concerted efforts of our management, our employees, and our various stakeholders.

In 2023, we joined the United Nations Global Compact (UNGC). By joining the UNGC, we stand with over 20,000 participants from more than 160 countries to align our strategies and operations with universal principles on human rights, labor, environment, and anti-corruption. We believe that by joining the UNGC, we can further reduce our environmental footprint, promote diversity and inclusion within our workforce, and strengthen corporate governance.

GenScript is committed to fulfilling its corporate responsibility to operate in an environmentally friendly way and to address climate change. We present quantitative data on our environmental performance in terms of energy consumption, resources and emissions and make every effort to minimize the impact of our operations on the environment. We have launched a carbon reduction plan, conducted our first carbon accounting across the Group in order to set near-term and long-term science-based targets. We are also fulfilling our commitment to green development by investing in sustainable procurement and environmentally friendly products.

As a global company, we advocate an inclusive and diversified corporate culture. We empower our employees through a full set of training and career development plans, and enhance their sense of identity through open communication channels and a variety of welfare benefits, so that we can grow with our employees through thick and thin. We also continue to strengthen our safety management initiatives to safeguard the physical and mental health of our employees. We also aim to grow with communities through our operations, and we offer various activities to support local communities and the well-being of society.

From a governance perspective, we have established our Risk Management and ESG Committee from the board level. The Committee will be responsible for overseeing and monitoring the Company's ESG strategies. We also deployed our first ESG management team, which consists of multiple functions involved in our operations, to ensure that we can constantly monitor and improve our ESG-related practices. We also maintain high standards of ethical business practices, continue to strengthen our systems, and develop an annual audit plan to monitor risks in all functions and compliance areas.

While we are proud of our achievements, we recognize that our ESG journey is ongoing. We are committed to continuous improvement and are excited about the opportunities that lie ahead.

This report is a testament to our unwavering commitment to sustainable and responsible business practices. Thank you for your continued support for GenScript. We look forward to engaging with our stakeholders as we continue to advance our ESG initiatives. Together with the world, we are committed to making people and nature healthier through biotechnology.

Sherry Shao

Rotating Chief Executive Officer (CEO)

Company Overview

GenScript Biotech Corporation (HK.1548) is a well-recognized provider of life science R&D and manufacturing services. Built upon its solid DNA synthesis technology, GenScript has established four major business units including a life-science services and products business unit, a biologics contract development and manufacturing organization (CDMO) business unit, an industrial synthetic products business unit, and an integrated global cell therapy company.

GenScript was founded in New Jersey, U.S. in 2002 and listed on the Hong Kong Stock Exchange in 2015. GenScript's business operations span over 100 countries and regions worldwide with legal entities located in the U.S., Hong Kong, Mainland China, Japan, Singapore, Netherlands, Ireland, the United Kingdom, Korea, Belgium and Spain. GenScript provides premium, convenient and reliable services and products for over 200,000 clients.

Driven by our corporate mission to "make people and nature healthier through biotechnology", we develop innovative services and products in doing our part to address ever-evolving environmental challenges and major diseases and contribute to human well-being. Aligned with our vision to "become the most trustworthy biotech company" and our corporate spirit of courage, commitment and endeavor, we provide high-quality products and services for our clients, offer development opportunities to our employees, and create long-term value for society.

Our Mission

Make People and Nature Healthier Through Biotechnology

Our Vision

Become the Most Trustworthy Biotech Company in the World

Our Spirit

Courage

Commitment

Endeavor
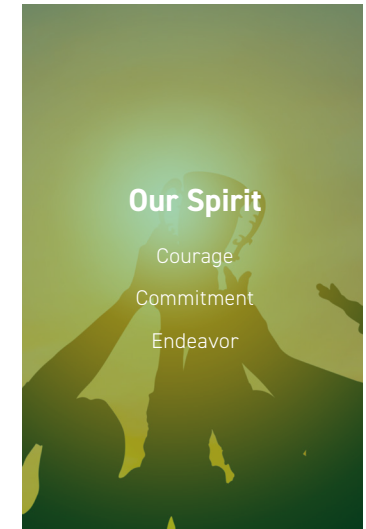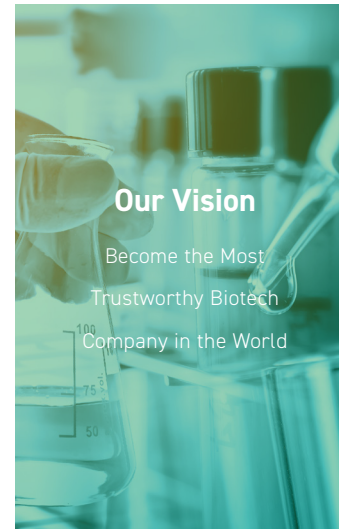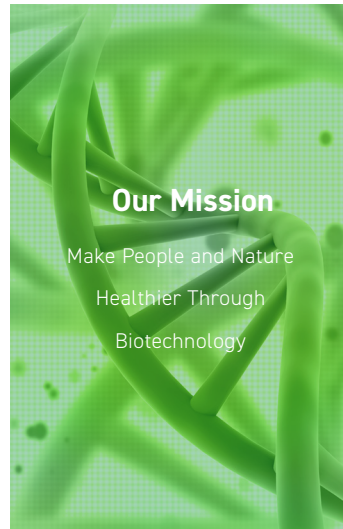
Four Business Units

GenScript Life Science – Life Science Services and Products Platform

The Group's life-science services and products segment provides a wide range of offerings, including customized DNA synthesis, oligo nucleotide synthesis, peptide synthesis, protein production, antibody development, and catalog equipment and consumables. By supporting early stage research and discovery projects at pharma, biotech and academic institutions, our business has made significant contributions to the global life science research community.

GenScript ProBio – CDMO Platform

GenScript ProBio is a subsidairy of the Group and empowers biotech and biopharmaceutical companies to discover, develop, and manufacture critical vectors of cell and gene therapy (CGT) and other advanced therapies, DNA, RNA, and antibody/protein therapies. Leveraging deep expertise across multiple modalities, GenScript ProBio provides integrated services to customers' discovering, developing and manufacturing large molecules therapeutics from concept to clinical trials and to commercialization. GenScript ProBio is a leading provider for companies developing antibody/protein-based theraputics, cell therapies, and gene therapies.

Legend Biotech – Cell Therapy Platform

Legend Biotech Corporation (Legend) is a subsidiary of the Group that is dedicated to treating, and one day curing, life-threatening diseases. As a global biotech company, Legend is developing advanced cell therapies across a diverse array of technology platforms, including autologous and allogeneic chimeric antigen receptor T cell, gamma-delta T cell and natural killer (NK) cell-based immunotherapy. From Legend's three R&D sites around the world, Legend applies these innovative technologies to pursue the discovery of cutting-edge therapeutics for patients worldwide.

Bestzyme – Synthetic Biology Platform

Bestzyme Biotech Corporation (Bestzyme) is a subsidiary of the Group that leverages our technical experience in synthetic biology to engineer proteins and construct cell factory microorganism strains to produce high-quality industrial enzymes and functional proteins that can be used in a variety of industries, such as feed, alcohol, food and household care. We believe synthetic biology offers us new opportunities from both technical and commercial perspectives.

ESG Highlights

In 2023, we enhanced our ESG performance by focusing on production process optimization, R&D innovation, and lean operation. We believe that improving our sustainability performance would create social value while contributing to our business success. Through collaborations with our clients and lean management, we have created more social value and improved environment and climate benefits to fulfill our corporate mission.

Driving Sustainability Through

Innovation

Aiming for sustainable business growth, we work to minimize environmental impacts of our operations and play a pioneering role in the industry's transition into green and low-carbon practices. In line with our commitment to environmental protection, we proactively explore the potential of energy conservation and carbon reduction in our corporate management. We have upgraded manufacturing processes across our business units, resulting in reduction in resource waste and energy consumption.

Green manufacturing is a crucial element of our low-carbon operations. We realize that process optimization not only facilitates internal cost reduction and efficiency improvement but also helps us reduce environmental risks in the long run. During the Reporting Period, we developed innovative approaches to process improvement and process efficiency enhancement in terms of energy consumption, resources and emissions, leading to greater environmental benefits.

Energy consumption

- Adopt new technologies and processes for higher titer and production efficiency to significantly reduce energy consumption during production;
- Significantly reduce production volume and save production space to reduce energy consumption during operations.

Resources

- Accelerate processes to increase the reuse of materials and reduce raw material consumption;
- Shorten turnaround time and streamline processes to reduce water consmption in single processes.

Waste discharge

- Reduce the generation and discharge of hazardous waste by increasing the yield per unit;
- Optimize processes to increase the success rate of R&D and minimize the discharge of waste generated from experiments.

Environmental Benefits from Process Optimization

We have addressed inefficient utilization of resources through procurement initiatives. To ensure procurement at minimum quantity on a necessary and dynamic basis, we regularly count and allocate materials to maintain high material utilization efficiency and reduce overstock and waste.

Optimizing procurement and improving material utilization to reduce overstock and waste

Purchase materials at minimum quantity based on weekly plans, reducing inventory from the very start

Optimize management by establishing work in process warehouses, assign dedicated personnel for high-value material management, and regularly monitor the inventory status for dynamic inventory management

Optimize our liquid preparation plan by scheduling centralized liquid preparation on a monthly basis

Implement diversified sourcing, and choose appropriate local materials based on customer needs to reduce lead time and solve warehouse allocation and long-term stock challenges

Environmental Benefits from Procurement Optimization

Life Science Services and Products

Applying automated capillary electrophoresis to reduce resource waste and waste discharge

SDS-PAGE is a conventional quality control technology for protein production, which causes the discharge of a large amount of gels, staining solution, and other biotoxic pollutants during electrophoresis. This process increases the treatment loads of sewage and solid waste, showing high ecological risks. During the Reporting Period, we adopted the automated capillary technology CE-SDS instead of SDS-PAGE as the release process. The CE-SDS method enables fast and accurate analysis of protein samples while using a small amount of chemical reagents and reusable chip consumables. This significantly reduced the discharge of wastewater and solid waste and improved environmental friendliness of protein production.

In 2023, this method significantly reduced the consumption of reagents and consumables:
- Polyacrylamide gels reduced by about **10,000** pieces
- MOPS buffer consumption reduced by **2,400** L
- Decolorizing staining solution reduced by **3,833** L

Next generation DNA synthesizers enable higher production efficiency with significantly less waste

Driven by the aim to save resources and increase efficiency, we launched next generation DNA synthesizers by continuously improving the design. With more synthesizers deployed into production and R&D, the average reagent usage per product decreases as the production level significantly increases. This restrains the increase in hazardous waste generated during DNA synthesis.

Compared to the previous version, the new synthesizers
- Consume about **50%** less reagents per product as oligo pool products manufactured increase by over **70%**

Biologics CDMO Platform

Optimizing manufacturing processes to reduce energy consumption and conserve resources

We further optimize our capacity by investing in facilities and optimizing manufacturing processes. In terms of facilities, our total production capacity for protein and antibody drugs is 8,050 L. Most of our core process equipment utilizes disposable process systems, which compared to stainless steel production systems, saves on in-line cleaning and in-line sterilization processes, reduces the usage of acids and alkalis, and significantly lowers the amount of purified water and injection water required. Additionally, some components of the disposable systems are now being recycled, further reducing overall carbon emissions. In the field of cell and gene therapy drugs, our formulation production lines all opt for fully automated isolator systems, resulting in nearly 30% reduction in energy consumption compared to traditional systems. As for process improvement, we have developed high-expression cell lines and continuous perfusion processes based on process applicability, enabling 10-fold production capacity increase with smaller-scale factory equipment compared to traditional processes, thereby greatly reducing overall energy consumption and material consumption.

Industrial Synthetic Biology Products

With green development in mind, we have launched multiple environmentally friendly protease products in an effort to promote green practices of the industry along with partners and clients. Bestzyme, our industrial synthetic biology products subsidiary, embeds sustainability into R&D with its leading enzymatic processes and delivers enzyme products beneficial to clients and the community. In line with the sustainability trend in detergent and feed industries, our protease products help partners accelerate low-carbon transition and achieve their environmental goals.

◆ **Less water consumption**
- Enhance washing and decontamination effects over the same time frame and shorten washing time, reducing water and energy consumption;
- Work at a lower temperature, reducing the use of hot water for washing.

◆ **Less pollution**
- Effectively break down and remove protein stains on clothes, reducing pollutants into water;
- Use milder detergent formula to reduce phosphorus from detergents and phosphorus-containing pollutants discharged into water.

◆ **Environmentally friendly raw materials**
- Detergent protease is produced by fermentation of biomass materials such as sugar and soymeal, without any high-temperature steps, strong acid or alkali, toxic or hazardous chemicals, or materials of animal origin.

Environmental Benefits of Detergent Protease

Laundry protease enables green development of the detergent industry

During the Reporting Period, Bestzyme made its debut at the China Cleaning Industry Association Annual Meeting and shared its sustainability perspectives with industry leaders. Bestzyme shared several pathways to "green and low-carbon" detergents. We also presented our newly launched PuriWise® 1.0 L, a highly robust liquid laundry protease. Compared to conventional detergents, detergents with PuriWise® 1.0 L additives showed a significantly improved cleaning effect on stained cloth with JB-02 protein, resulting in less carbon emissions and waste discharge.

We developed ProMax, a protease product that improves protein digestibility.

ProMax can reduce the use of soymeal by improving protein digestibility in animal feed, which also results in reduction of ammonia emissions from animals.

ProMax can lower the crude protein level by **0.5% to 1%** in pig and poultry feeding, save **15 kg to 25 kg** of soymeal per ton of feed, and reduce ammonia emissions by **5% to 10%**.

Environmental Benefits of Feed Proteases

Enabling Clients and the Industry

Accelerating Healthcare Inclusion

Over the past two decades, we have developed a diverse talent pool, accumulated extensive expertise, and built a solid track record in the biotech industry. By empowering R&D and commercialization success, we have fostered robust connections with our clients and partners.

By leveraging our expertise in life science, biologics development and manufacturing, and cell therapy, GenScript enables clients to navigate the complex landscape of R&D and regulatory approval and increases patient accessibility. Over the past year, we have supported clients in R&D, regulatory approval, cost optimization, and improved access to healthcare.

Biologics CDMO

Utilizing our comprehensive biologics development and manufacturing platform, our subsidiary GenScript ProBio offers integrated CDMO services, facilitating clients to expedite their journey to clinical trials and commercial manufacturing. By the end of the Reporting Period, GenScript ProBio had assisted clients across the U.S., Europe, Asia Pacific, and other regions in obtaining over 80 Investigational New Drug (IND) approvals.

GenScript ProBio delivered pre-clinical CMC services and comprehensive IND project management for TG ImmunoPharma's TGI-5 monoclonal antibody and TGI-6 bi-specific antibody programs aimed at tumor treatment. Both programs secured IND approval from the U.S. Food and Drug Administration (FDA) and the National Medical Products Administration (NMPA) respectively, expanding treatment options for patients with innovative therapies.

- -

CorreGene Biotechnology, a partner of GenScript ProBio, received IND approval from the NMPA for its first cellular immunotherapy CRTE7A2-01 TCR-T cell injection. With its CDMO platform, GenScript ProBio played a critical part in helping the client achieve this milestone.

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GenScript ProBio and Sichuan Yuanda Shuyang Pharmaceutical have teamed up for a collaborative effort focused on a recombinant coagulation factor VIII program. Under this partnership, GenScript ProBio will handle clinical sample manufacturing, process characterization, process validation, biologics license application (BLA) filing, and commercial manufacturing services. The initiative aims to reduce development and manufacturing expenses while enhancing the accessibility and affordability of therapies for hemophilia patients in both prevention and treatment.

- -

GenScript ProBio and ApolloBio entered into strategic collaboration on ABC-3100, the world's first therapeutic DNA nucleic acid drug targeting cervical intraepithelial neoplasia. GenScript ProBio provides technology transfer, clinical sample and commercial manufacturing services for this program, enabling faster access to the therapy for patients.

- -

GenScript ProBio submitted a drug master file (DMF) with the FDA for its innovative LVV and AAV packaging plasmid system. As a component of biologics manufacturing, this system is essential to product quality and safety. With the submission, GenScript ProBio can help clients shorten product review timeline and accelerate IND filing.

Life Science Services and Products

As a provider of DNA synthesis, GenScript offers high-quality materials for DNA synthesis and related life science services in an effort to shorten turnaround time for clients. During the Reporting Period, GenScript has provided nucleic acids for clients to accelerate the drug development process.

GenScript supported BRL Medicine in IND approval of its universal cell therapy by providing sgRNA, a critical tool for CRISPR, customized quality control, and technical support for the BRL-301 program from research to IND filing and clinical studies.

GenScript and T-MAXIMUM entered into a strategic collaboration agreement on GMP sgRNA, under which GenScript would provide high-quality nucleic acids for CRISPR to support the R&D, IND filing and clinical studies of its MT027 with orphan drug designation granted by the FDA and other cell therapy pipeline programs. GenScript will facilitate T-MAXIMUM to advance to the Phase II clinical study and launch products.

Cell Therapy

Legend is a global biopharmaceutical company dedicated to R&D, clinical, manufacturing and commercial development of cellular immunotherapies. With its groundbreaking research, Legend has established itself among top-tier players in the cellular immunotherapy field. CARVYKTI® (cilta-cel, ciltacabtagene autoleucel), our first commercialized product, treated over 1,000 multiple myeloma patients in 2023 alone and cumulatively over 2,500 patients by the end of the Reporting Period, prolonging the life of patients with this rare disease and improving their quality of life. Legend is also pushing forward with other pipeline programs targeting solid and liquid tumors, expecting to satisfy unmet needs of more patients.

During the Reporting Period, our subsidiary Legend along with our partners continued to utilize its resources and innovative technology in cell therapy to improve the well-being of patients.

Legend entered into a license agreement with Novartis Pharma AG, under which Legend granted Novartis an exclusive worldwide license to develop, manufacture, commercialize and otherwise exploit certain CAR-T therapies targeting Delta-like ligand protein 3 (DLL3), including Legend's existing autologous CAR-T cell therapy candidate, LB2102. Novartis may apply its T-Charge platform to their manufacture. A combination of this unique candidate design in LB2102 with the T-Charge platform may potentially offer transformative benefits to small cell lung cancer patients.

Supporting Leading Academic Research

Since our inception, we have been endeavoring to make research easy. With years of dedication to life science, GenScript has become one of the most trusted partners for both academic and industrial clients. Our services and products have been widely cited in top international journals such as *Nature*, *Science*, and *Cell*. Over the past two decades, 87,745 peer-reviewed journal articles worldwide have cited our services and products, including 10,700 citations in 2023, demonstrating recognition of our products and services.

GenScript supports frontiers research through high-quality DNA synthesis product and service offerings. By providing professional and extensive technical support, we have supported a number of teams from top universities in their academic success.

Academic Achievements	Support from GenScript
A research team at Harvard University developed a safer approach to synthetic biology and transgenesis to fight coli infection and published a paper in *Nature*.	GenScript provided DNA synthesis services for this study. Three GenScript employees are co-authors of this paper.
A research team at Harvard University published a paper in *Cell* regarding its achievements in developing prime editors.	GenScript optimized codons for all synthetic genes through algorithm, and provided DNA synthesis services for the study.
A team of Zhang Feng, a pioneer in CRISPR gene editing, developed a highly efficient transgene knock-in technology.	GenScript provided GMP-grade ssDNA and dsDNA preparation services for the study.
Zhang Feng's team discovered Fanzor, the first RNA-guided endonuclease found in eukaryotes.	GenScript provided eStain® L1 protein staining system for protein analysis in the study.

Academic Achievements	Support from GenScript
The Chinese Academy of Sciences (CAS) and Wuhan University published the research results of the cholesterol atlas of tumor microenvironment in *Cancer Cell*.	GenScript provided sgRNA for LXR gene editing in the study.
A team at Stanford University successfully mapped the T cell repertoire to a complex gut bacterial community and published the research results in *Nature*.	GenScript provided antigen peptides for the study.
A team at the CAS developed new cytosine base editors and published the research results in *Cell*.	GenScript provided DNA synthesis services for the study.
The Institute of Crop Sciences, Chinese Academy of Agricultural Sciences and Nanjing Agricultural University revealed the puzzle of reproductive isolation in rice and published the research results in *Cell*.	GenScript provided DNA synthesis services for the study. The original TadA8e deaminase used in this study was optimized with codons and synthesized by GenScript.

Improving Management

Through Lean Approach

With waste elimination at its core, our lean operation system facilitates continuous improvement and efficient corporate management. With a systematic approach, we have developed standardized tools and methods based on internal best practices and improved operation efficiency under three core strategies — lean improvement projects, training, and campaigns. We have set up a lean operation organizational structure composed of the Group Lean Committee, the Group Lean Management Team, and teams from business units and functions. We have established a lean operation system across the Group and fostered a culture of lean operation and continuous improvement, facilitating cost reduction and efficiency improvement during operations.
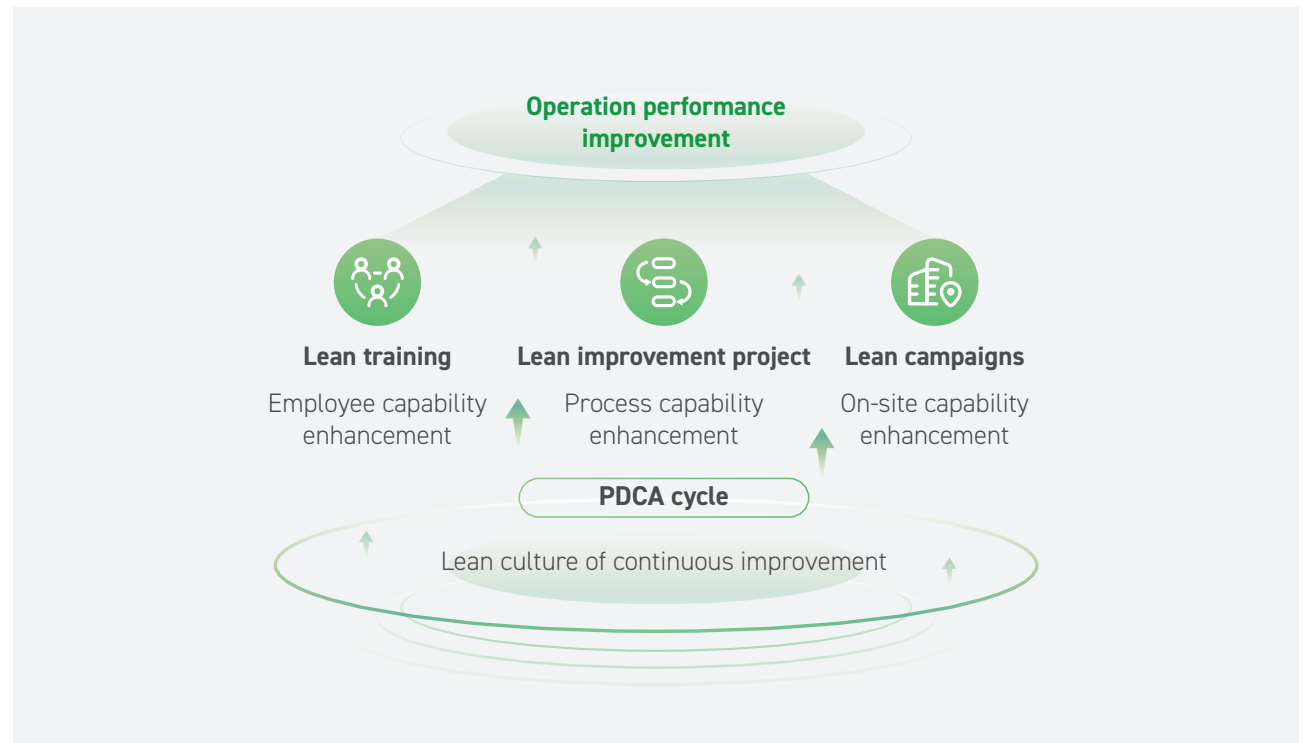
Our Kaizen projects focus on enhancing productivity, reducing costs, improving quality, boosting morale, increasing capacity, and shortening cycle time.

Productivity enhancement

Reduce waste by on-site operation step breakdown, man-hour analysis, line balancing, and the Eliminate, Combine, Reorder, Simplify (ECRS) method

Cost reduction

Reduce material costs by economic batch analysis, material usage optimization, in-house reagent synthesis analysis, and loss control

Quality improvement

Improve process control capability by using failure mode and effects analysis (FMEA), poka-yoke, and standard operation to identify risks and resolve issues

Morale boosting

Improve the working environment by using the 5S method, and enable employees to provide reasonable suggestions to improve the sense of belonging

Capacity increase

Analyze downtime issues by using the overall equipment effectiveness (OEE) method, and create an equipment sharing platform for higher utilization

Cycle time reduction

Analyze operating time of each step by using value stream mapping (VSM), and eliminate non-value-adding activities to shorten cycle time

Lean Operation Achievements in 2023

We strengthen the lean awareness of all employees by regularly organizing lean training programs. During the Reporting Period, we launched hybrid lean training sessions and on-site activities, such as *Skill Matrix*, *5S & Visual Management*, *Poka-Yoke*, *Improvement Cycle*, and *8 Wastes of Lean & PDCA*. Those programs shed light on improvement at work and inspired our employees to offer reasonable suggestions and improvement proposals.

Virtual training

6,085 trainees

125 on-site activities

Lean training

In-person training

2,849 trainees

9,774 reasonable suggestions
up **36% YoY**
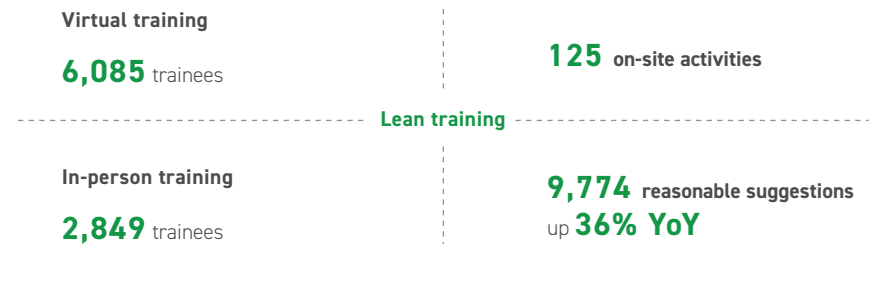
Lean Training Achievements in 2023

We encourage our employees to apply learnings from lean training into projects and work for ESG goals including resource conservation, environment improvement, process efficiency enhancement, and service optimization. We put in place reasonable suggestions offered by our employees and promote a virtuous cycle driven by measurable benefits.

230,000 + working hours saved

US$3.4 million+ saved

through lean management during the

Reporting Period

Optimizing sewage treatment systems for energy saving and waste reduction

To mitigate environmental impacts arising from our capacity expansion, by using Lean Six Sigma methodologies, our lean team analyzed the wastewater treatment process, identified influencing factors and variables, and worked out optimization measures to reduce sludge and electricity consumption.

Our Actions

Optimize processes to reduce sludge	Renovate equipment for higher stability	Standardize operations to reduce errors

Benefits

Reduced annual generation of sludge by **729** tons	Reduced annual electricity consumption by **150,000** kWh

Improving material utilization and success rate for the manufacturing of advanced therapies

To address high demand for testing kits and reagents during the manufacturing of critical materials for CGT and other advanced therapies, our production team analyzed the production process by using VSM and optimized the detection method by using ECRS. As a result, we reduced redundant steps and sample consumption while ensuring the detection quality and improving the success rate.

Our Actions

Use single-well detection instead of multi-well detection	Share detection samples to reduce sample consumption	Improve the success rate

Benefits

Cost savings by **US$140,000+**	Success rate increased to over **99%**

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Improving Governance

At GenScript, we uphold integrity, compliance and high ethical standards. We integrate ESG into our top-level planning and enhance our corporate governance structure to reinforce risk management, safeguard the rights and interests of stakeholders, and solidify the foundation for our sustainable development.

Contributing to the UN Sustainable Development Goals (SDGs)

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

1.1 Corporate Governance

Compliance is the cornerstone of our growth and integrity is an essential part of our core values. We remain steadfast in our commitment to integrity and business ethics. We have established a robust risk management system and continually improved our compliance practices to enhance corporate governance.

Board Oversight

To ensure efficient operations, we have a well-established governance structure in place that defines management responsibilities at all levels and oversees business operations to enhance management transparency and effectiveness.

Board Governance Structure

The Board is responsible for the overall leadership of the Group, oversees the Group's strategic decisions, and monitors business and performance. To oversee particular aspects of the Company's affairs, the Board has established six Board committees, including the Audit Committee, the Remuneration Committee, the Nomination Committee, the Sanctions Risks Control Committee, the Risk Management and ESG Committee and the Strategy Committee.

Board Diversity

We believe that board diversity can enhance the performance of the Company. The Board has adopted a board diversity policy to ensure that board diversity will be considered from a number of aspects, including but not limited to educational background, professional experience, skills, and knowledge. All Board appointments will be based on meritocracy, and candidates will be considered against objective criteria, having due regard to the benefits of diversity on the Board. The Board currently comprises 13 directors, including four executive directors, three non-executive directors, and six independent non-executive directors.

Board of Directors

| Audit Committee | Remuneration Committee | Nomination Committee | Sanction Risks Control Committee | Risk Management and ESG Committee | Strategy Committee |

Business Ethics

As a responsible corporate citizen, we follow high standards of business ethics and integrity. We comply with applicable laws and regulations of the countries and regions where we operate and work on anti-corruption and anti-unfair competition.

To ensure operation compliance, we have developed policies on business ethics, including the *Business Ethics Guidelines*, the *Anti-corruption Management Measures*, and the *Avoidance of Conflicts of Interest & Anti-Fraud Policy*, which set out requirements on anti-bribery, anti-corruption, anti-unfair competition and integrity practices for all stakeholders including our employees. In 2023, we revised the *Avoidance of Conflicts of Interest & Anti-Fraud Policy* by specifying circumstances where conflicts of interest declarations are required and improving the channels for declaration.

Organizational Structure

The Anti-Commercial Bribery Committee under the Compliance Management Committee serves as the executive body that oversees business ethics and addresses corruption and commercial bribery issues within the Group.

Define the goals of anti-commercial bribery	Implement anti-commercial bribery requirements, and identify compliance risks	Stay updated on changes in laws, regulations and business needs, and regularly evaluate anti-commercial bribery management	Develop and review policies and oversee the implementation
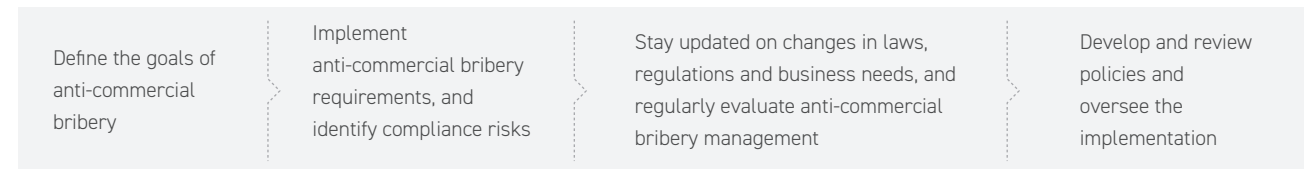
Business Ethics Supervision Process

Reporting and Investigation

To ensure that our integrity policies are put in place, we have set up multiple channels for speaking up and whistleblowing. We encourage all stakeholders to report corruption, fraud or other violations of Group's policies and any suspected violations of laws and regulations.

Online platform	Official website	Hotline	Mailbox
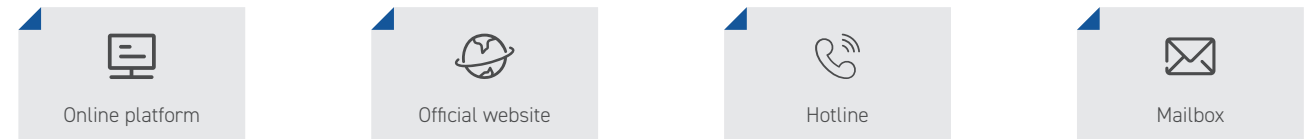
According to the *Business Conduct Guidelines*, any department or employee that has received a report shall keep it confidential, and the circulation of such report shall follow the principle of "work-related access and minimum permission". We keep confidential whistleblower information, report details and investigations to prevent any retaliation against whistleblowers or infringements of their legitimate rights and interests.

Internal Audit

We have an internal audit system in place. Under an annual audit plan, the internal audit team implements dedicated audit projects on business units, branches, subsidiaries, and sales, procurement, expenses and asset management functions as well as compliance.

Integrity Management

To ensure that our business operates at a high integrity standard, we have developed strict guidelines for business ethics.

Internally	▸ Require all employees to sign the commitment letter under the *Business Conduct Guidelines*; ▸ Distribute the conflicts of interest declaration form to all employees, and require them not to offer or promise to offer any improper benefits to any person or organization for the purpose of obtaining or maintaining business opportunities; ▸ Require employees to submit a gift and hospitality declaration workflow for gifts received from suppliers or partners to avoid conflicts of interest or undue influence
Externally	▸ Sign the integrity agreement as required by customers and fulfill the commitment; ▸ Require all suppliers to sign the *Integrity Undertaking* to prevent any bribery, corruption or unfair competition for obtaining business

We attach great importance to anti-corruption practices among our suppliers. We have the *Supplier Due Diligence Procedures* in place for identification and mitigation of potential supplier bribery and corruption risks. In 2023, we communicated the principles and requirements for compliance, anti-corruption, and anti-commercial bribery to our suppliers at the Supplier Conference, as a way to create an ethical business environment.

Furthermore, we foster an ethical business culture by providing anti-corruption training to our Board members and all employees. This training covers the *Business Conduct Guidelines*, the reporting mechanism, and our anti-corruption policies.

Directors

We regularly invite lawyers to offer anti-corruption training to the Board to enhance their awareness of integrity and understanding of the latest laws and regulations. All Board members participated in an anti-corruption training session in 2023.

Staff

We organized online training and on-site interactions to ensure that anti-corruption principles are integrated into every aspect of employees' work and life.

We communicated compliance requirements and relevant cases to all employees, including part-time employees and contractors, through anti-corruption videos and training materials

Simulation exercise program on corruption and fraud and risk assessment

To identify early signs of fraud and prevent corruption and fraud risks, we launched a simulation exercise program along with external anti-fraud experts by offering gifts to employees in 2023. The internal audit team intervened in potential risks to ensure early discovery and handling. This could prevent such employees from being subject to judicial procedures due to criminal offences or punished due to violations of employment laws and regulations.

Indicators	Unit	2023
Number of concluded legal cases regarding corrupt practices	Number	0
Average training hours of Board members on anti-corruption	Hour	1
Average training hours of employees on anti-corruption	Hour	1.5
Percentage of Board members trained on anti-corruption	%	100
Percentage of employees trained on anti-corruption	%	100
Number of participants in anti-corruption training (including Board members and employees)	Person-times	7,571

Information Security

Information security and privacy protection lay the foundation for corporate compliance and operations. We have established an organizational structure for information security, which comprises the Information Security & Data Compliance Committee, the Information Security Department, and IT Department and assessed teams. This ensures the implementation of information security measures and the development of a culture of information security.

Information Security & Data Compliance Committee

Review and approve the information security strategy and goals, facilitate cross function cooperation, and coordinate relevant efforts

Information Security Department

Develop risk assessment plans, implement risk assessments, and develop risk mitigation plans

IT Department and assessed teams

Identify information assets and undergo information security risk assessments

Information Security Management Structure

We have the *Information Security Management Policy* and the *Information Security Access Management Process* in place to reduce threats to the confidentiality, integrity and availability of our information. During the Reporting Period, we released the *Generative AI Usage Management Process* and the *Email Management Process* for information security and data protection across the Group.

Under the *Information Security Risk Assessment Management Rules* and the *Information Security Incident Management Rules*, we have proactively taken actions to enhance information risk identification and management and prevented information leaks. We have obtained the ISO 27001 Information Security Management System certification for all our operational sites, ensuring the effectiveness of information security and privacy protection.

Measures to Mitigate Data Leak Risks

01	02	03	04
Optimize the permission management policy for emails, and disable outbound emails by default unless external communication is necessary for work	Minimize privileged accounts that are not necessary for work, and define requirements in the *IT System Privileged Account Management Process*	Inspect the installation of external software, and uninstall software for those who have not been granted permissions or whose permissions have expired	Deploy a data backup and recovery system to prevent ransomware risks and ensure timely data recovery and business continuity

In 2023, we further optimized routine information security inspections and regularly checked outbound emails, cloud drive operations and file copying. Also, we improved the reporting channel for information security incidents by providing an information security mailbox.

During the Reporting Period, after third-party security vulnerability scanning and penetration testing on our major information systems, we promptly followed up on and resolved high-risk issues found, ensuring security and stability of our information systems.

Risk Management

In line with laws, regulations and regulatory requirements, we have "Three Lines of Defense" in place to effectively identify, assess and manage risks and ensure stable business operations.

1st line	2nd line	3rd line
All business units and functions	**Risk management functions and Risk Management and ESG Committee**	**Internal audit team and Audit Committee**
Identify, assess, manage, monitor and report risks arising from business departments	Coordinate the development of risk management policies, provide expertise, monitor the 1st line, and offer improvement advice	Give an independent and objective assurance, and review the established risk management processes, procedures and activities

The three lines of defense system covers all our business modules for comprehensive risk monitoring during operations. In 2023, we conducted over 110 risk inspections, rectified the identified risks, and optimized relevant processes to safeguard our business growth.

Risk Assessment Procedures

Target setting Key business departments set operation and compliance objectives based on their own level of risk tolerance

Risk identification Identify risks through questionnaires, panel discussions, industry benchmarking, and interviews

Risk analysis Analyze and prioritize identified risks by multiplying probability, severity, and controllability scores

Risk response Evaluate risks and benefits and choose a risk response solution, such as risk prevention, risk acceptance, risk mitigation or risk sharing based on risk analysis and causes of risks

Risk Management Culture

We create a risk management culture by providing risk management training for the management and employees.

Risk management training

We regularly organize dedicated risk training and communications for all employees to improve their awareness and ability of "risk control, problem diagnosis and root cause analysis".

Assessment of risk identification and response

We have developed and linked risk management and compliance metrics to performance reviews of departments and managers to incentivise them to identify and address potential risks and reinforce our compliance and risk prevention system.

Risk reporting channels

We have various risk reporting channels in place for employees, including the reporting mailbox, hotline, CEO mailbox, official website, and the conflicts of interest declaration workflow.

1.2 ESG Governance

A robust ESG governance system underpins our commitment to corporate social responsibility and sustainability. We continuously enhance ESG governance by regularly reviewing our ESG initiatives and optimizing our governance strategy. Also, we prioritize effective engagement with stakeholders and integrate ESG factors into decision-making, aiming to drive our business growth.

During the Reporting Period, we significantly improved our performance across environment, labor and human rights, business ethics, and sustainable procurement. As a result, we have been awarded the Bronze rating by EcoVadis, the world's largest provider of business sustainability ratings.

BRONZE | Top 35%
ecovadis
Sustainability Rating
MAR 2024

Board Statement

The Board integrates ESG management into the business strategy by tracking market changes, evaluating ESG risks and opportunities, and monitoring ESG governance. The Board also improves the ESG management system and updates the ESG management strategy based on business changes in the external environment.

Responsibilities of the Board

The Board is ultimately responsible for the management of ESG issues and information disclosure. Based on the Company's development strategy, manufacturing and operations conditions, and engagement with stakeholders, the Board regularly identifies ESG-related risks and opportunities. The Board also oversees ESG policies, management, performance and progress towards targets, and reviews and approves ESG information disclosure.

ESG Execution

The Risk Management and ESG Committee is responsible for developing the ESG vision, targets, strategy and policies and overseeing the implementation of the ESG strategy. The ESG Working Team is responsible for ESG execution, department coordination, and continuous improvement of ESG performance.

Risk Management

The Board regularly identifies and assesses the materiality of sustainability risks to fully consider ESG risks, and develops mitigation plans and management targets. The Risk Management and ESG Committee oversees the identification and assessment of sustainability risks and opportunities to ensure effective management of all material issues.

ESG Target Tracking

The Board regularly reviews ESG progress, tracks the execution and fulfillment of targets, and makes adjustments based on such progress.

Communication with Stakeholders

We take into account the concerns of all stakeholders and develop effective management strategies for material sustainability risks and issues identified. The Board assesses and manages focus areas of material issues and understands the concerns of stakeholders through proactive stakeholder engagement and consultation with third-party experts.

During the Reporting Period, the Board has performed the following duties to oversee ESG matters:

- ◆ Reviewed and approved the ESG materiality matrix;
- ◆ Developed and reviewed the Group's environmental management targets;
- ◆ Discussed and determined climate-related risks of the Group;
- ◆ Reviewed and approved ESG reports.

ESG Governance Framework

Effective ESG governance is the cornerstone for sustainability. We have continuously enhanced the ESG governance system and established a top-down ESG governance structure. As the highest decision-making body, the Board is ultimately responsible for ESG matters. The Risk Management and ESG Committee assists the Board with ESG governance. The ESG Working Team coordinates resources and the execution of ESG work plans.

ESG Governance Structure

ESG Management Level	Members	Duties
Board of Directors	All Board members (comprising four executive Directors, three non-executive directors, and six independent non-executive directors)	• Be ultimately responsible for management of ESG matters and information disclosure; • Identify ESG-related risks and opportunities; • Review and approve ESG information disclosure
Risk Management and ESG Committee	Composed of one executive director and two independent non-executive directors	• Develop our ESG vision, targets, strategy and policies; • Oversee the implementation of the ESG strategy and progress towards ESG targets; • Review ESG-related policies, regulations, standards, trends, and requests of stakeholder
ESG Working Team	Chaired by Rotating Chief Executive Officer and Chief Financial Officer Composed of heads of ESG-related departments	• Provide strategic guidance on ESG matters; • Provide advice on ESG material issues and priorities; • Coordinate resources to drive ESG performance; • Work with ESG-related departments to develop action plans based on ESG targets, and follow up on the implementation; • Regularly report ESG matters to the Risk Management and ESG Committee
ESG-related departments	Composed of designated ESG owners from departments related to material ESG issues	• Implement the ESG strategy and action plans; • Regularly provide progress updates on ESG initiatives to the ESG Working Team; • Provide advice on ESG improvement based on their expertise and experience

Board Skills Matrix

All Board members at GenScript bring a wealth of varied business experience, knowledge and expertise to the Board. Their experience and expertise in risk management, environment and sustainability, and business management is valuable in overseeing ESG matters of the Group.

Name	Type of Director	Gender	Knowledge & Expertise								
			Business Management	Technology and R&D	Finance	Human Resources	Marketing & Sales	Legal and Risk Management	Environment and sustainability	IT	Global business experience
Zhang Fangliang	Executive Director	Male	✓	✓							✓
Wang Ye	Executive Director	Female	✓						✓	✓	✓
Meng Jiange	Executive Director	Male	✓		✓						✓
Zhu Li	Executive Director	Male	✓	✓							✓
Wang Luquan	Non-Executive Director	Male	✓	✓							✓
Pan Yuexin	Non-Executive Director	Male	✓					✓			
Wang Jiafen	Non-Executive Director	Female	✓				✓				
Guo Hongxin	Independent Non-Executive Director	Male	✓								
Dai Zumian	Independent Non-Executive Director	Male	✓		✓						
Pan Jiuan	Independent Non-Executive Director	Male	✓			✓					
Wang Xuehai	Independent Non-Executive Director	Male	✓								
Cheung Yi Leung Andy	Independent Non-Executive Director	Male	✓		✓				✓		✓
Shi Chenyang	Independent Non-Executive Director	Male	✓	✓	✓		✓				✓

Stakeholder Engagement

We incorporate sustainability into our operations and overall strategy by enhancing the Company's awareness and understanding of ESG risks and opportunities, managing risks, and optimizing strategic planning to ensure operation resilience.

We proactively engage with all stakeholders through a regular communication mechanism to promptly respond to stakeholders' concerns and integrate their requests, opinions and advice into our operations and decision-making process.

Considering our business nature, we have identified key stakeholders, including government and regulatory authorities, shareholders and investors, clients and the public, employees, suppliers and partners, social organizations, and the media.

Category	Issue of Interest	Communication Channels
Government and Regulatory Authorities	Energy management Wastewater, exhaust and waste management Community engagement Operation compliance Business ethics	Regular announcements On-site inspections Conferences Information disclosure
Shareholders and Investors	Energy management Water resource management Addressing climate change Wastewater, exhaust gas, and waste management Innovation and intellectual property protection Operation compliance Business ethics Risk management	Corporate announcements Investor relations website Investor relations hotline Investor relations mailbox Investor and analyst conferences Roadshows Corporate Day
Clients and the Public	Addressing climate change Innovation and intellectual property protection Privacy protection Product and service quality Community engagement	Information disclosure Customer surveys Emails and phone calls Satisfaction surveys

Category	Issue of Interest	Communication Channels
Employees	Compensation and benefits Talent development Health and safety Employee rights and interests Employment compliance and employee diversity	Employee communication platform Employee activities Employee training
Suppliers and Partners	Supply chain management Product and service quality Accelerating industry development Business ethics Operation compliance Risk management	Supplier evaluations Supplier communication and visits On-site visits Industry forums
Social Organizations and the Media	Innovation and intellectual property protection Community engagement Accelerating industry development	Interviews and business results announcements Briefings

Materiality Matrix

According to the ESG Reporting Guide of the HKEX, after leveraging peer performance insights and combining the focus areas of our stakeholders, we have formed a materiality matrix, which helps the Company identify and manage issues related to risks and opportunities and respond to expectations of stakeholders.

Identify materiality	Identify material issues by combining regulatory requirements, peer benchmarking, media analysis, and focus areas of capital markets
Communicate with stakeholders	Identify and summarize priority issues through communications and interviews with stakeholders
Prioritize materiality	Rank the identified material issues and form a materiality matrix
Approve materiality	Review and determine material issues based on feedback from the management
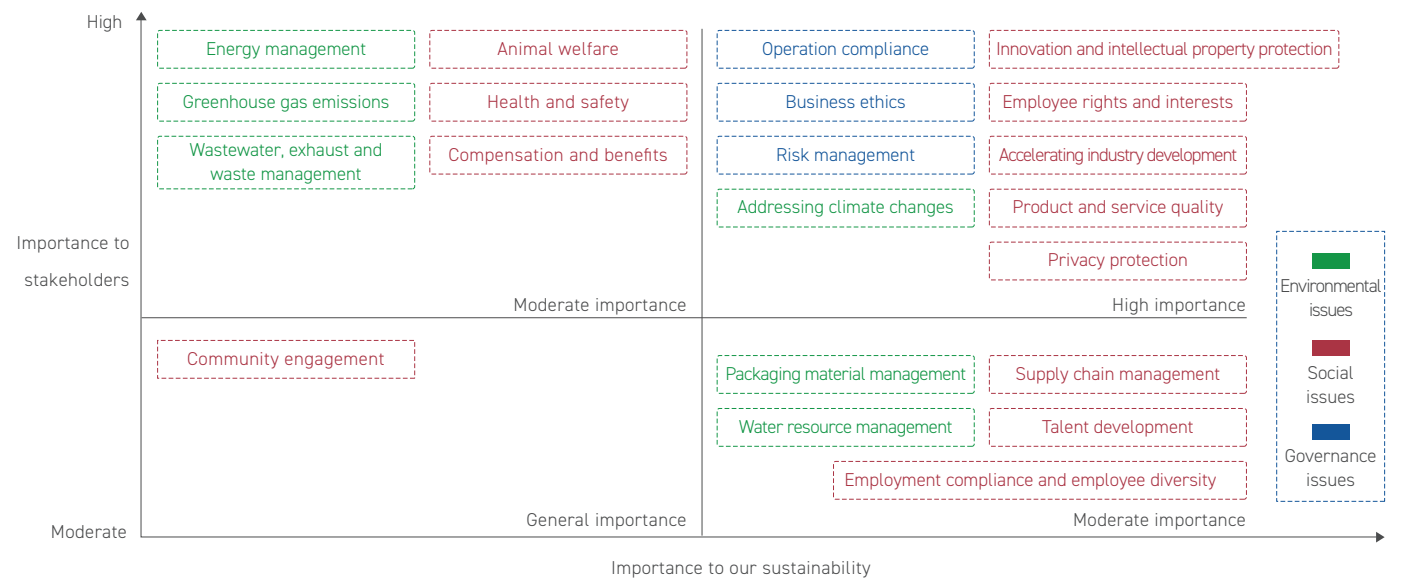
Materiality Matrix

02

Enabling Our Clients

With the vision of becoming the most trustworthy biotechnology company, GenScript is dedicated to enhancing brand value with a focus on excellence. Leveraging robust quality management systems, we continuously enhance R&D capabilities and services to provide high-quality products and services. We also deliver on sustainability expectations throughout our value chain and drive suppliers and partners to shape a sustainable supply chain.

Contributing to the UN SDGs

| 3 GOOD HEALTH AND WELL-BEING | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION | 17 PARTNERSHIPS FOR THE GOALS |

2.1 Product Responsibility

With exceptional quality management systems in place, we strengthen quality control throughout service and product life cycle to offer high-quality services and products to global partners and drive the development of the industry.

Quality and Safety Assurance

Quality Management System

We regard quality and safety as our lifeline and strictly comply with laws, regulations and regulatory requirements of the countries and regions where we operate. We have established quality management systems and developed quality control documents, such as the *Standard Management Procedures for Material Release*, the *Standard Management Procedures for Product Release*, and the *Management Procedures for Nonconforming Products*. These documents guide quality management throughout our service and product life cycle.

GMP Quality System

We strictly comply with regulatory requirements of the FDA, the European Medicines Agency (EMA), the NMPA, and the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH). We have established a Good Manufacturing Practice (GMP) quality management system covering six dimensions to ensure high-quality standards. During the Reporting Period, we commissioned a new nucleic acid and peptide GMP facility, demonstrating our ability to meet increasing demand for GMP-grade nucleic acid and peptide production.

Quality Assurance

Personnel and Organizational Structure

Laboratory Management

GMP Quality Management System

Manufacturing Management

Plant, Facility and Equipment

Material

Aseptic Quality System

During the Reporting Period, we implemented the aseptic quality system for the drug substance of our protein and antibody drug discovery business. By benchmarking against international standards, seeking experts' guidance, and identifying and preventing risks, we developed and revised aseptic quality control documents, and organized training on aseptic practices to improve the quality and product value of aseptic modules.

Stability Testing

We conduct stability testing according to internal procedures and inspection requirements. During the Reporting Period, we have developed and implemented stability testing for nearly 30 categories, such as sgRNA, ssODN, ssDNA, dsDNA, neoantigen peptides, and magnetic beads for cell isolation. We have completed stability testing for approximately 100 samples. We follow release requirements for each step according to the *Material Release Management Procedures* and the *Product Release Management Procedures*. In 2023, we released approximately 800 batches of materials and 180 batches of finished products.

Stability Testing Process

- ⌄ Stability testing requirement analysis
- ⌄ Stability testing plan drafted by QC
- ⌄ Stability test plan reviewed and confirmed by QC, QA, quality head and customers
- ⌄ Sampling by sample keepers according to the plan
- ⌄ Sample inspection and registration by QC

Product Recalls

We have specified requirements on the identification, assessment, labeling, isolation, storage, downgrading, and disposal of nonconforming products as well as relevant responsible persons in the *Nonconforming Products Management Procedures*. We follow the *Product Recall Management Procedures* to recall products. During the Reporting Period, we conducted a mock recall for cosmetic peptides by holding a management meeting for mock recall, forming a team, developing a plan, and executing the mock recall to evaluate the effectiveness of recall procedures. During the Reporting Period, no product recalls due to safety or health incidents occurred.

Identify quality issues and register product issues	Freeze defective batches and perform quality risk investigations	Determine whether to initiate a recall and the recall level
Form a recall team and develop a recall plan	Perform a product recall and handle the recalled products as required	Effectiveness evaluation and summary

Product Recall Procedures

Quality Audit

We regularly conduct quality audits across business modules throughout production stages. For example, we perform water system performance validation and quality audits for cosmetic peptides. We have organized external quality audits, obtained quality certifications, and passed inspections by customers and regulatory agencies, which serve as a robust validation of our quality management systems.

80 inspections conducted to reduce the negative impact on customers' health and safety during the Reporting Period

Water system performance validation	Cosmetic peptide quality audit
According to quality standards of Chinese and U.S. Pharmacopoeia on purified water, we performed three performance validations of GMP purified water and injection water systems in phases to ensure the water system stably deliver water that is in compliance.	We conducted three gap analysis reviews on peptide cosmetics under the cosmetics certification requirements of the EU EFfCI GMP quality system, and closed all gaps.

Quality Audits

Business Units	Quality Certification
Life Science Services and Products	ISO 9001 Quality Management System ISO 13485 Medical Devices Quality Management System European Federation for Cosmetic Ingredients (EFfCI) GMP Certification SS 620 Good Distribution Practice for Medical Devices (GDPMDS)
Biologics CDMO	ISO 9001 Quality Management System EU Qualified Person (QP)
Industrial Synthetic Products	ISO 22000 Food Safety Management System Kosher Certification Halal Certification

Quality System Certifications (non-exhaustive list)

Quality Culture

To enhance the quality and safety awareness of all employees, we have fostered a quality culture and launched annual quality training programs. In accordance with the latest regulatory standards, we organize internal and external training sessions for all employees based on their roles in business. These training sessions include systematic training on quality system theories for new employees, training on industry background, as well as hands-on practice and assessments. We also conduct equipment and process operation assessments for operational employees.

Also, we offer hybrid quality training tailored to employees' actual needs.

Practices: Equipment Operation Training	We organized eight training sessions on instrument operation by suppliers on site, which helped employees understand operating principles of equipment and deepened their understanding of equipment software operation and maintenance.
Professional Competencies: Deviation Investigation Training	During the Reporting Period, we provided training on the deviation process and policy and five training sessions on deviation investigations, which significantly improved employees' deviation investigation and analysis skills.

Quality Training Activities

47,000 person-times of participation or **90.2%** of employees involved in the Quality Month campaign during the Reporting Period

Animal Welfare

At GenScript, we follow the principles for ethical use and care of animals and comply with laws, regulations and guidelines of the countries and regions where we operate. We have developed the *Standard Operating Procedure for Daily Maintenance and Disinfection of Barrier Facilities* and the *Standard Operating Procedure for Animal Environment Enrichment in Conventional Facilities*.

GenScript has established the Institutional Animal Care and Use Committee (IACUC), which oversees all activities related to laboratory animals, such as ethical review, animal use, animal care, and animal welfare, and ensures that animal welfare is put in place in our business practices.

We follow the principles of reduction, refinement and replacement (3R) during animal experiments, continuously upgrade daily animal management standards, adopt an online laboratory animal management platform, and regularly organize skill training. Those efforts contribute to our well-established animal welfare system.

Daily Management	• Update animal pain evaluation criteria to ensure scientific care of animals
	• Develop a new immunologic adjuvant to shorten the immunity timeline of animal experiments and reduce the use of animals
	• Use phage display technology instead of immunized animals for antibody development to reduce the use of animals
Platform	• The online laboratory animal management platform enables refined management of animal experiments, covering the full life cycle from the application for animal use, ordering, experiment to handling. It supports monitoring and registration of the animal experiment process for real-time tracking and intervention in case of any abnormalities.
Training	• Organize 80 internal training sessions and academic seminars based on the review results of laboratory animal use
	• Receive training at the Charles River Asia Summit and organize third-party skill training for employees involved in animal experiments
Culture	• GenScript IACUC Committee launched a memorial event for laboratory animals by organizing training lectures, collective oaths, and bouquet presentations to enhance the awareness of animal welfare and promote a scientific and ethical animal experiment environment.

Animal Welfare Initiatives

We have received multiple recognitions for our laboratory animal management practices, including the permit for laboratory animal use licence, OLAW accreditation, and AAALAC accreditation. During the Reporting Period, we were awarded "Full Accreditation" by the AAALAC after an on-site audit upon expiration of the three-year period.

2.2 Innovation and R&D

GenScript values innovation and R&D by investing in R&D talents and R&D projects and unlocking the value of intellectual property. We leverage our extensive R&D experience to launch products and services that benefit our clients and thrive together with the industry.

Dedication to Innovation

Our core competitiveness is driven by our commitment to innovation. We have allocated approximately 10% of our workforce to the R&D function and significantly invested in R&D activities to boost our R&D potential. Also, we have continuously improved our products and accelerated our service turnaround time by innovation.

9.8% of employees dedicated to R&D in 2023

R&D spending up by **10.9%** YoY

Incentives for R&D projects

We have multiple metrics for innovation incentives, e.g. technical indicators, industry influence and customer feedback, and give bonuses based on R&D project reviews and commercial value.

Incentives for R&D achievements

We encourage our R&D teams to develop innovative products and offer rewards based on revenue generated from those products. Also, we reward employees who have obtained new patents through R&D projects.

Innovation Award

We set up an innovation award covering all teams to recognize significant innovation, technological breakthroughs and process improvement.

R&D Incentive System

Over the past two decades, we have developed a creative talent pool and brought together a team of scientists who explore innovative solutions in the fields of life science services and products, biologics CDMO, industrial synthetic biologics products, and cell therapy.

In early 2024, Dr. Carl June and Dr. David Liu joined our scientific advisory board. Known as the father of CAR-T immunotherapy, Dr. Carl June is internationally recognized for his role in pioneering the CAR-T cell therapy. Dr. David Liu is celebrated for his pioneering work in the development and delivery of genome editing technologies such as base editing and prime editing. Their expertise will provide invaluable insights for our initiatives and bolster our innovative offerings to better serve our customers.

GenScript launched customized circular RNA synthesis service
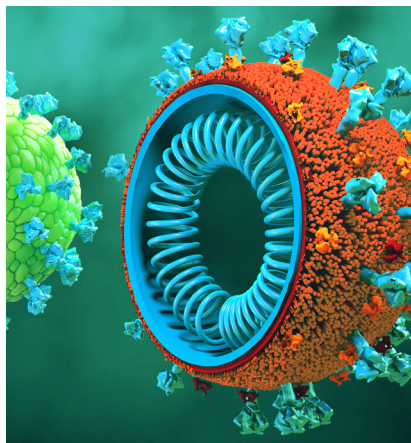
During the Report Period, customized circRNA synthesis was launched by GenScript for 100 bp-4 kb insert sequences with the fastest delivery in only three weeks. CircRNA offers several advantages over the linear mRNA, including its longer half-life, three times longer protein expression, and lower immunogenicity. This service enables our clients to reduce the frequency of mRNA injection, increase protein expression, save the costs of mRNA materials, and improve experimental efficiency.

Improved VHH antiboby development technology

During the Reporting Period, we developed VHH antibody development technology based on B cell cloning, using primary B cell culture and screening technology instead of conventional phage display. This approach prevents the loss of positive sequences and shortens turnaround time of VHH development by at least three weeks. This improvement offers a more efficient process for VHH development and accelerates VHH-related technology.

By harnessing the power of innovation, we have made remarkable progress across our life science services and products, biologics CDMO, industrial synthetic biology products, and cell therapy business units.

GenScript submitted a DMF for cell isolation and activation beads

GenScript submitted a DMF for its GMP-grade cell isolation and T-cell activation nanobeads to the FDA. The registered product provides information that our pharmaceutical clients can reference in their IND applications in the U.S. GenScript is committed to providing critical reagents for pharmaceutical companies to expedite their IND/BLA filing process.
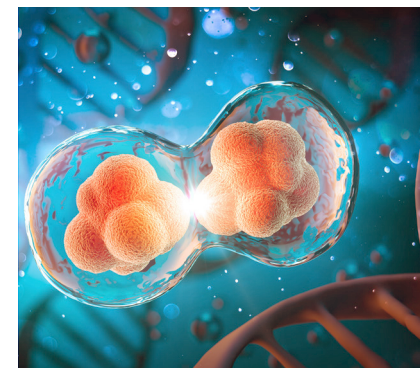
GenScript ProBio launched a new platform for hybridoma antibody discovery
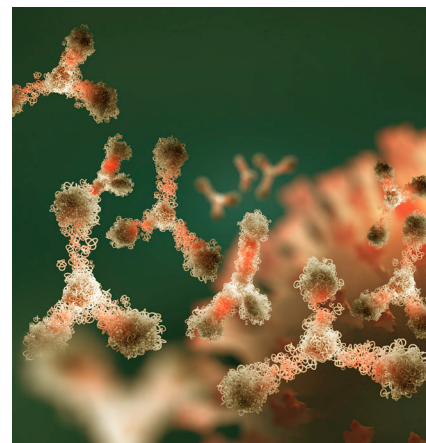
In 2023, GenScript ProBio established Powerdoma™ platform, which optimizes hybridoma cell fusion and culture conditions while eliminating subcloning. By simplifying processes, the platform shortens turnaround time of antibody discovery from five months to three months. It also allows for earlier intervention in bioactive function screening and helps clients identify drug candidates with good developability in the early stage, improving the success rate of R&D programs.

Launch of TurboMab mouse monoclonal antibody development platform

To address low purity and time-consuming cell fusion using hybridoma technology, we developed TurboMab platform, which increases the proportion of plasma cells that release specific antibodies through plasma cell enrichment during fusion. This paltform shortens turnaround time of mouse monoclonal antibody development by nearly three weeks and meets diverse needs for antibody quantity and antibody diversity.

Bestzyme is pushing ahead with food and nutritional additives

Our subsidiary, Bestzyme, is pioneering new developments in its synthetic biology pipeline. As our first two synthetic biology candidates, natural sweeteners and lactoferrin have completed industrial-scale trial production and pilot trial production respectively, and are on track to seek Generally Recognized as Safe (GRAS) certification with the FDA. Bestzyme's protein sweeteners of natural origin are produced through food-safe microbial fermentation, which are aligned with customer preferences for green, healthy, low-calorie sweeteners.

Legend is advancing CARVYKTI® in earlier-line settings

Following the approval of CARVYKTI® by regulatory agencies in the U.S., Europe and Japan for last-line treatment of multiple myeloma patients, Legend has been exploring the potential of CARVYKTI® in earlier-line settings to transform the treatment paradigm for multiple myeloma.

According to the latest clinical data of the Phase 3 CARTITUDE-4 study presented by Legend at the 2023 ASH Annual Meeting, CARTITUDE-4 demonstrated clinically meaningful improvements in patient-reported outcomes (PRO) when compared to standard of care and meaningful reductions in disease-specific symptoms after a single infusion. CARVYKTI® resulted in statistically significant improvement of progression-free survival in adults with relapsed and lenalidomide-refractory multiple myeloma who received one to three prior lines of therapy. Based on the positive results from the CARTITUDE-4 study, Legend received a positive opinion from the EMA CHMP on the use of CARVYKTI® for second-line treatment in February 2024. In April 2024, upon approval by the FDA, CARVYKTI® becomes the first and only BCMA-targeted CAR-T cell therapy approved for second-line treatment of multiple myeloma.
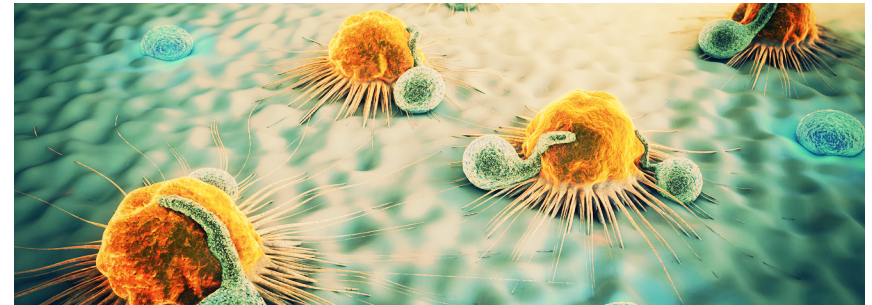
Intellectual Property Protection

Our innovative successes are encapsulated in intellectual property. At GenScript, we adopt a "zero-tolerance" policy towards intellectual property infringement and comply with relevant applicable laws and regulations of the countries and regions where we operate.

GenScript has a professional intellectual property team in place for standardized management. To help our employees improve the awareness of intellectual property protection and the ability to apply for patents, we also regularly provide intellectual property training covering diverse topics.

Training on patent basics	Introduce the patent application process, provide guidance on major steps, and elaborate on patent-related terms
Training on patent applications	Offer case studies and enable employees to practice core skills (e.g. patent retrieval, database operation, and response to office actions for patent application)
Regulatory training	Provide case analysis under the Draft Amendment to the Trademark Law of China in 2023 and explain the impacts of the amendment on business
Third-party intellectual property training	Invite patent experts to introduce the U.S. and European requirements on patent applications and share recent cases

Intellectual Property Training

Intellectual property achievements	• **118** new patents granted in 2023 • Cumulatively **330** patents granted

2.3 Supply Chain Management

Building an efficient, green and responsible supply chain is crucial for sustainable development of the Company. We have a sound supplier management system in place to ensure long-term stability of our supply chain. We strive to establish strong, mutually beneficial relationships with suppliers.

Supplier Life Cycle Management

Supplier Management System

Suppliers are important business partners of the Company, and well-managed supply chain management is indicative of the Company's responsible business practices. During the Reporting Period, we have continuously improved our supplier management system by revising policies, such as the *Supplier Management Policy* and *Supplier Management Rules*. We developed the *Sustainable Procurement Policy*, and updated the *Supplier Code of Conduct* as guidelines for supplier management and procurement strategy execution.

We have a data-driven procurement data management platform in place for supplier life cycle management, covering supplier development, qualification approval, evaluation, audit, tiering and risk management. This ensures transparent and traceable procurement and improves procurement compliance and supply chain management efficiency.

Development & selection	Evaluation & qualification approval	Supplier tiering	Supplier relationship management	Supplier risk management
We develop and select suppliers based on uniform, objective criteria on quality, price, delivery capabilities, financial stability, and compliance with ethical and sustainability standards. We follow the principles of early intervention, direct transactions with original manufacturers, supplier diversity, and supply chain compliance to reduce supply chain risks from the very start.	We evaluate and approve suppliers based on their capabilities, track record, and compliance with our guidelines through on-site evaluations, quality audits, financial reviews, ESG audits, and reference to other customer inputs.	We regularly measure and track supplier performance against performance metrics to assess suppliers' ability to meet expectations on quality, service, risk management and ESG performance. We categorize suppliers into strategic suppliers, preferred suppliers, maintained suppliers and eliminated suppliers based on their performance, achieving efficient supplier base management.	We have established tier-based regular communication mechanisms to promptly resolve any issues, concerns or changes in requirements. We also encourage suppliers to offer suggestions on process improvement and innovation.	We conduct supplier risk management by systematically identifying, analyzing, evaluating and controlling supplier risks in terms of capabilities, credit standing, finance, quality, production, logistics, and ESG performance throughout the process from supplier development to selection and approval.

Supplier Management Process

Supplier Quality Improvement

To ensure procurement quality and stable supply, we conduct annual supplier quality audits under the *Standard Management Procedures for Supplier Quality Audits*. We oversee quality and offer training on improvement for all direct suppliers, service providers, and raw material suppliers through a combination of on-site, documentation, and remote audits. During the Reporting Period, we completed 112 supplier quality audits and ensured that 100% of relevant suppliers completed corrective actions.

Direct supplier audit

Assess suppliers' quality management capabilities through on-site audits, which include evaluation of the quality assurance system, quality control laboratories, production processes, facilities, and the production or testing environment

Service provider audit

Organize on-site audits based on serivce features and follow the same audit process as direct suppliers

Raw material supplier audit

Conduct quality audits according to the audit plan, and implement raw material quality control through qualification confirmation, trial sampling, on-site audits and on-site inspections

Supplier Quality Audit Approach

Supplier Communication

We maintain two-way communication with suppliers and help suppliers broaden their understanding of industry needs. Through regular online and offline training, we have built collaborative relationships with our suppliers.

During the Reporting Period, we organized meetings with material, equipment, and service suppliers on critical material categories such as culture media, chemicals, amino acids and filters. While suppliers introduced functions and features of products, we also encouraged suppliers to improve their performance in terms of quality, corporate governance, environment, employee health and safety.

Indicators	Unit	2023
Total number of suppliers	Number	1,733
Number of suppliers in Asia	Number	1,500
Number of suppliers in Europe	Number	60
Number of suppliers in Americas	Number	173
Number of suppliers certified to ISO 9001 Quality Management System	Number	1,076
Number of suppliers certified to ISO 14001 Environmental Management System	Number	359
Number of suppliers certified to ISO 45001 Occupational Health and Safety Management System	Number	138

Number of Suppliers

Sustainable Procurement

Sustainability is at the heart of our supply chain, and we embed this principle into our daily procurement and supplier management practices. During the Reporting Period, we defined sustainable procurement targets and principles in the new *Sustainable Procurement Policy* and included ESG indicators in the *Supplier Management Policy* and the *Supplier Management Rules* as guidelines for sustainable procurement management.

Commitment	Target
▶ We request suppliers to comply with national or local pollutant emissions standards, and minimize carbon emissions in business activities through technology upgrades. ▶ We encourage suppliers to increase the use of clean energy and guide them to improve water and energy efficiency. ▶ We emphasize the importance of biodiversity protection and encourage suppliers to avoid any impact on biodiversity during business operations.	▶ Ensure that 50% of targeted suppliers complete environmental audits by 2024 ▶ Ensure that 100% of targeted suppliers obtain environmental management system certification by 2030
▶ We request suppliers to comply with labor and human rights laws and regulations and create a transparent, equal, safe, and diverse workplace. ▶ We request suppliers not to employ child labor or forced labor, and not to discriminate against or bully employees due to gender, ethnicity, race, beliefs, disability, educational background, or other factors. ▶ We request suppliers to ensure equal pay for equal work and pay no less than the local minimum wage to their employees.	▶ Ensure that 100% of targeted suppliers sign the *Supplier Code of Conduct* by 2024 and 100% of new suppliers sign the *Supplier Code of Conduct* from 2023 ▶ Conduct labor and human rights audits on 50% of targeted suppliers by 2024

To implement supply chain integrity standards and green procurement principles, we released the new *Supplier Code of Conduct* and require all targeted suppliers to sign and follow the code. Also, we published the *Green Supply Chain Carbon Reduction Initiative*, aiming to collaborate with suppliers to create a sustainable industry ecosystem.

GenScript
Make Research Easy

Green Supply Chain Carbon Reduction Initiative

Dear suppliers,

Thank you for your ongoing support and cooperation with GenScript Biotech Corporation (hereinafter referred to as "GenScript").

As a responsible enterprise, GenScript has been committed to reducing carbon emissions across its value chain and contributing to sustainable development. This initiative aims to clarify our requirements and expectations for suppliers' low-carbon initiatives, and to encourage all of our suppliers to develop appropriate emissions reduction targets for their own value chain.

We sincerely invite all suppliers to establish a carbon management team and continuously improve management efficiency and increase the corporate and employee's awareness of energy conservation and environmental protection. We encourage our suppliers to proactively work on green design, green purchase, green production, green packaging and green logistics to reduce carbon emissions, improve carbon emissions reduction efforts, and timely report such information at least annually.

Under our Sustainable Procurement Policy, we stress carbon management requirements as a necessary way to achieve carbon peaking and neutrality goals and create a green supply chain. We really appreciate that you could understand our management purpose and requirements. Let's work together to build a green, low-carbon supply chain and promote high-quality development of the industry.

Let's strive to reduce carbon emissions across our value chain and contribute to human well-being and environmental protection!

GenScript Biotech Corporation
September 30, 2023

Topics covered by the Supplier Code of Conduct		
Ethical Practice	Labor Management	Community Environment
Business ethics	Health and safety	Waste management and discharge
Conflicts of interest	Anti-discrimination and harassment	Greenhouse gas emissions
Data security	Employment compliance	Biodiversity
Animal welfare	Freedom of association	Community improvement
Conflict minerals		
Report		

Risk Management

To ensure supply chain stability and risk management, we specify the dimensions and frequency of supplier risk assessments in the *Supplier Management Rules*. We evaluate supplier risks in terms of financial stability, geopolitics, business continuity, quality system, and ESG performance of suppliers. We regularly organize a list of supply chain risks and develop plans in response to risks at different levels.

Supplier ESG risk assessment	GenScript has worked on the identification, evaluation and managment of suppliers' social and environmental risks for three consecutive years. During the Reporting Period, we identified and assessed social and environmental risks of all new suppliers, and conducted online and on-site reassements of social and environmental risks of 51% of our targeted supplier base by spend.
Supply chain risk response	We have a number of measures in place to enhance supply chain resilience. For example, we dual-source alternative suppliers for materials and core equipment. During the Reporting Period, we developed suppliers for over 300 critical materials and nearly 10 kinds of core process equipment, mitigating supply disruption risks caused by geopolitical factors.

Supplier Risk Management

As part of our initiatives to reduce supply chain risks, we have strengthened the management of conflict minerals and due diligence on conflict minerals. We reviewed any use of conflict minerals and published a *Statement on Conflict Minerals* to oversee conflict minerals.

We also conduct due diligence on our supply chain in accordance with the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* and the *Responsible Minerals Initiative* (RMI) of the Responsible Business Alliance. We require suppliers to use minerals certified as conflict-free under the RMI. In this way, we identify conflict minerals in the supply chain, and instruct suppliers to complete the Conflict Minerals Reporting Template (CMRT) and sign the *Commitment to Conflict-Free Minerals*. This enables us to gain a comprehensive understanding of the conflict minerals used in our supply chain and mitigate procurement risks.

ESG Audit

To monitor the sustainability performance of our supply chain, we carry out ESG audits on our targeted suppliers. By collecting third-party ESG audit reports of targeted suppliers, we developed the *Supplier ESG Assessment Form* and the *Supplier ESG On-site Audit Form* to track suppliers' management capabilities and performance in terms of corporate governance, social responsibility, labor management, work safety and environment.

- Online ESG assessment forms or on-site audits
- Quantitative measurement and integrated analysis of ESG performance
- Prepare ESG audit reports and provide supplier audit results
- Require suppliers to improve ESG performance
- Regularly review suppliers' ESG performance

Supplier ESG Audit Process

Responsible Procurement

We uphold responsible procurement across our value chain by empowering buyers, developing a supplier diversity program, and providing supplier training. We prefer suppliers that provide environmentally friendly products and services and grant incentives to suppliers with good environmental and social performance.

Empowering buyers	We offered training on the Sustainable Procurement Policy and action plans to all buyers to enhance their ESG awareness and execution. We included sustainable procurement in performance metrics of buyers to ensure an effective sustainable supply chain management system.
Supplier diversity	As part of our supplier diversity strategy, we identified women-owned and disability-owned businesses in our supplier base, and developed a supplier that employs a vulnerable workforce.
Supplier training	We publicized ESG concepts on our procurement platform, regularly organized on-site training for suppliers, and promoted our ESG policies and best practices to suppliers.
Empowering suppliers	We regularly monitored suppliers' carbon reduction measures and performance and guided them to reduce energy consumption. We worked with a supplier on hazardous waste disposal and helped it recycle acetonitrile and activated carbon for the first time.

Responsible Procurement Initiatives

GenScript Supplier Conference

During the Reporting Period, we invited over 200 suppliers to our supplier conference to share sustainable supply chain practices. Additionally, we introduced new concepts and policies under our renewed supplier management system as guidance for suppliers to strengthen their ESG risk management and enhance sustainable competitiveness. Also, we highlighted our integrity and compliance requirements to strengthen suppliers' sense of integrity and fair competition. We recognized top-performing suppliers and incentivize suppliers to build long-term win-win partnerships with the Company.

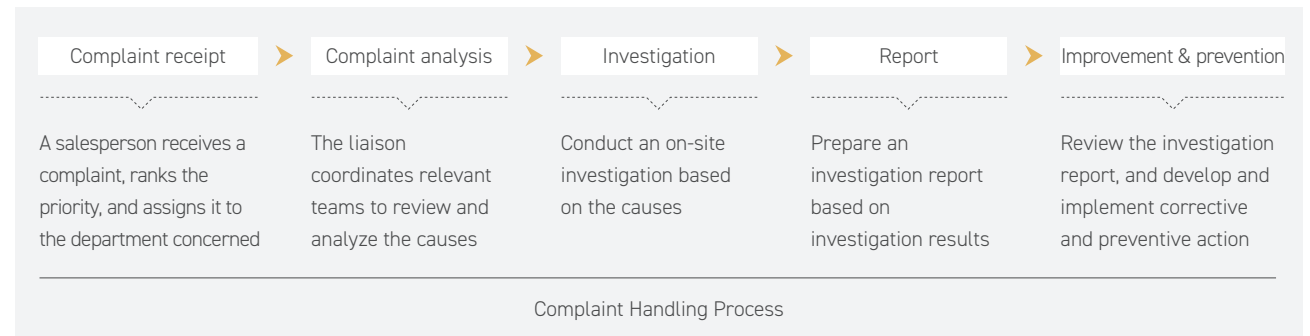| 95.7%	79.5%	79.5%	44.7%	100%
suppliers that have signed the *Code of Conduct*	suppliers with contracts that include clauses on environmental, labor and human rights	suppliers assessed on CSR	audited suppliers engaged in corrective actions	buyers trained on sustainable procurement

2.4 Service Excellence

At GenScript, customer satisfaction is a crucial objective in our commitment to providing high-quality services. Driven by our core values of "Customer First, Innovation, Pursuit of Excellence", we strive to meet customer needs with cutting-edge technology and top-notch services. While improving customer experiences, we protect customers' rights, interests and privacy, solidifying trust and recognition from customers.

Customer Satisfaction

We value customer opinions by developing a customer opinion management procedure and a customer feedback process and tracking the progress of complaint handling on our customer feedback management platform. Customers may provide feedback and submit requests through email, dedicated customer service, after-sales service, and satisfaction surveys. We promptly coordinate teams to respond and resolve issues.

Complaint receipt	Complaint analysis	Investigation	Report	Improvement & prevention
A salesperson receives a complaint, ranks the priority, and assigns it to the department concerned	The liaison coordinates relevant teams to review and analyze the causes	Conduct an on-site investigation based on the causes	Prepare an investigation report based on investigation results	Review the investigation report, and develop and implement corrective and preventive action

Complaint Handling Process

We regularly conduct customer satisfaction surveys through questionnaires. Based on the overall satisfaction (OS) and Net Promoter Score (NPS), we subdivide customer satisfaction into six dimensions, including the response speed, ordering experience, lead time, product quality, technical support, and company website. During the Reporting Period, the survey results showed an OS score of 90.65 (80 indicates high satisfaction), representing a 1.9% increase compared to 2022. Notably, customers showed highest satisfaction about product quality. The NPS stood at 57.83% (above 50% is excellent), demonstrating continued high customer loyalty.

390	100%	92%
customer complaints received	response to customer complaints	customer complaints resolved

Customer Service Upgrade

Driven dy customer needs and our commitment to product innovation, technology improvement and platform development, we continuously deliver premium services and products. We work to address pain points of the biotechnology field, facilitate efficient research and development, and support customer needs.

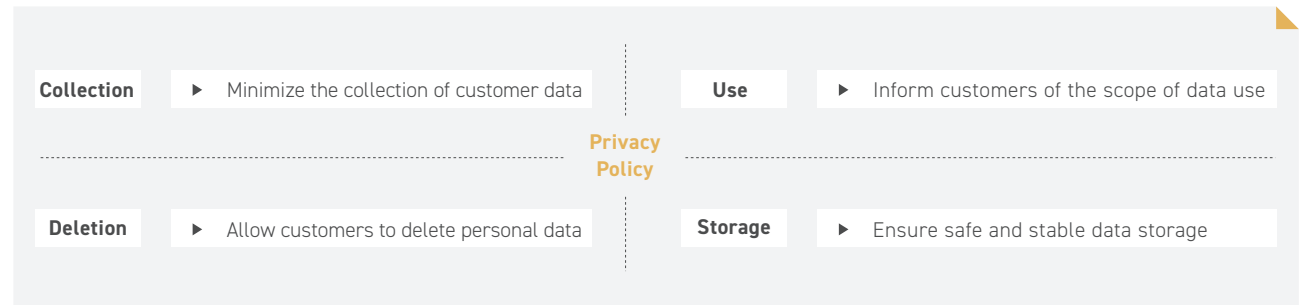|		
Product Innovation	Efficient culture media expedites drug development	GenScript ProBio has engineered a culture media formulation that significantly enhances cell growth density and productivity. Upon implementation within our CDMO operations, this advancement has elevated yields from 3 g/L to 10 g/L, effectively catering to the large-scale manufacturing requirements of biologics. Furthermore, it facilitates customers in expediting the drug development process.
	eStain® LG protein staining system supports research breakthroughs	GenScript eStain® LG protein staining system employs a rapid electrostaining method that integrates traditional three-step process of fixing, staining and destaining. This system enables stable, efficient, rapid and reliable Coomassie Brilliant Blue staining of proteins in polyacrylamide gels in 10 minutes or less. Notably, the entire staining and destaining process requires no additional reagents, and features higher staining efficiency and sensitivity than conventional staining methods, meeting the need for consistent experiment results.
Technology Improvement	CHO2.0 process upgrade helps customers shorten R&D timeline	GenScript TurboCHO 2.0 high-performance mammalian cell system enables high-throughput gene synthesis to protein purification analysis in five business days, surpassing the industry average turnaround time of 3-4 weeks. Through combination of a codon optimization algorithm based on deep learning and optimized bioprocess, the system can increase the yield of low-titer proteins in the CHO cell expression system by over 10 fold and help customers obtain challenging proteins in other expression systems.
	Plasmid preparation process improvement addresses customer demand	We developed a new process for treating E. coli and endotoxin with RNase by developing a well plate plasmid preparation process. This process significantly reduces the use of commercial RNase by 90% and eliminates the need for a separate endotoxin treatment step. As a result, it helps save labor and reduce waste. Also, this process reduces residual RNA and endotoxin levels, delivers higher-quality plasmids to downstream applications, and improves the success rate by 5%.
Platform Development	Enabling clients' easy access to third-party antibody R&D platform	GenScript ProBio entered into a licensing agreement with mAbsolve, a developer of the new Fc silencing technology to provide customers with easy, license-free access to a new STR Fc silencing platform for antibody R&D. This agreement makes the Fc silencing technology available for our discovery projects and ensures that our clients is well positioned for antibody candidate development.
	ADC drug discovery platform complements one-stop ADC drug development capabilities	GenScript ProBio launched an ADC drug discovery platform that provides one-stop ADC discovery solutions including naked antibody discovery, conjugation process development, pharmacology and pharmacological efficacy evaluation. This helps clients accelerate the target to ADC candidate process and capture research and development opportunities.

Customer Privacy Protection

As a global biotech company, we comply with the laws and regulations on digital assets and personal data privacy of the countries and regions where we operate. Protecting customer privacy is also one of our key commitments to our customers. We safeguard customer privacy by developing a customer information security protection system, isolating and desensitizing customer data, and preventing data breaches. The *Privacy Policy* published on our website outlines fundamental principles for the collection, use and storage of customer data. We undertake to process customer data only to the necessary, minimum and reasonable extent. Also, we include a privacy protection clause in our contracts with customers to protect their information security.

Collection	▶	Minimize the collection of customer data	**Use**	▶	Inform customers of the scope of data use
			Privacy Policy		
Deletion	▶	Allow customers to delete personal data	**Storage**	▶	Ensure safe and stable data storage

We have released the *Data Security White Paper*, which specifies our life cycle data security management standards for business data and customer privacy. Internally, data of our business units are isolated, ensuring that employees have minimum access to data only to the extent necessary for work. We keep customer data confidential and prevent the exposure of customer data during operations by desensitizing data. Also, we increase employees' awareness and ability to protect customer data through regular training and communications and a training program for the *General Data Protection Regulation* (GDPR).

To protect cross-border data security, we have set up multiple global data storage centers to ensure local data storage and avoid the risk of cross-border data transfer.

To ensure production quality and traceability, our biologics CDMO segment, GenScript ProBio has deployed a dual system architecture to meet the information security and validation requirements under the GMP manufacturing environment in the global context. Thanks to this innovative digital solution, GenScript ProBio was awarded the "Emerging Enterprise Award by Supply Chain" by the *Harvard Business Review*.

03

Empowering Our Employees

At GenScript, we value employees as our partners in our business success. We endeavor to create an inclusive, safe and democratic working environment where our employees can unleash their full potential. By offering competitive compensation and benefits to our employees, we aim to foster a culture of shared success.

Contributing to the UN SDGs

3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES

3.1 Diverse and Inclusive Workplace

We comply with the laws and regulations that protect employee rights and interests in our operational sites. We have developed and optimized the *Labor and Human Rights Policy* and the *Employee Handbook* with a view to fostering positive and productive labor relations. During the Reporting Period, GenScript was named a BioSpace 2024 Best Place to Work in recognition of our workforce management performance.

2024 BEST PLACES to WORK · BioSpace

Talent Acquisition

We regard employees as the most valuable assets of the Company. We develop our talent base through a combination of campus and social recruitment, internal job competitions and external talent acquisition. We encourage diversity across the workforce regardless of gender, region or nationality, among others.

As of the end of 2023, GenScript had a total of 6,937 employees worldwide, with a turnover rate of 9.0%.

Indicators		2023	
		Percentage	Number
Total number of employees		/	6,937
By employment type	Full-time	99.9%	6,933
	Part-time	0.1%	4
By gender	Male	42.7%	2,962
	Female	57.3%	3,975
By age	Under 31	50.3%	3,486
	31-50	45.6%	3,164
	Over 50	4.1%	287
By job level	Senior management level	5.5%	381
	Middle management level	10.5%	725
	Non-management level	84.1%	5,831
By region	Asia	75.7%	5,251
	Americas	19.6%	1,359
	Europe and others	4.7%	327

Employee Diversity Indicators

Indicators	2023
Percentage of women among top executives	41%
Percentage of women in managerial positions	46%

Employee Turnover Rate

Indicators		2023
Employee turnover rate[2]		9.0%
By gender	Male	9.9%
	Female	8.4%
By age	Under 31	11.3%
	31-50	6.8%
	Over 50	6.3%
By region	Asia	8.9%
	Americas	9.9%
	Europe and others	8.0%

[2] During the Reporting Period, the data scope has been updated. The turnover rates in 2021 and 2022 include voluntary and involuntary turnover. In 2023, the scope is adjusted to voluntary turnover.

Diverse Talent Base

With a global perspective, we recruit local talents globally and offer work opportunities to the local communities. We are committed to pooling talents from diverse cultures and countries to achieve business success and synergy on a global scale.

Europe

In August 2023, we released a promotional video named "A Day at GenScript", which conveyed a positive corporate image and attracted talents.

In November 2023, we attended a job fair at the University of Edinburgh in Scotland, which added to our high-potential talent pool.

Asia Pacific

We maintained open communication channels and entered into close partnerships with local universities in Singapore. We identified and acquired talents through diverse campus recruitment campaigns.

In 2023, we launched a total of 11 academy-industry campaigns at Singapore Site, and along with Nanjing Site, signed an internship and employment memorandum of understanding with the Singapore Institute of Technology (SIT).

Connecting with Young Talents

In line with our corporate spirit of "Innovation and Win-Win Cooperation", we have continuously enhanced connections with universities to expand our talent pool. In 2023, we launched a one-year collaboration program with three universities and offered scholarships to excellent interns from those universities, aiming to improve students' professional skills. In 2023, GenScript was also named an internship site for several universities.

Employee Rights Protection

We have developed and worked on labor and human rights targets by protecting employees' rights in recruitment, employment, promotion and development, compensation and benefits. We work to attract global talents and build a competitive employer brand in the industry. As of the end of the Reporting Period, we have achieved 100% of our targets regarding child labor, forced labor, diversity, discrimination and harassment issues.

Target		Progress in 2023
Child labor and forced labor	Zero child labor, forced labor or other illegal employment issues	Achieved
Diversity, discrimination and harassment	100% participation in anti-discrimination and anti-harassment training 100% of operational sites covered by a grievance mechanism on discrimination and/or harassment issues	Achieved

Under the *Employee Handbook* and the *Business Conduct Guidelines*, we implement open and transparent recruitment procedures, and we regard character, knowledge, abilities and performance as the key measures of talents. We take a zero-tolerance stance towards any discrimination or harassment regarding gender, race, skin color, age or disabilities.

In 2023, we organized hybrid training to convey our commitment to human rights and enhance employees' awareness of diversity, anti-discrimination and anti-harassment. During the Reporting Period, all our employees received training on anti-discrimination and anti-harassment.

Additionally, we ensure recruitment compliance by requiring employees to provide identity certificates and verifying their age to eliminate child labor and forced labor. During the Reporting Period, no child labor or forced labor violations occurred. All our operational sites have been subject to human rights reviews or human rights impact assessments. We conducted 112 child labor or forced labor inspections in 2023.

3.2 Talent Development

Talent development serves as the foundation and driving force behind our continuous success. We uphold the principle of equal pay for equal work. Furthermore, we empower employee development through a range of diverse talent development programs, scientific career development pathways, and competitive variable compensation to bring out the best in our employees.

Training Programs

Aligned with corporate strategy and business needs, we have set an employee career management target. We optimized the *Training Management Policy* as guiding principles for employee training and development. During the Reporting Period, we have achieved the career management target covering 100% of our employees.

Target		Progress in 2023
Career management	Provide an orientation for 100% of new employees worldwide	Achieved

In 2023, we launched comprehensive training programs covering general competency, leadership, professional competency, and degree advancement. During the Reporting Period, 100% of employees have received career development training in a total of 195 training sessions, with a total of 127,462 training hours and 18 training hours per employee.

Employee Training Indicators

Indicators		Unit	2023
Training spending		US$	561,923
Number of career development training sessions		/	195
Number of employees trained		/	6,937
Percentage of employees trained		%	100%
By gender	Male	%	43%
	Female	%	57%
By job level	Senior management level	%	6%
	Middle management level	%	10%
	Non-management level	%	84%
Total training hours of employees		Hour	127,462
Average training hours per employee		Hour	18
By gender	Male	Hour	16
	Female	Hour	20
By job level[3]	Senior management level	Hour	5
	Middle management level	Hour	11
	Non-management level	Hour	20

[3] For our subsidiary Legend, only data of China are included, and data of the U.S. are not disclosed in this report.

Career Conversion Programme in Singapore

We participated in the "Career Conversion Programme, Place-and-Train" plan in collaboration with Singapore Ministry of Manpower and local universities. The program is designed to help mid-career individuals understand industry trends and align with industry transformation by providing on-the-job training, which also helps us ensure a more diverse and inclusive workforce.

Degree Advancement Program

To enhance employees' capabilities, since 2022, we have implemented a degree advancement program with partner universities to enable employees to advance from an associate's degree to a bachelor's degree. In 2023, we also worked with those universities to recruit full-time employees and interns and formed training teams, boosting talent attraction and retention for the Company.

General Competency Training Program

In 2023, we launched a general competency training program for all employees in a hybrid way, which improved employees' project management skills, problem solving ability, and ESG practices.

Leadership Programs

In 2023, we launched leadership programs for senior, middle and primary management to help leaders enhance leadership and develop global perspectives and insights.

| Management salon | We organized management salons for supervisors, managers, and directors. Through management experience sharing and panel discussions, the program allowed leaders to broaden their vision and share inputs on cross-functional collaboration, operation efficiency, and talent development.
As of the end of the Reporting Period, we have organized six management salons, involving 100 leaders from different business units and departments. |

| Succession programs | We upgraded succession programs for middle and senior management. By combining theories and practices, the program offered career support to high-potential candidates. |

| Training programs for primary, middle, and senior management | For senior management: By offering third-party training, internal expert sharing and business simulations, the program enhanced the leadership, strategic thinking, and management capabilities of senior management.
For middle management: The program included the general management skill course, business simulations, management experience sharing, and case review, which enhanced leadership skills of the middle management.
For primary management: The program included a training camp, action plan implementation, case study, and case review, which improved management skills of the primary management. |

| Deputy leader training program | The program focused on corporate culture and values, role awareness, team performance management, and target setting, which enhanced the competencies of deputy leaders. |

Expert sharing program

In 2023, we launched an expert sharing program, which helped leaders understand corporate strategy and industry trends.

Professional Competency Training Program

In 2023, we launched a professional competency training program aligned with industry and market demand. This program helped employees understand and master operational skills, optimize manufacturing procedures, and improve quality management. This also strengthened our talent base, which is essential for driving technological innovation and transforming research into practical applications.

Employee Qualification Certification Program

We empower employees with self-directed learning and competency qualification. In 2023, employees in different roles acquired job-specific qualifications and certificates through the qualification certification program, such as the Lean Six Sigma Yellow Belt Certificate and the Quality Management Certificate.

Employee Promotion

Under the *Promotion Management Policy*, we promote employees based on performance by following a disciplined principle and an objective and fair process. We offer diverse career pathways for management, professional, and operational tracks to facilitate talent mobility and unlock the potential of employees.

Nomination	▶	Eligibility review	▶	Collective review	▶	Nomination approval	▶	Releasing promotion results	▶	Adjustement after promotion

Employee Promotion Process

Management (M track)	▶	Technical, marketing & sales, back-office (P track)	▶	Operational (O track)

Career Tracks
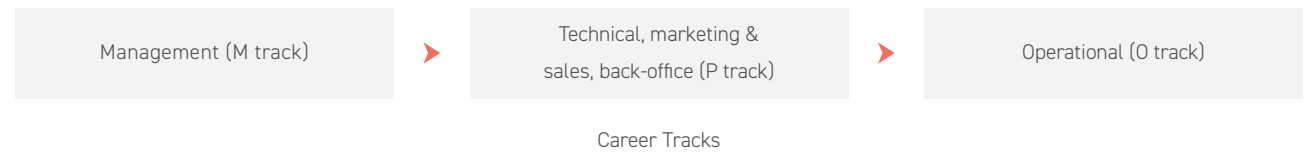
In 2023, we launched a Young Talent training program for university students that graduated in 2022 and 2023 to foster management and professional talents for the future.

Young Talent program

Young Talent Program

In 2023, we launched a one-year Young Talent training program tailored to fresh graduates. The program's primary objectives were to identify and nurture competent young talents and accelerate their growth and development. As of the end of the Reporting Period, we have organized eight Young Talent training sessions, covering a total of 475 participants.

Performance Review

We have developed and optimized the *Individual Performance Management Policy*, the *Low-Performing Employee Management Process*, and the *Performance Communication and Complaint Process*. Through a robust performance review system, we evaluate employees' work outcomes and uphold merit-based promotion. During the Reporting Period, all employees have received performance and career development reviews.

In 2023, we enhanced our performance review process and revised the reference guide for performance review documents. Additionally, we launched an electronic performance management system to streamline target setting, reviews, and result confirmation, thereby establishing an efficient and digitized performance management framework.

Employee Incentives

Competitive compensation and incentives play a crucial role in driving employee motivation. We ensure equal remuneration between men and women for work of equal value. and optimize our incentive mechanism comprising both long-term and short-term incentives, as outlined in the *Total Reward Management Policy* and the *Compensation and Benefits Management Policy*.

Furthermore, we have developed incentive schemes for all employees, encompassing regular bonuses, project bonuses, and innovation rewards. Additionally, our variable bonus scheme ties employee bonuses to the Company's business performance. For core talents and managers, we also offer equity incentives.

| Long-term Incentives | ▶ Options ▶ Restricted shares ▶ Long-term retention bonuses | Short-term Incentives | ▶ Performance-based bonuses ▶ Project awards ▶ Dedicated awards |
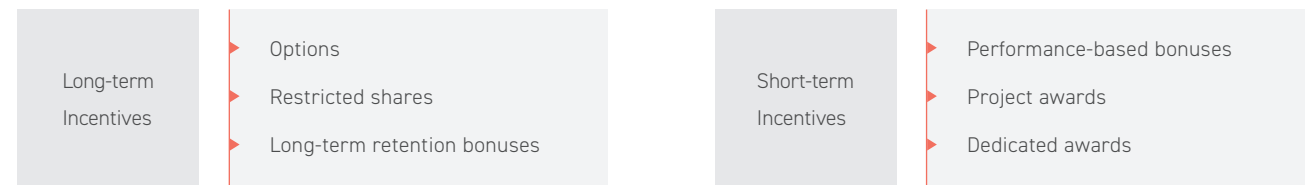
3.3 Employee Engagement

We maintain a work-life balance for our employees. We have an effective communication mechanism in place to identify and address the needs of our employees. By fostering a supportive and inclusive working environment, we aim to strengthen employee bonds, enhance employees' well-being and sense of belonging, and create fulfillment for employees.

Employee Benefits

As a responsible organization, we have a well-established compensation and benefits system. Apart from statutory benefits such as social insurance, housing provident fund and paid holidays, we offer a wide range of non-salary benefits to all employees including full-time employees, contractors and interns. Those initiatives aim to foster a strong emotional connection with our employees.

Statutory Benefits	Supplementary Benefits	Family-Friendly Benefits
• Pension insurance • Unemployment insurance • Medical insurance • Critical illness insurance • Work-related injury insurance • Maternity insurance • Housing provident fund	• Supplementary commercial insurance • Accidental injury and medical insurance • Supplementary work-related injury insurance • International business travel insurance • Annual health check-up • Free transitional housing • Employee consolation money • Appreciation benefits for 5th, 10th and 15th work anniversary • Small incentives for additional contributions • Telecommuting and flexible working hours	• Paid annual leave • Bonus leave • Paid maternity leave • Paid paternity leave • Paid prenatal check-up leave • Paid parental leave • Paid breast-feeding leave • Nursing room • Paid nursing leave for only-child family • Paid bereavement leave

Benefits System

In 2023, we organized a variety of team building, sports club and festival celebration events to create a harmonious workplace.

Team building	**Dutch King's Day event** During the Reporting Period, GenScript European Division organized a team building event on the Dutch King's Day, promoting friendships through activities. -- **Bestzyme's 10th Anniversary event** During the Reporting Period, Bestzyme organized team building in celebration of its 10th anniversary, which facilitated communication among employees and improved team cohesiveness.
Ceremony	**Graduation Ceremony** During the Reporting Period, we hosted a graduation ceremony to show care for fresh graduates.
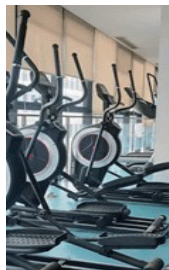
Free gym

Christmas and New Year's Day

Thanksgiving Day
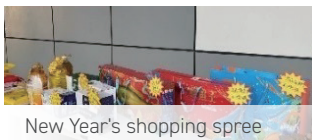
New Year's shopping spree

Dragon Boat Festival

Employee Benefits Events

We value and support our female and disabled employees. We support women's development by signing the *Collective Agreement for the Protection of Rights and Interests of Female Employees*, implementing a mentorship and sponsorship program, and providing nursing rooms and pregnancy parking for women in need.

Under the *Labor and Human Rights Policy*, we offer job opportunities to disabled people who are able to work and set up accessible facilities in the workplace.

Care for female employees	**Women's Day event** During the Reporting Period, we organized a series of activities on the Women's Day, including a lecture on makeup and an online campaign for "Women's Collection Sharing", which improved female employees' well-being. -- **Lecture on health and wellness for women** During the Reporting Period, we held a health and wellness lecture on health and fitness for all female employees. -- **Legal knowledge sharing seminar** During the Reporting Period, we organized a legal knowledge sharing seminar regarding financial planning, marriage and women's rights and interests.

Democratic Communication

We value employees' rights of association and freedom of speech. We have signed collective agreements with employees and set and reviewed targets for working conditions and labor relations, ensuring democratic management. During the Reporting Period, we have achieved our targets for working conditions and labor relations, and 100% of our workforce have been covered by collective agreements.

Target		Progress in 2023
Working Conditions	Annual satisfaction survey on working conditions with not less than 90% participation	Achieved
Labor Relations	At least two staff briefings on business results per year and an workers' congress every two years	Achieved

We encourage all employees to take ownership and seek feedback on business and workplace improvements through channels such as company mailboxes and workers' congress. In 2023, we organized townhall meetings, workers' congress, and CEO luncheons to identify and address employees' concerns. During the Reporting Period, 100% of our workforce across all locations have been represented by formally-elected employee representatives.

Democratic Communication

New employee panels	We regularly held panels for new employees to address their concerns and enhance their sense of belonging.	4th workers' congress	In November 2023, we held the 4th workers' congress, where we reviewed and communicated employee-related policies and rules.
Production group meeting at Singapore Site	In March 2023, our production group of 50 members at Singapore Site held its first group meeting and discussed business dynamics, business results of 2022, and strategic planning.	CEO Luncheons	In 2023, we regularly organized CEO luncheons for direct communication between high-performing employees and our CEO.

Through regular employee satisfaction surveys, we analyzed and addressed gaps in our operations. During the Reporting Period, our employee satisfaction reached 90%, representing a 4% increase compared to 2022.

Role Experience Program

To improve employee satisfaction, we ran a role experience program from March to July 2023. We involved employees in the HR management process by allowing them to experience HR roles, and optimized HR services based on employees' feedback.

3.4 Occupational Health and Safety

At GenScript, we place a top priority on occupational health and safety. We have developed and improved our work safety management mechanism. We put in place occupational health and safety initiatives to raise safety awareness and create a safe working environment.

Work Safety

To ensure work safety, we have developed the *Safety, Health and Environment Management Organization and Personnel Management Procedures* and the *EHS Responsibilities and Accountability System*. We implement the work safety accountability system to achieve occupational health and safety targets. During the Reporting Period, we achieved 100% of our safety targets.

Target		Progress in 2023
Occupational Health and Safety	▸ Regular health and safety inspections and training cover 100% of our operational sites ▸ No severe health and safety accidents ▸ No occupational diseases	Achieved

We have set up the Work Safety, Health & Environment Management Committee for oversight of safety management. Under the work safety accountability system and the *Environment, Health and Safety Accountability Matrix*, we ensure that work safety responsibilities are cascaded down to all teams and hold relevant persons accountable for work safety. During the Reporting Period, 100% of our workforce across all locations have been represented in the Work Safety, Health & Environment Management Committee. We have conducted health and safety risk assessments in 14 sites, covering 100% of our manufacturing sites.

In 2023, we reinforced safety by identifying and rectifying potential safety hazards and preparing hazard rectification reports. Also, we followed up on hazards rectified to prevent recurrence and safeguard employees' well-being.

Health and Safety Management

We prioritize employees' health and safety and focus on the prevention of work-related injuries and occupational diseases. We have established and optimized the claim, identification and payout process of work-related injuries. During the Reporting Period, our total lost days due to work injury were 211 days, but no work-related fatalities occurred in the past three years.

Indicators	Unit	2021	2022	2023
Number of work-related fatalities	/	0	0	0
Rate of work-related fatalities	%	0	0	0

Claim, Identification and Payout Process

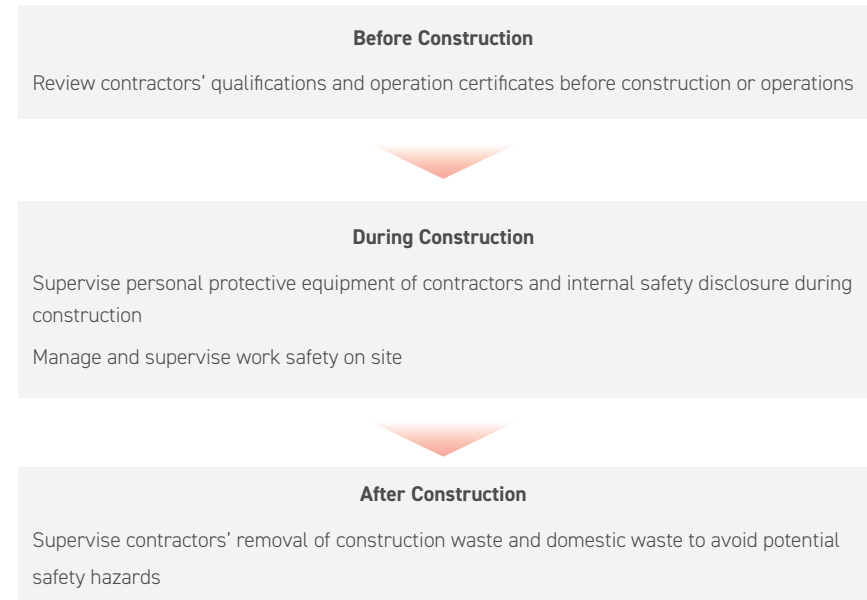| Reporting	Employees with work-related injuries report injuries to their supervisors and the HR team. EHS team immediately reaches out to the injured employees and arranges medical treatment.
Claim	The Labor Union organizes visits to the injured employees, conducts investigations, and keeps a record.
Payout	After an investigation, dedicated personnel assist with claims, provide identification results, and pay out work-related injury insurance and commercial insurance.

In 2023, we fulfilled our employer responsibility for occupational disease prevention. We protected employee health and safety by organizing health check-ups, assessing occupational hazards, and providing personal protective equipment.

Initiatives to prevent occupational diseases

Preventive actions for repetitive strain injury (RSI)	We set up ergonomic chairs to prevent possible RSI in the workplace.
Regular employee health check-ups	We have pre-employment, on-the-job, and off-the-job health check-ups in place, and conduct medical evaluations for employees who wear respirators to track their health status.
Occupational hazard assessment	After commissioning of a construction project, we identify occupational hazards on site and establish an *Occupational Hazards Identification List* in accordance with the *Occupational Hazard Directory*. We regularly update the *Occupational Hazard Identification List* and control occupational hazards.
Personal protective equipment	We provide appropriate personal protective equipment for employees based on the nature of hazards and national or industry standards, such as safety helmets, gas masks with filters, welding eyewear, acid-resistant coveralls, anti-smash shoes, and safety nets. We set up alarms in toxic and harmful work sites with signals connected to the control room, and provide on-site first-aid kits, washing equipment, emergency exits and necessary safety areas.

We also extend our commitment to the health and safety of contractors. We implement the *Supplier Safety Management Rules*, and follow up on supplier safety management before, during and after construction to prevent safety risks. As of the end the Reporting Period, no work-related injuries or fatalities occurred among contractors.

Before Construction

Review contractors' qualifications and operation certificates before construction or operations

During Construction

Supervise personal protective equipment of contractors and internal safety disclosure during construction

Manage and supervise work safety on site

After Construction

Supervise contractors' removal of construction waste and domestic waste to avoid potential safety hazards

Contractor Safety Management Initiatives

Health and Safety Training

We reinforce our safety culture and employees' safety awareness through the Safety Month campaign and safety lectures. Also, we improve employees' abilities to identify and prevent risks by increasing health and safety training hours, organizing health and safety training in various forms, and revising health and safety training materials. During the Reporting Period, our occupational health and safety training covered 100% of our employees with 236 health and safety training sessions and a total of 105,880.5 training hours.

In 2023, we organized an annual health check-up for all employees, and invited a chief physician to give lectures and analyze the check-up results and health conditions of our employees.

Training on AED installation and use

In 2023, we continued the Red Cross training program on the installation and use of automated external defibrillators (AEDs) for all production teams, improving their safety and emergency response skills.

On-Site AED Training

Hazardous Chemical Management

We prioritize hazardous chemical management and comply with relevant international laws and regulations on chemical management. We have developed and revised the *Hazardous Chemical Management Policy*, and strictly managed the procurement, transportation, storage, use and disposal of hazardous chemicals accordingly.

Chemical Management Initiatives	
Procurement	• Review suppliers' qualification certificates and filing certificate for precursor, highly toxic or explosive hazardous chemicals • Submit information to government authorities for filing of hazardous chemicals purchased
Transportation	• Check the qualifications of carriers, drivers and escorts during the transportation of hazardous chemicals
Storage	• Review the name, specifications, quantity, packaging, and safety labeling of hazardous chemicals during warehousing
Usage	• Regularly update the list of hazardous chemicals • Post the Material Safety Data Sheet (MSDS) on site and require employees to learn the MSDS before the use of hazardous chemicals • Conduct hazard identification and risk assessments for the entire process of hazardous chemical management, and develop safety operation procedures • Regularly inspect and maintain hazardous chemical storage facilities • Distribute personal protective equipment to employees who may be exposed to hazardous chemicals

In 2023, through hazardous chemical replacement and reduction, process optimization and on-site monitoring, we effectively controlled risk factors that might cause accidents due to improper use of chemicals.

Hazardous Chemical Management Initiatives	
Hazardous chemical replacement and reduction	• Improve manufacturing processes, optimize the storage and use of methanol, and use other non-toxic substances instead of methanol
Process optimization	• Implement aseptic practices throughout manufacturing, and gradually replace highly toxic sodium azide
On-site monitoring	• Regularly organize departmental training on safety operation procedures and hazardous chemical inspections at the Group, subsidiary, and department levels, and follow up on the rectification of hazards identified • Conduct training and certification for custodial staff of hazardous chemicals • Strictly control the usage of chemicals to reduce safety risks on site • Optimize the toxic, harmful, and flammable gas detection and monitoring system for comprehensive monitoring of hazardous substances • Provide fume hoods for operations involving hazardous chemicals

04

Preserving Our Environment

At GenScript, we are committed to green and low-carbon operations, and our green practices focus on resource management, waste management, and addressing climate change. We aim to mitigate our impact on the environment by maintaining an efficient environmental management system, optimizing resource utilization, transitioning into renewable energy, and managing waste.

Contributing to the UN SDGs

| 6 CLEAN WATER AND SANITATION | 7 AFFORDABLE AND CLEAN ENERGY | 11 SUSTAINABLE CITIES AND COMMUNITIES | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION |
| 13 CLIMATE ACTION | 14 LIFE BELOW WATER | 15 LIFE ON LAND | |

4.1 Environmental Management

We take responsibility for environmental protection and implement green operations. We have set long-term targets on wastewater, exhaust and waste management, water consumption, and energy consumption. Our aim is to improve environmental management based on those targets.

Environmental Management System

We comply with environmental laws and regulations of the countries and regions where we operate. We identify and assess the applicability of laws and regulations, and regularly update the list of applicable laws and regulations. During the Reporting Period, we conducted compliance assessments according to the regulatory requirements, performed gap analysis, and rectified non-compliance.

In addition, our internal management policies including *GenScript Environmental Sustainability Policy* and *GenScript Energy Management Policy* provide guidance on the Group's environmental management and clarify key issues such as wastewater, exhaust and waste management, energy conservation, emissions reduction, and addressing climate change.

Environmental Targets

We have developed an environmental management strategy to fulfill our sustainability commitments. In 2023, we set targets for energy consumption reduction, water consumption reduction, and wastewater, exhaust and waste management, and monitored our environmental performance.

In 2024, we made a significant step forward by submitting a commitment letter to the Science Based Targets initiative (SBTi), establishing our intent to set science-based emissions reduction targets. Moving ahead, we will conduct carbon accounting across the Group and identify carbon footprints of our products. We will further define the path to reduce emissions in line with the *Paris Agreement* and reach net-zero emissions by 2050.

Energy consumption

Reduce electricity consumption intensity by 5% per year

Water consumption

Reduce water consumption intensity by 5% per year

Emissions management

100% of compliant wastewater and exhaust discharge, and hazardous waste disposal by qualified institutions
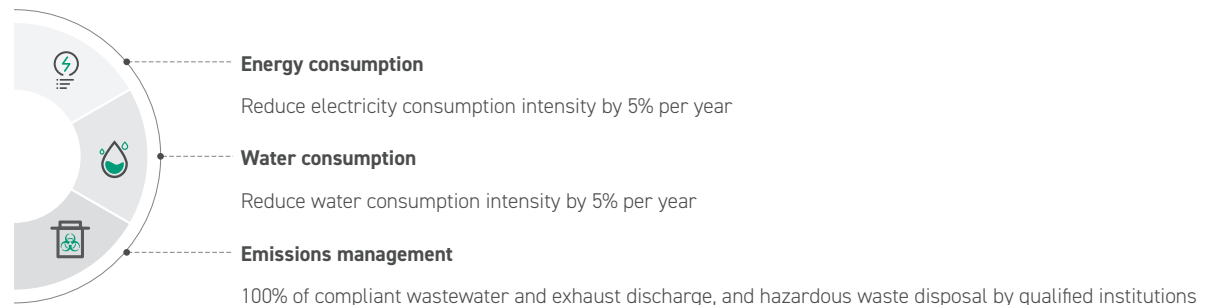
Environmental Management System

We standardize environmental management through environmental management system certification. During the Reporting Period, the enzyme manufacturing site of our subsidiary Bestzyme in Jinan, China (Jinan Site) has obtained ISO 14001 environmental management system certification and green factory certification.

Environmental Performance Review

We regularly review environmental management procedures and performance according to the *Safety, Health and Environment Production Accountability System* and the *EHS Responsibility & Accountability Policy*. We also link environmental performance indicators to performance reviews of the management team to ensure effective environmental management at all levels.

Environmental Management
System Certification

Environmental Risk Management

To manage environmental risks during operations, we prepared the *Risk Assessment Report on Environmental Emergencies* as guidance for environmental risk identification and management. When environmental risks change, we assess, monitor and manage environmental risks in a timely manner.

We regularly identify potential hazards and prevent and manage environmental risks by developing management plans and taking prevention and management measures. As of the end of the Reporting Period, we have conducted environmental risk assessments in 14 sites, covering 100% of our manufacturing sites.

Raising Environmental Awareness

To raise employees' awareness of environmental protection, enhance employees' ability to protect the environment, and improve our environmental performance, we regularly organize environmental training covering environmental management, waste management, emergency response, and energy management.

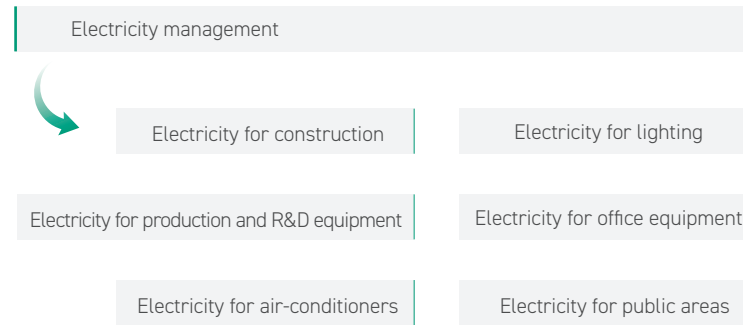| Solid waste management and emergency response training		Energy management system training	
Trainees	Employees from production teams involved in waste management, waste warehouse management, and waste transportation	Trainees	Employees from facilities teams involved in energy management and leaders of teams using energy
Training topics and objectives	Training on definition and classification of waste, laws, regulations and standards on waste management and emergency waste disposal methods to enhance employees' awareness	Training topics and objectives	Training on energy management policies and requirements and best practices of energy use to enhance employees' awareness of energy management and promote energy conservation

In addition, we organized training on ESG practices provided by a third party to improve employees' knowledge and awareness of sustainability.

4.2 Resource Conservation

We incorporate sustainability into our operations and continuously strengthen resource utilization management. We explore the potential of energy consumption reduction, promote efficient use of water resources and office resources, and take a number of measures to improve integrated resource utilization efficiency and reduce our environmental impact.

Energy Management

GenScript has developed the *Energy Management Policy* as the guiding principles for energy management. We take a standardized and systematic approach to energy management and drive energy transition.

Electricity management

- Electricity for construction
- Electricity for lighting
- Electricity for production and R&D equipment
- Electricity for office equipment
- Electricity for air-conditioners
- Electricity for public areas

We are expanding the coverage of Energy Management System certification under our policies. During the Reporting Period, Jinan Site has obtained the ISO 50001 Energy Management System certification.

ENERGY MANAGEMENT SYSTEM CERTIFICATION CERTIFICATE

Jinan Bestzyme Bio-Engineering Co., Ltd.
The Energy Management System Conforms to the Standard
GB/T23331-2020/ISO50001:2018; RB/T120-2015 《Energy management systems—
Requirements for certification on food product enterprises》

Registered Address: Economic Development Zone, Shanghe County, Ji'nan City, Shandong Province
Business Location: No.28, Huiyuan Street, Economic Development Zone, Shanghe County, Ji'nan City, Shandong Province
Production Address: No.28, Huiyuan Street, Economic Development Zone, Shanghe County, Ji'nan City, Shandong Province

Certified Scope: Management of the energy consumption process of fermentation ingredients, sterilization and cooling, fermentation culture, plate and frame filtration, ultrafiltration and concentration, spray drying, etc. involved in the production of feed additives and compound food additives within the scope of qualification, as well as the energy consumption process of auxiliary production systems (power supply, steam supply, water supply and environmental protection equipment) and auxiliary production systems (office buildings and laboratories)
(For the present year's comprehensive energy consumption for unit output value and energy management system boundary of the registered client, please refer to the annex.The annex is a part of this certification.)

Unified Social Credit Code: 913701266898255542
Registration No.: 04322En0067R0M-0
First Issuing Date: 02 Sep. 2022
Issuing Date: 02 Sep. 2022
Altering Date: 04 Dec. 2023
Expiration Date: 01 Sep. 2025

Issued By: Meng Yong ge

The certified organization should accept regular surveillance, if the surveillance are qualified, the certification will sustain effective.
Address: 17/F Building 3 (Triumph Center), 170 Beiyuan Road, Chaoyang Dist,Beijing P.R.China
Tel: 010-84850008   Website: www.uicec.com
This certification information can be queried on the CNCA official website (www.cnca.gov.cn)

Energy Management System Certification

We stay updated on the latest energy-saving technology and follow the latest technical standards. Also, we accurately calculate energy consumption data of production and R&D teams and develop energy distribution networks across the Group.

Centralized control of air conditioners at Zhenjiang Site

Zhenjiang Site installed 4G modules to multi-split type air conditioners in office areas and production areas for remote monitoring and automatic start-stop of air conditioners. The modules have been put into use, which is expected to save **592,592 kWh** of electricity in 2024.

Outdoor Units & 4G Module

Shared cold water system at Zhenjiang Site

To cope with high cooling costs in summer, Zhenjiang Site launched a cooling system renovation project to improve the coefficient of performance (COP). By connecting two cold water circulation pipelines in series, we achieved a significant reduction in electricity consumption in summer. The project is expected to save **444,000 kWh** of electricity per year.

Waste heat recovery project

By evaluating the feasibility of waste heat recovery at each site, we have worked out plans for several scenarios:

- Recycling of steam condensate instead of clean utility water in boilers
- Steam condensate recovery for heating
- Recycling of boiler exhaust heat
- Spray dryer heat recovery
- Air compressor heat recovery

During the construction phase of selected R&D and production sites, we incorporated an air compressor heat recovery system, which can effectively capture waste heat generated during compression to heat water for our air conditioning system.

We are working to integrate renewable energy into our energy mix. In 2023, we evaluated the feasibility of photovoltaic power based on analysis of the existing buildings and future site planning. In 2024, we will purchase green electricity and deploy a photovoltaic system at Nanjing and Zhenjiang sites and increase the use of renewable energy in our major manufacturing sites to reduce energy consumption and emissions.

Rendering of Photovoltaic System

Energy Consumption and Greenhouse Gas Emissions [4] Indicators

Indicator		Unit	2023
Direct energy	Natural gas[5]	m^3	5,978,969.97
	Diesel fuel[6]	tons	3.77
	Renewable energy — solar energy	kWh	249,268.00
	Direct energy consumption	tons of coal equivalent	7,988.16
	Direct energy consumption intensity	tons of coal equivalent/US$10,000	0.10
Indirect energy	Purchased steam	tons	46,691.99
	Purchased electricity	kWh	147,644,413.51
	Total indirect energy consumption	tons of coal equivalent	22,555.92
	Indirect energy consumption intensity	tons of coal equivalent/US$10,000	0.27
Total energy consumption		tons of coal equivalent	30,544.08
Total energy consumption intensity		tons of coal equivalent/US$10,000	0.36
Renewable energy consumption		kWh	249,268.00

Indicator	Unit	2023
Scope 1 emissions[7]	tCO_2e	12,090.92
Scope 2 emissions[8]	tCO_2e	85,858.74
Total emissions (Scope 1 + Scope 2)	tCO_2e	97,949.66
Emissions intensity[9] (Scope 1 + Scope 2)	tCO_2e/US$10,000	1.77

[4] Our subsidiary Legend's data are not covered in greenhouse gas (GHG) emissions indicators. Changes in GHG are caused by an increase in diesel fuel and natural gas consumption. See the corresponding indicators for reasons for changes.

[5] In 2023, the data scope of our subsidiary Bestzyme includes natural gas used by production facilities. Total natural gas consumption increases due to a change in the product drying process from steam drying to natural gas combustion.

[6] Our diesel fuel consumption is mainly for power generators. In 2023, power generators were not used at Nanjing Site, resulting in a decrease in diesel fuel consumption.

[7] Our GHG emissions (Scope 1) are mainly from diesel fuel and natural gas. Scope 1 is calculated using (a) the low heating value of natural gas of 389.31 GJ/10,000 Nm³ and the low heating value of diesel fuel of 43.33 GJ/ton according to *China's Greenhouse Gas Inventory in 2005*, (b) the carbon content per unit of calorific value of 0.0153 tC/GJ for natural gas and 0.0202 tC/GJ for diesel fuel, according to the *2006 IPCC Inventory Guidelines* and the *Guidelines for the Preparation of Provincial Greenhouse Gas Inventories (Trial)*, and (c) the carbon oxidation rate of 99% for natural gas and 98% for diesel fuel according to the *Guidelines for the Preparation of Provincial Greenhouse Gas Inventories (Trial)*.

[8] Our GHG emissions (Scope 2) are mainly from purchased electricity and purchased steam. The greenhouse gas emissions from purchased electricity are calculated using the average carbon dioxide emission factor of China's power grids of 0.5703 tCO_2/MWh in 2022 as set out in the *Notice on the Management of GHG Emissions Reporting for the Electric Power Sector from 2023 to 2025* issued by the Ministry of Ecology and Environment of China. The carbon dioxide emission factor for purchased steam is 0.11 tCO_2/GJ.

[9] In 2023, the calculation approach for GHG emissions intensity is updated by using our revenue from non-cell therapy business as the denominator.

Water Management

At GenScript, we take water resources as a key element across our value chain. With commitment to water conservation, we have implemented water management improvement projects to increase the reuse of water resources while reducing water consumption.

We standardize the management of municipal water and construction water under the *Energy Management Policy*, incorporating water-saving practices into daily operations. Also, we have developed standard operating procedures for water management to standardize water use and reduce water waste.

Municipal water management

- Improve water facility maintenance to avoid leakage
- Improve production water reuse and use reclaimed water for landscape irrigation

Construction water management

- Require construction organizations to submit a written request specifying construction water consumption and locations for getting water
- Verify water consumption against the approved level during construction

To mitigate water stress and water risks, we have continuously enhanced water management by implementing lean methodologies and new technology to save water and improve water use efficiency.

We implement water-saving initiatives by monitoring water consumption, upgrading equipment and processes, and reusing reclaimed water. We communicate water-saving practices to our employees to improve their awareness.

Reusing reclaimed water

We have optimized facilities and renovated our sewage treatment system by adding a reclaimed water reuse system after the evaluation of our sewage treatment facilities. This allows us to reuse treated wastewater and save water.
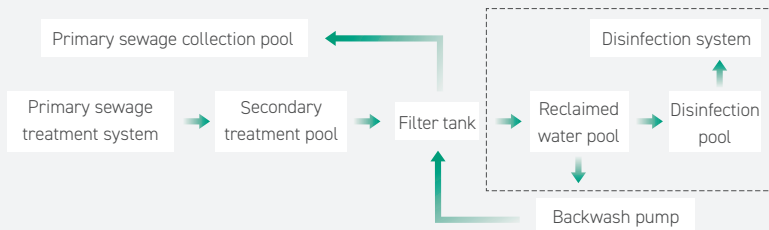
Jinan Site has established a 10 m^3/hour treatment system for reclaimed water reuse. Within this system, treated wastewater enters the disinfection pool through the reclaimed water pool and is reused after disinfection, saving **240 m^3** of water per day.

Water Consumption[10] Indicators

Indicator	Unit	2023
Total water consumption	m^3	1,312,306.53
Water consumption intensity[11]	m^3/US$10,000	23.66

[10] In 2023, our subsidiary Legend's data are not covered in water consumption indicators, and the data scope our subsidiary Bestzyme includes its industrial water consumption. The increase in total water consumption is also due to lower water consumption of Bestzyme in 2022 as a result of production suspension/repair for several months.

[11] In 2023, the calculation approach for water consumption intensity is updated by using our revenue from non-cell therapy business as the denominator.

Office Resource Management

We are working to green our production and operations and enhance resource management. We advocate paperless office and set up recycling bins and waste sorting bins across our operational sites.

We have improved office resource management by setting up shared desks and recycling resources to reduce resource waste.

Shared desks	Resource sharing platform
Provide desks that can be shared by employees on business travel or with temporary needs to improve utilization efficiency	Create a platform for sharing office equipment that is left unused

Indicators	Unit	2023
Packaging material consumption	tons	464.14
Packaging material consumption intensity	tons/US$10,000	0.0084
Packaging material savings	tons	15.41

Packaging Material Consumption Indicators[12]

[12] Our subsidiary Legend's data are not covered in packaging material consumption indicators.

4.3 Emissions Management

At GenScript, we are committed to green manufacturing and comply with relevant laws and regulations of the countries and regions where we operate. We continuously improve our management policies and strictly manage wastewater, exhaust gas, waste and noise to ensure compliant disposal and discharge of pollutants.

Wastewater Management

Our wastewater is mainly generated from laboratories, equipment cleaning, sterilization, animal facility washing, and domestic wastewater during production and operations. Major pollutants in wastewater are chemical oxygen demand (COD) and ammonia nitrogen. All wastewater enters our sewage treatment facilities through sewage pipelines for treatment and then is discharged into local sewage treatment plants through municipal pipelines according to requirements specified in the drainage permit.

We have improved online wastewater monitoring by regularly monitoring COD, ammonia nitrogen, and other emissions data, and uploaded real-time emissions data to pollutant monitoring platforms to ensure compliant wastewater discharge.

To reduce wastewater discharge during operations, we have improved management from wastewater generation to treatment and tracked the outcomes of wastewater treatment projects.

Generation

- Improve production management to reduce wastewater generation at source
- Improve online monitoring to eliminate leakage during production

Treatment

- Upgrade wastewater treatment processes and optimize treatment technology
- Upgrade the sewage system and sewage treatment facilities
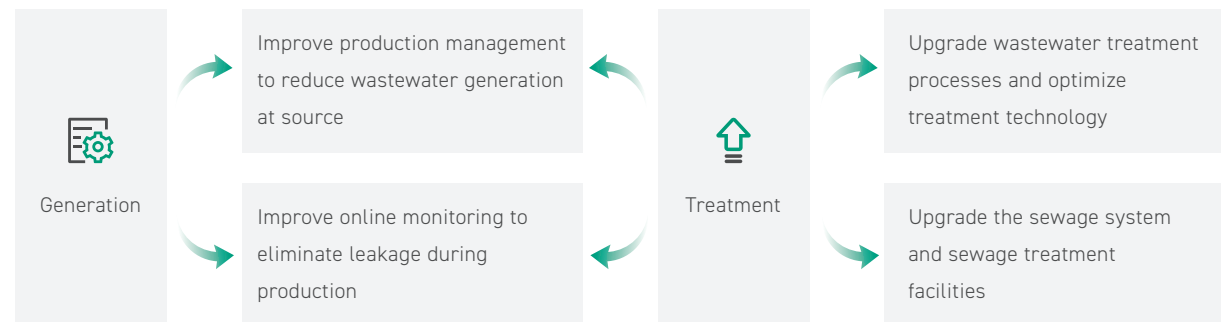
Sewage treatment station upgrading project at Nanjing Site

To increase sewage treatment capacity, we upgraded phases I, II, and III wastewater treatment facilities at Nanjing Site by adding a membrane bioreactor (MBR) system and a waste culture media treatment system and a waste culture media treatment system, which reduced the concentration of pollutants discharged. After upgrading, the COD removal rate reached **85%**, showing significantly improved wastewater treatment effectiveness.

Indicators		Unit	2023
Wastewater	Total sewage discharge	tons	761,541.73
	COD emissions	tons	31.13
	Ammonia nitrogen emissions	tons	2.81

Wastewater Discharge Indicators

Air Emissions Management

Our major air emissions include volatile organic compounds (VOCs), acid mist, hydrogen sulfide, ammonia, nitrogen oxides (NO_x), sulfur oxides (SO_x) and dust generated during R&D and production. We have developed the *Operating Procedures for the Operation and Maintenance of Exhaust Gas Treatment Facilities* to standardize exhaust gas monitoring and treatment. This ensures that all exhaust gas is treated and discharged in compliance with regulations.

To mitigate exhaust gas emissions during operations, we implemented exhaust gas treatment projects by optimizing processes, strengthening supervision, and upgrading exhaust gas treatment facilities. During the Reporting Period, we renovated the exhaust gas collection system and engaged a qualified testing organization to conduct exhaust gas testing for air pollutants, including dust and particulate matter.

Upgrading project for exhaust gas treatment

To improve exhaust gas management, we conducted inspections across our sites, and rectified the identified issues by installing emission control equipment, strengthening exhaust gas collection and management, and minimizing fugitive emissions to ensure compliant air emissions.

Installing SCR denitration devices at Zhenjiang Site

To reduce NO_x emissions, Zhenjiang Site installed Selective Catalytic Reduction (SCR) denitration devices on the low-nitrogen boilers. During the Reporting Period, the SCR denitration devices were in operation during the Reporting Period, and we plan to transition into municipal steam supply and discontinue the use of gas-fired boilers in 2024. We have kept NO_x emission concentration below 30 mg/m^3, reducing air emissions.

Optimizing the exhaust gas treatment equipment at Nanjing Site

We installed a waste liquid treatment system to the wastewater treatment facility at Nanjing Site for centralized collection and treatment of odor generated by the culture media treatment system, MBR pool and inclined plate settler. We collect exhaust gas by installing a gas collection hood for equipment that generates odor, and treat exhaust gas with photocatalytic purification and activated carbon processes.

Upgrading the exhaust gas treatment system at Nanjing Site

Nanjing Site used a new exhaust gas treatment facility for the animal facility and upgraded activated carbon exhaust gas treatment system with a combination of activated oxidation, photocatalysis, spraying and mist removal, which significantly improved exhaust gas treatment with a higher treatment efficiency of 75%.

Indicators		Unit	2023
Exhaust gas	NO_x emissions[13]	kg	19,901.80
	SO_x emissions[14]	kg	3,570.00
	Particulate matter emissions	kg	64.94
	VOC emissions	kg	3,349.98

Exhaust Gas Indicators

[13] In 2023, our subsidiary Bestzyme changed its product drying process from steam drying to natural gas combustion, resulting in an increase in NO_x emissions.

[14] In 2023, our subsidiary Bestzyme changed its product drying process from steam drying to natural gas combustion, resulting in an increase in SO_x emissions.

Waste Management

We comply with waste management laws and regulations of the countries and regions where we operate, and ensure standardized waste management practices to prevent soil and environmental pollution. We have incorporated "zero-waste factory" into our planning and established a management system from solid waste generation to collection, transportation and disposal.

We have the *Solid Waste Management Procedures* in place and manage hazardous waste throughout the process from generation, type identification, on-site temporary collection and storage, internal transfer, warehouse storage, disposal, and online declaration.

We adopt appropriate technology to improve comprehensive utilization of waste and promote waste reduction, recycling, and detoxification. We have developed different management rules for non-hazardous solid waste and hazardous waste and take appropriate measures by waste type.

Waste reduction	We reduced packaging materials through localized procurement and packaging optimization, resulting in waste reduction of **15.4** tons in 2023.
	We fixed delivery time and consolidated parcels, reducing waste generated from transport cartons by about **10%**.
	We implemented paperless transportation to minimize paper materials in parcels, reducing unnecessary waste.

We have developed the *Management Rules for Domestic Waste and General Solid Waste Treatment*, specifying the management requirements, storage conditions, transfer, and compliant disposal process of general solid waste.

Generation		Storage		Disposal
Organize training on solid waste management and emergency response to reduce solid waste generation at source	➤	Install an intelligent terminal management system for hazardous waste and install a camera monitoring system to manage hazardous waste	➤	Develop a waste transfer plan, entrust a qualified organization with waste disposal, and prioritize integrated waste reuse and recycling

We have developed the *Hazardous Chemicals Safety Management System* for hazardous chemicals, specifying the scrapping requirements for hazardous chemicals. We store and dispose of the discarded hazardous chemicals according to the *Solid Waste Management Procedures* to prevent harm on the environment and humans.

To foster the awareness of environmental protection, we have regularly provided hybrid training on hazardous waste. We have also organized emergency drills in response to hazardous spills to improve employees' safety awareness.

Indicators	Unit	2023
Total hazardous waste[15]	tons	2,516.34
Hazardous waste intensity	tons/US$10,000	0.03
Total non-hazardous waste[16]	tons	10,400.61
Non-hazardous waste intensity	tons/US$10,000	0.12
Total waste recycled	tons	899.00
Quantity of unused or expired drugs collected for recycling or waste disposal as a percentage of total products sold	%	4.00

Waste Indicators

[15] Discharge data of our U.S and Singapore sites are included in hazardous waste indicators in 2023.

[16] The increase in total non-hazardous waste in 2023 is due to less non-hazardous waste generated by Bestzyme in 2022 as a result of production suspension/repair for several months.

4.4 Addressing Climate Change

Emerging as an urgent global issue, climate change is posing significant challenges to business and social development. As a responsible corporate citizen, GenScript takes innovative initiatives to strengthen operational resilience in response to climate change. We work to embed sustainability throughout our value chain.

We explore a new low-carbon development model, improve our mechanism for identifying climate change risks, and enhance our ability to mitigate and adapt to climate change in a scientific and efficient way.

Climate-Related Risks and Opportunities

We attach great importance to climate change risk governance. According to the Task Force on Climate-related Financial Disclosures (TCFD) framework, we have identified climate-related risks and the impact on our business, and developed action plans based on the assessment of our physical and transition risks, stakeholder survey and industry best practices.

Risk Type		Potential Financial Impact	Response Strategy
Acute Physical Risks	Typhoon	Typhoons might damage power and water supply facilities at our sites and affect staff commuting and research activities, resulting in operation disruption.	Develop a typhoon emergency plan and an emergency response system to enhance resilience against typhoons
	Extreme heat	Extreme heat might affect water and electricity use at our sites and affect our operations in terms of production, storage and transportation.	Pay close attention to weather changes, conduct safety inspections, and timely circulate notices of extreme weather
	Flood	Flood might damage electricity infrastructure and affect our business continuity.	Reinforce infrastructure and develop a supply chain emergency plan to ensure production stability and delivery of services and products

Risk Type		Potential Financial Impact	Response Strategy
Chronic Physical Risks	Global warming	Global warming would increase ventilation and cooling needs of sites and offices, resulting in higher energy consumption and operation costs.	Reduce energy consumption of air-conditioning and cooling systems through technology upgrade, and strengthen equipment maintenance to ensure the cooling effect
	Sea level rise	Sea level rise could threaten our operations and damage the infrastructure and R&D equipment at our sites.	Stay updated on geographic and climate information, evaluate sea level risks, and enhance risk response capabilities

Climate-Related Risks and Potential Impact

Risk Type		Potential Financial Impact	Response Strategy
Transition Risks - Policy and Legal Risks	Stricter requirements on emissions reporting	As a Hong Kong-listed company, we would face stricter requirements on climate-related information disclosure and higher requirements on the accuracy of environmental data disclosed as climate change intensifies.	Provide high-quality disclosures under the rules and reporting guide of the regulatory agency and strengthen internal monitoring of environmental indicators
Transition Risks - Technology Risk	Increased costs of transition into low-carbon technology	As governments encourage technological improvement and innovation towards low carbon, low energy consumption, and high energy efficiency, we need to transition to a low-emission model, optimize our energy mix, and upgrade equipment, resulting in increased costs for equipment investment, operation and maintenance.	Consider energy efficiency when purchasing new equipment, renovate high energy-consuming equipment, and improve energy mix by using clean energy
Transition Risks - Market Risk	Changes in customer behavior	As demand for green products increases and customers are concerned about the carbon footprint of products, we need to measure our carbon footprint and increase investment in green services and products.	Follow market information and customer preferences, reduce carbon emissions, and set carbon targets
	Uncertainty in market trends	Climate changes might influence focus areas of disease research, which could affect market trends, resulting in changes in our business focus.	Track market trends and capture changes in market through a regular communication mechanism
Transition Risks - Reputation Risk	Changes in customer preferences	Due to customers' environmental concerns, we need to enhance our competitive edge by offering environmentally friendly products and services.	Maintain communication with customers, understand customer preferences and needs, and consider environmental and social factors during R&D and production
	Failure to respond to stakeholders	Stakeholders (regulators, shareholders, partners, customers, and the public) are increasingly concerned about how we address climate change.	Disclose climate-related risks and opportunities and response strategies in our ESG reports and other public channels, respond to inquiries of stakeholders, and improve ESG governance

Opportunity Type	Description	Financial Impact	Response Strategy
Resource efficiency	Using more efficient production processes and recycling resources could contribute to sustainable business development.	Efficiency improvement could lead to lower operating costs, capacity increase, and revenue growth.	Improve production processes, use low-carbon resources, and optimize operation technology to reduce operating costs
Energy sources	According to the net zero roadmap of the International Energy Agency (IEA), all countries need to transition into renewable energy, e.g. wind, solar, hydropower, geothermal, and biofuels.	We will deploy clean energy to optimize our energy mix, mitigate potential risks of rising costs of fossil energy, and reduce greenhouse gas emissions.	Increase the use of clean energy by installing rooftop photovoltaic panels and purchasing green electricity
Products and services	By developing climate change adaptation and mitigation plans and launching low-carbon products, we could solidify our competitiveness in the industry.	We may develop climate change adaptation and mitigation plans, and launch environmentally friendly services and products to enhance our competitive advantages in the industry.	Design new production processes, develop low-carbon products, and offer low-carbon solutions
Markets	Seeking new collaboration opportunities in the market and government incentive policies would lead to new financing opportunities and other benefits.	We could identify new business collaboration opportunities and explore business growth drivers.	Expand collaboration with partners across the value chain, and offer services and products adapted to climate change to enter markets with stricter carbon governance requirements
Resilience	We could enhance adaptability by coping with risks of climate changes, using green technology alternatives, improving production efficiency, and developing new production processes and new products.	We need to enhance operation robustness and build a resilient supply chain to ensure business continuity.	Involve suppliers and customers in climate-related projects, and enhance resilience and adaptability in different conditions

▲ Climate-related Opportunities

◀ Climate-Related Risks and Potential Impact

Emergency Response to Climate Change

GenScript has proactively developed emergency plans to enhance its resilience in the face of climate change risks. Our regular response drills and collaborative efforts across departments enable us to effectively prevent and respond to climate-related risks at our operational sites.

Warning, prevention, and emergency response plans

We have developed an emergency response plan for climate change. Upon receipt of the warning notices of the local weather authority, we will activate emergency response at an appropriate level and take preventive actions.

Training and drills

As part of our emergency preparedness efforts, we maintain an emergency response team aligned with our emergency plan. Also, we conduct emergency drills ahead of extreme weather. After each drill, we analyze the experience and lessons learned to enhance employees' emergency response capabilities and optimize our emergency preparedness stockpile.

Emergency supplies

To prepare for extreme weather conditions such as snowstorms, extreme cold and extreme heat, we maintain appropriate emergency supplies. We conduct regular inspections to ensure adequate supplies, and promptly restock any items that are understocked, damaged, or have expired.

Emergency drill for extreme cold and snowstorms

In response to the potential impact of extreme cold and snowstorms on our operations and employees' safety, GenScript conducted a drill under an emergency drill plan for extreme weather in December 2023. We provided advance notice, distributed emergency supplies, and inspected materials and equipment that could be potentially affected to ensure work safety. During the Reporting Period, there were no incidents of casualties caused by extreme weather.

We successfully concluded the drill and had a review meeting after that. We identified issues and potential hazards and conducted equipment maintenance and hazard prevention. Also, by optimizing resource and personnel allocation, we improved our ability to prevent and respond to natural disasters.

05

Contributing to Communities

We are committed to giving back to society and fulfilling our social responsibility by implementing charitable initiatives and engaging with governments, universities and the industry to drive social impact and align our corporate interests with social value.

Charitable Initiatives	80
Industry Engagement	82

Contributing to the UN SDGs

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

17 PARTNERSHIPS FOR THE GOALS

5.1 Charitable Initiatives

GenScript believes in giving back to the community that supports us. We have donated to support disaster relief and community engagement, contributing to social well-being. During the Reporting Period, GenScript donated **US$437,000** for charitable and community purposes.

Disaster Relief

We played a part in addressing the challenges posed by natural disasters. To support the areas affected by natural disasters, we made charitable donations as a responsible corporate citizen.

Donation to earthquake-hit areas in Gansu Province

In December 2023, to support earthquake relief in Gansu Province, we worked with the Nanjing Charity Federation. We initiated a matching gift program involving our employees, and donated **US$70,913** to the affected areas.

Community Outreach

As a responsible corporate citizen, we actively engage with our community by launching cultural and sports campaigns and promoting scientific awareness.

Science popularization and practice on campus

In April 2023, GenScript and Nanjing Xiaozhuang Experimental Primary School co-organized a science popularization campaign to help students understand the human immune system, microbial activities and the use of microscopes in an engaging way, broadening their scientific knowledge.

Science popularization on life science

In May 2023, GenScript and Baijiahu Primary School co-organized a science popularization campaign to promote life science knowledge among students and ignite their interest in life science.

2023 GenScript Nanjing Universities 100K Relay

In October 2023, GenScript launched the 3rd GenScript Nanjing Universities 100K Relay, which showcased our positivity and health initiative while also shaping our employer brand.

The event brought together 204 students from 17 universities generating 1,261,000 views online. Our hashtag #GenScript Nanjing Universities 100K Relay received 32 million views on social media.

5.2 Industry Engagement

Aligned with our mission to "make people and nature healthier through biotechnology", by leveraging our solid experience and expertise, we have developed win-win partnerships to accelerate industry development. We utilize good practices and innovations of the industry and create value through industry engagement.

In 2023, we became a signatory member of the United Nations Global Compact (UNGC), working to improve sustainability practices alongside global leading companies.
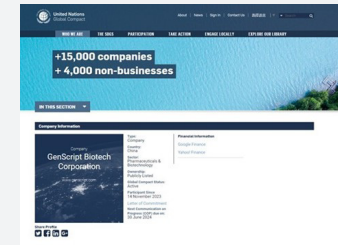
Development of Industry Standards

We have participated in the development of industry and association standards, including the *Technical Standards for Immunomagnetic Bead Enrichment*, the *GMP Guidelines for Pharmaceutical Products (2nd Edition) - Sterile Preparations*, and the *Green Facility Evaluation Standards for the Feed Industry (T-CIET-041-2023)*, facilitating standardized management of the industry.

Industry Collaboration

We engage with local governments and industry partners of the countries and regions where we operate, illuminating new perspectives within the industry.

GenScript announced the Inaugural Life Science Research Grant Project

In 2024, we launched the first GenScript Life Science Research Grant Project, which supports innovative projects across a range of life science fields, including but not limited to CGT development, antibody drug discovery, and vaccine development. Our goal is to empower researchers worldwide by providing grant funding and catalyzing partnerships to accelerate therapies, vaccines, and other innovations that improve global health and the environment.

GenScript facilitates innovative research sharing in gene and cell engineering

In 2023, GenScript hosted the 3rd Annual Gene & Cell Engineering Virtual Summit. This event offered a platform for life science experts to share insights, foster collaboration and make an impact in the field of life science.

GenScript attended the 42nd J.P. Morgan Annual Healthcare Conference

Aligned with our global strategy, we actively seek collaborations across different fields. In January 2024, GenScript, along with Legend and GenScript ProBio, participated in the 42nd J.P. Morgan Annual Healthcare Conference (JPM Conference). At the event, we presented our business update, highlighted our R&D capabilities, and showcased our high-quality services and products, earning significant recognition for our expertise.

During the JPM Conference, GenScript also hosted the 2024 GenScript Biotech Global Forum. The forum was themed "Innovations and Breakthroughs Shaping Tomorrow's Cell and Gene Therapies" and featured keynote speeches and panel discussions, bringing together global academic experts, institutional investors, and industry leaders. Participants shared insights into the trends and commercialization path of CGT, discussed the latest scientific achievements, and explored groundbreaking technology, aiming to shape the future of the CGT field.

Industry Forum on Challenges and Innovative Insights of CGT Development

In 2023, GenScript attended the Industry Forum on Challenges and Innovative Insights of CGT Development sponsored by Guangzhou Gene Therapy Alliance for Rare Diseases. At the event, participants shared insights into challenges in CGT development and innovative approaches to treating rare diseases.

GenScript sponsored iGEM 2023

Since 2009, GenScript has supported iGEM for 14 consecutive years and collaborated with iGEMers globally by providing funding, giveaways and volunteering services to facilitate their innovations. As of the end of the Reporting Period, we have sponsored over 91 teams.

Industry-Academia Collaboration

We prioritize a talent strategy as we recognize the critical role of universities in nurturing creative talents. Our commitment extends to close collaboration with the academic community, where we engage with universities and provide practice opportunities to students. In doing so, we have introduced a number of impactful programs including "GenScript Overseas Training Scholarship" program with China Pharmaceutical University, a scholarship program with East China University of Science and Technology, "GenScript Bridging the Dream Scholarship" program with Shanghai Jiao Tong University, and a strategic collaboration with Nanjing University. Those programs have successfully attracted and nurtured university talents, contributing to long-term growth of the Company and the biotech industry.

Tsinghua University team's tour to Singapore GenScript

In 2023, GenScript Asia-Pacific Division in Singapore organized an Open Day. At the event, we introduced our corporate culture and global business presence with a Q&A session. Additionally, we offered a tour to our laboratories. This initiative helped 27 teachers and students from Tsinghua University enhance their knowledge and practical skills.

List of Laws and Regulations

Chapter	Laws and Regulations
Improving Governance	U.S. Foreign Corrupt Practices Act
	U.S. Federal Trade Commission Act
	UK Bribery Act 2010
	Anti-Unfair Competition Law of the People's Republic of China
	Anti-Monopoly Law of the People's Republic of China
	Company Law of the People's Republic of China
	Criminal Law of the People's Republic of China
Enabling Our Clients	EU Guidelines for Good Manufacturing Practice
	EU General Data Protection Regulation
	UK Data Protection Act 2018
	U.S. FDA 21 CFR Part 211
	U.S. Animal Welfare Act
	U.S. Guide for the Care and Use of Laboratory Animals
	AVMA Guidelines on Euthanasia: 2020 Edition
	U.S. Health Research Extension Act
	U.S. Title 35 of the United States Code – Patents
	U.S. Data Protection Act
	U.S. 15 U.S. Code Chapter 22 – Trademarks
	Good Manufacturing Practice for Drugs (2010 Revision)

Chapter	Laws and Regulations
Enabling Our Clients	Good Pharmacovigilance Practice
	Good Clinical Practice
	Biosafety Law of the People's Republic of China
	Regulations on the Administration of Laboratory Animals
	Patent Law of the People's Republic of China
	Trademark Law of the People's Republic of China
	Copyright Law of the People's Republic of China
	Hong Kong Patents Ordinance of 27 June 1997
	Hong Kong Trade Marks Ordinance Cap. 559
	Civil Code of the People's Republic of China
	Cyber Security Law of the People's Republic of China
	Data Security Law of the People's Republic of China
Empowering Our Employees	U.S. Equal Employment Opportunity Commission
	U.S. Fair Labor Standards Act
	U.S. Employee Rights for Workers with Disabilities Paid at Special Minimum Wages
	U.S. Pay Transparency Nondiscrimination Provision
	Singapore Tripartite Guidelines on Fair Employment Practices
	European Labour Law
	Labor Law of the People's Republic of China
	Law of the People's Republic of China on the Protection of Minors

Chapter	Laws and Regulations
Preserving Our Environment	U.S. Clean Air Act
	U.S. Solid Waste Disposal Act
	U.S. Clean Water Act
	U.S. Energy Policy Act of 2005
	Law of the People's Republic of China on Environmental Protection
	Law of the People's Republic of China on Energy Conservation
	Law of the People's Republic of China on the Prevention and Control of Water Pollution
	Law of the People's Republic of China on the Prevention and Control of Air Pollution
	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes

ESG Key Performance Indicators

Social Indicators

Indicators		Unit	2023
Employment			
Total number of employees		/	6,937
By Employment type	Full-time	/	6,933
	Part-time	/	4
By gender	Male	/	2,962
	Female	/	3,975
By age	Under 31	/	3,486
	31-50	/	3,164
	Over 50	/	287
By job level	Senior management level	/	381
	Middle management level	/	725
	Non-management level	/	5,831

Indicators		Unit	2023
By region	Asia	/	5,251
	Americas	/	1,359
	Europe and others	/	327
Employee turnover rate		%	9.00
By gender	Male	%	9.90
	Female	%	8.40
By age	Under 31	%	11.30
	31-50	%	6.80
	Over 50	%	6.30
By region	Asia	%	8.90
	Americas	%	9.90
	Europe and others	%	8.00
Number of members of the Board of Directors		/	13
Number of executive directors		/	4
Number of non-executive directors		/	3

Indicators		Unit	2023
Number of independent non-executive directors		/	6
Percentage of women in executive management		%	28.57
Percentage of women within the Board		%	15.38
Percentage of women in senior management		%	41.00
Percentage of female employees in managerial positions		%	46.00
Percentage of employees across all locations who have received training on anti-discrimination and anti-harassment		%	100
Employee satisfaction survey	Percentage of the total workforce across all locations who are covered by employee satisfaction surveys	%	100
	Employee satisfaction	%	90.00
Percentage of employees across all locations who have been represented by formally-elected employee representatives		%	100
Percentage of employees at all locations covered by formal collective agreements on working conditions		%	100
Health and Safety			
Lost days due to work-related injury	2021	Days	26
	2022	Days	298
	2023	Days	211

Indicators		Unit	2023
Number of work-related fatalities	2021	/	0
	2022	/	0
	2023	/	0
Rate of work-related fatalities	2021	%	0
	2022	%	0
	2023	%	0
Percentage of manufacturing sites covered by health and safety risk assessments		%	100
Number of health and safety training sessions		/	236
Number of employees trained on health and safety		/	6,937
Percentage of employees trained on health and safety		%	100
Total health and safety training hours		Hour	105,880.50
Lost time injury incident rate for direct workforce[17]		/	0.99
Lost time injury severity rate for direct workforce[18]		/	0.04
Total working hours		Hour	5,040,329.00
Percentage of employees across all locations who have been represented in the Work Safety, Health & Environment Management Committee		%	100
Number of health and safety incidents		/	0

Indicators		Unit	2023
Development and Training			
Number of employees trained		/	6,937
Percentage of employees trained		%	100
By gender	Male	%	43.00
	Female	%	57.00
By job level	Senior management level	%	6.00
	Middle management level	%	10.00
	Non-management level	%	84.00
Total training hours of employees		Hour	127,462.00
Average training hours per employee		Hour	18.00
By gender	Male	Hour	16.00
	Female	Hour	20.00
By job level	Senior management level	Hour	5.00
	Middle management level	Hour	11.00
	Non-management level	Hour	20.00
Training spending		US$	561,923.00

Indicators	Unit	2023
Number of career development training sessions	/	195
Percentage of employees who have received performance and career development reviews	%	100
Labor Standards		
Number of incidents of child or forced labor	/	0
Percentage of operational sites that have been subject to human rights reviews or human rights impact assessments	%	100
Number of factory inspections audited for anti-child labor and anti-forced labor	/	112
Supply Chain Management		
Total number of suppliers	/	1,733
Number of suppliers in Asia	/	1,500
Number of suppliers in Europe	/	60
Number of suppliers in Americas	/	173
Percentage of suppliers that have signed the *Supplier Code of Conduct*	%	95.7
Percentage of suppliers with contracts that include clauses on environmental, labor, and human rights	%	79.5
Percentage of suppliers assessed on CSR	%	79.5
Percentage of targeted suppliers that have gone through a CSR on-site audit	%	51.0
Percentage of buyers trained on sustainable procurement	%	100
Percentage of audited suppliers engaged in corrective actions	%	44.7

Indicators	Unit	2023
Percentage of suppliers for which information regarding conflict minerals is available	%	79.5
Percentage of palm and/or palm-based products traceable to plantation	%	<0.1
Percentage of certified palm and/or palm-based products	%	100
Product Responsibility		
Percentage of product recalls due to safety or health incidents occurred	%	0
Total amount of product recalled due to product discontinuation	/	0
Number of customer health and safety incidents	/	0
Business Ethics and Anti-corruption		
Number of concluded legal cases regarding corrupt practices	/	0
Average training hours of Board members on anti-corruption	Hours	1.0
Average training hours of employees on anti-corruption	Hours	1.5
Percentage of Board members trained on anti-corruption	%	100
Percentage of employees trained on anti-corruption	%	100
Number of participants in anti-corruption training (including Board members and employees)	Person-times	7,571
Number of reports generated by the whistleblower procedure	/	6
% of total locations that have conducted internal audits/risk assessments on business ethics issues	%	100
% of locations with anti-corruption management system certification	%	0

Indicators	Unit	2023
Number of information security incidents	/	15
% of locations certified to ISO 27001 Information Security Management System	%	100
Community Investment		
Charitable contributions	US$	437,000.00

Environmental Indicators

Indicators		Unit	2023
Emissions			
Exhaust gas	NOx emissions	kg	19,901.80
	SOx emissions	kg	3,570.00
	Particulate matter emissions	kg	64.94
	VOC emissions	kg	3,349.98
Wastewater	Total discharge of waste water	tons	761,541.73
	COD emissions	tons	31.13
	Ammonia nitrogen emissions	tons	2.81

Indicators	Unit	2023
Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions and intensity		
Greenhouse gas emissions — Total emissions	tCO_2e	97,949.66
Greenhouse gas emissions — Scope 1 emissions	tCO_2e	12,090.92
Greenhouse gas emissions — Scope 2 emissions	tCO_2e	85,858.74
Greenhouse gas emissions — Emissions intensity	tCO2e/US$10,000	1.77
Total hazardous waste produced and intensity		
Hazardous waste — Total hazardous waste	tons	2,516.34
Hazardous waste — Hazardous waste intensity	tons/US$10,000	0.03
Total non-hazardous waste produced and intensity		
Non-hazardous waste — Total non-hazardous waste	tons	10,400.61
Non-hazardous waste — Non-hazardous waste intensity	tons/US$10,000	0.12
Use of Resources		
Direct and indirect energy consumption and intensity		
Direct energy — Non-Renewable energy — natural gas	m^3	5,978,969.97
Direct energy — Non-Renewable energy — diesel fuel	tons	3.77
Direct energy — Renewable energy — solar energy	kWh	249,268.00
Direct energy — Direct energy consumption	tons of coal equivalent	7,988.16

Indicators		Unit	2023
Direct energy	Direct energy consumption intensity	tons of coal equivalent/US$10,000	0.10
Indirect energy	Purchased steam	tons	46,691.99
	Purchased electricity	kWh	147,644,413.51
	Total indirect energy consumption	tons of coal equivalent	22,555.92
	Indirect energy consumption intensity	tons of coal equivalent/US$10,000	0.27
Total energy consumption	Total energy consumption	tons of coal equivalent	30,544.08
	Total energy consumption intensity	tons of coal equivalent/US$10,000	0.36
Renewable energy consumption		kWh	249,268.00
Water consumption and intensity			
Total water consumption		m³	1,312,306.53
Water consumption intensity		m³/US$10,000	23.66
Total packaging material used for finished products and intensity			
Packaging material type	metal	tons	30
	paper	tons	56.73
	plastic	tons	377.41
Packaging material consumption		tons	464.14

Indicators		Unit	2023
Packaging material consumption intensity		tons/US$10,000	0.0084
Packaging material savings		tons	15.41
Environment Management[19]			
Energy, water or other resource savings achieved as a result of frugal product design	Water savings	Litres	5,105,000.00
	Energy savings	kWh	971,293.02
Total waste recycled		tons	899.00
Quantity of unused or expired drugs collected for recycling or waste disposal as a percentage of total products sold		%	4
% of total employees trained (internal or external) on environmental issues		%	100
% of the number of sites with environmental risk assessment conducted		%	100
% of manufacturing sites that have passed ISO14001 and other environment-related certifications		%	10

[17] Lost time injury incident rate for direct workforce = (total number of lost time injury events) x 1,000,000 / total hours worked. Direct workforce does not include outsourced employees.

[18] Lost time injury severity rate for direct workforce = (number of days lost due to injuries) x 1,000 / total hours worked. Direct workforce does not include outsourced employees.

[19] Legend's data are not covered in environment management indicators.

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Subject Areas, Aspects, General Disclosures and KPIs			Index
A.Environmental			
Aspect A1: Emissions	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste. Note: Air emissions include NOx, SOx, and other pollutants regulated under national laws and regulations. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Hazardous wastes are those defined by national regulations.		4.3 Emissions Management
	A1.1	The types of emissions and respective emissions data.	4.3 Emissions Management
	A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	4.2 Resource Conservation
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	4.3 Emissions Management
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	4.3 Emissions Management
	A1.5	Description of emission target(s) set and steps taken to achieve them.	4.1 Environmental Management Driving Sustainability Through Innovation
	A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	4.3 Emissions Management

Subject Areas, Aspects, General Disclosures and KPIs

Index

Aspect A2: Use of Resources	**General Disclosure** Policies on the efficient use of resources, including energy, water and other raw materials. Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.		4.2 Resource Conservation
	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas, or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	4.2 Resource Conservation
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	4.2 Resource Conservation
	A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	4.1 Environmental Management Driving Sustainability Through Innovation
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	4.1 Environmental Management 4.2 Resource Conservation Driving Sustainability Through Innovation
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	4.2 Resource Conservation
Aspect A3: The Environment and Natural Resources	**General Disclosure** Policies on minimising the issuer's significant impacts on the environment and natural resources.		4.1 Environmental Management
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	4.1 Environmental Management 4.2 Resource Conservation 4.3 Emissions Management 4.4 Addressing Climate Change

Subject Areas, Aspects, General Disclosures and KPIs			Index
Aspect A4: Climate Change	General Disclosure Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.		4.4 Addressing Climate Change
	A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	4.4 Addressing Climate Change
B.Social			
Employment and Labour Practices			
Aspect B1: Employment	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.		3.1 Diverse and Inclusive Workplace
	B1.1	Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	3.1 Diverse and Inclusive Workplace
	B1.2	Employee turnover rate by gender, age group and geographical region.	3.1 Diverse and Inclusive Workplace
Aspect B2: Health and Safety	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.		3.4 Occupational Health and Safety
	B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	3.4 Occupational Health and Safety
	B2.2	Lost days due to work injury.	3.4 Occupational Health and Safety
	B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	3.4 Occupational Health and Safety

Subject Areas, Aspects, General Disclosures and KPIs			Index
Aspect B3: Development and Training	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Note: Training refers to vocational training. It may include internal and external courses paid by the employer.		3.2 Talent Development
	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	3.2 Talent Development
	B3.2	The average training hours completed per employee by gender and employee category.	3.2 Talent Development
Aspect B4: Labour Standards	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.		3.1 Diverse and Inclusive Workplace
	B4.1	Description of measures to review employment practices to avoid child and forced labour.	3.1 Diverse and Inclusive Workplace
	B4.2	Description of steps taken to eliminate such practices when discovered.	3.1 Diverse and Inclusive Workplace
Operating Practices			
Aspect B5: Supply Chain Management	General Disclosure Policies on managing environmental and social risks of the supply chain.		2.3 Supply Chain Management
	B5.1	Number of suppliers by geographical region.	2.3 Supply Chain Management
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	2.3 Supply Chain Management
	B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	2.3 Supply Chain Management
	B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	2.3 Supply Chain Management

Subject Areas, Aspects, General Disclosures and KPIs			Index
Aspect B6: Product Responsibility	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.		2.1 Product Responsibility
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	2.1 Product Responsibility
	B6.2	Number of products and service related complaints received and how they are dealt with.	2.4 Service Excellence
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	2.2 Innovation and R&D
	B6.4	Description of quality assurance process and recall procedures.	2.1 Product Responsibility
	B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	2.4 Service Excellence
Aspect B7: Anti-corruption	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.		1.1 Corporate Governance
	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	1.1 Corporate Governance
	B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	1.1 Corporate Governance
	B7.3	Description of anti-corruption training provided to directors and staff.	1.1 Corporate Governance

Subject Areas, Aspects, General Disclosures and KPIs			Index
Community			
Aspect B8: Community Investment	General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.		5.1 Charitable Initiatives 5.2 Industry Engagement
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	5.1 Charitable Initiatives
	B8.2	Resources contributed (e.g. money or time) to the focus area.	5.1 Charitable Initiatives