

Environmental
Social
Governance



2021 Sustainability Report



TTY
Biopharm
Company
Limited



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Letter from the Chairman

TTY Biopharm is inextricably linked to the national economy, human being's health and environmental sustainability. In addition to the import and manufacture of high-quality pharmaceuticals, which is our core business, we are firmly committed to fulfilling our corporate social responsibility. In 2021, we reformulated our sustainable development strategy to lay out our blueprint for concrete action, which is guided by our core human-oriented philosophy and approach to a healthy lifestyle. In accordance with the identified issues of concern to our stakeholders, our efforts focus on three major areas: "Promotion of Green Transformation", "Realization of a Healthy Society", and "Steady Development of the Company". TTY also implements concrete action plans encompassing climate action, green operations, innovative R&D, healthcare, ethical management, risk management and talent development.

In addition to establishing two functional committees (the Audit and Remuneration Committees) subordinated to the Board of Directors pursuant to laws, we have formed a Sustainable Development Committee (SDC) on our own initiative to facilitate the implementation of corporate sustainability concepts and fulfillment of corporate social responsibility duties. As a result of the effective supervision by the Board of Directors and three functional committees, TTY Biopharm has achieved brilliant results and performance in all ESG areas.

In respect of governance, the "Risk Management Center" subordinated to the SDC not only monitors environmental changes, identifies significant risks periodically and reviews risk management measures adopted by the Company, but also introduced a Task Force on the Climate-related Financial Disclosures (TCFD) risk management system to further align with global trends in 2021. Furthermore, TTY has been listed within the Top 5% of TPEX companies in the TWSE corporate government assessment for consecutive six years, 11%~20% among non-electronic and finance listed companies with a market capitalization value of over NTD\$10 billion, and received the "TCSA" silver and platinum awards for a consecutive two years. In addition to positive value that is reaped by the efforts of TTY Biopharm, these

awards further drive our determination to effect positive drive.

From a social perspective, TTY Biopharm guards health with its high-quality pharmaceuticals and service offerings. In addition to successfully introducing a new drug, the first drug approved by the US FDA for targeted therapy of cholangiocarcinoma, TTY acquired a US FDA drug permit license for Arsenic Trioxide, a self-made drug for rare diseases in 2021. We hope that these efforts can provide diversified therapy plans for patients and medical teams in need.

From an environmental perspective, TTY implements its "Promotion of Green Transformation" which derives from the principle that "environmental sustainability is a priority for all operational activities". In addition to seeking to reduce energy and resources consumption in production processes and proper management of water resources and waste, TTY also asks suppliers to comply with TTY supplier management policies to reduce the risk and impact of climate change. We plan to introduce and pass ISO 14064-1 greenhouse gas inventory standards as our management guidelines and regulations for various energy-saving and carbon-reduction efforts to enhance energy efficiency in all locations.

We organized a summer internship program for 14 consecutive years, even throughout the pandemic. Complete industrial chain operation models and trends are presented through online and in-person courses. The "Regional Care for the Cancer-Affected" program was also organized and more than 330 sessions have been held over 20 years. In 2021, TTY visited Mazu island for the first time to promote the "healthy life, keep cancer away" initiative, and conducted aggressive action in terms of health education. Meanwhile, TTY donated 1,000 vials of influenza vaccines to Taipei Medical University Hospital and hope to reinforce protection on the TMU campus to achieve our mission of protection for a healthy society.

TTY is deeply aware of the fact that we must rely on the concerted efforts of all company members and drive

continuous growth, progression and improvements to realize our goal of becoming an exceptional transnational pharmaceutical company. Based on sound governance, we put integrity and honesty into practice, have a strong legal compliance system, and have armed the Company as a highly respected enterprise. We will continue to strengthen our efforts in the field of ESG and intensify intra-industry cooperation to create value for our stakeholders and honor our pledge to the environment and society.

Lin Chuan
TTY Biopharm Chairman



About TTY Sustainability Report

TTY Biopharm Co., Ltd. (hereinafter referred to as TTY) has issued a sustainability report for six consecutive years. Through this report we demonstrate to all stakeholders as part of our sustainable management goal, performance data and related management methods implemented for corporate governance, maintenance of patients' health and safety, responsible products and manufacturing, environmental protection, supply chain management, employee care and social welfare. We also propose future improvement goals to implement corporate citizenship through concrete actions.

External Guarantee

To enhance accountability for the report, TTY designates the third-party independent verification institution BSI to provide an external guarantee for the information disclosed in the report. BSI introduced the AA1000AS v3 Type 1 application, moderate assurance established by global non-profit organization AccountAbility as an assurance standard.

Before the 2021 Sustainability report is issued, in addition

to an audit of the internal audit unit based on items in the annual audit plan in line with relevant law compliance items, the Sustainable Development Promotion Center also conducts a review. All financial data disclosed by TTY Biopharm is audited by KPMG based on the International Financial Reporting Standards (IFRS) and units are given in New Taiwan Dollars.

Reporting Boundaries and Coverage

This report discloses data from the period of January 1, 2021 to December 31, 2021. Except the data of financial reports which cover the headquarter and subsidiaries of TTY, all remaining governance and social reporting scope mainly related to the Nangang headquarter, Chungli Factory, Lioudu Factory, Neihu Factory, Pharmaceutical Development Center, and Translation Research Center, and exclude the Vietnam Office and subsidiaries (see P005 for detailed information about TTY's subsidiaries). The environmental aspects, outsourced power, energy consumption and gas emission data mainly apply to the two major manufacturing sites, the Chungli Factory and Lioudu Factory. Meanwhile, water resources, waste, and toxicity management mainly relates to the Chungli, Lioudu

and Neihu Factories. The cross-year data or change in scope of disclosure is explained in the report.

Issuance Frequency

The Company promises to continuously issue a sustainability report every year in the future. The last report was published in July 2021 in the Sustainability section of the Company's website for stakeholders to download and review. This report was published in July 2022. The next report will be published in July 2023.

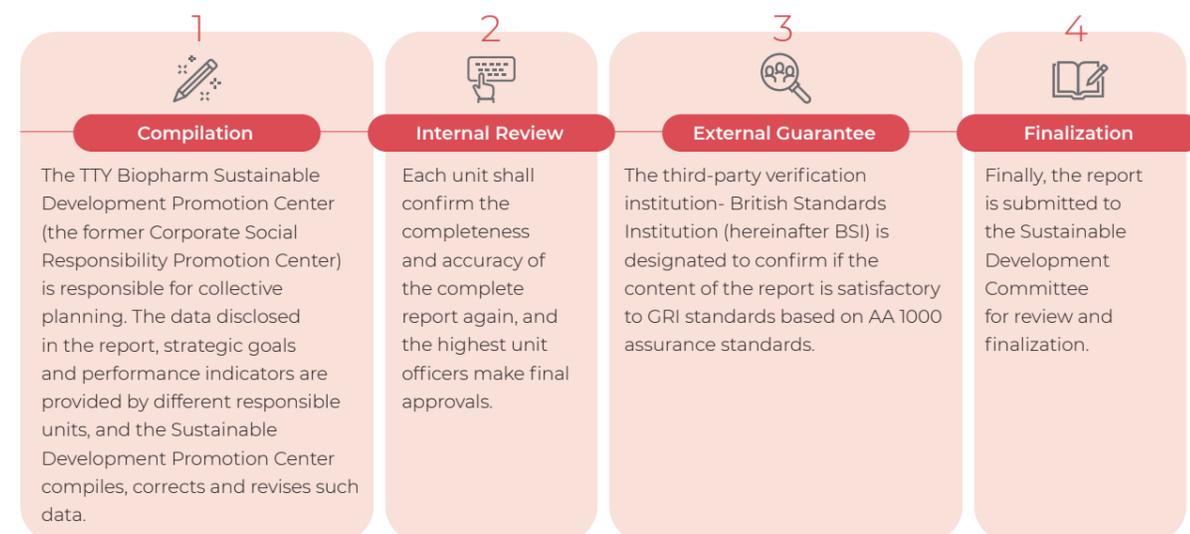
Compilation Guidelines

This report is prepared and compiled according to the GRI Sustainability Reporting Standards (GRI Standards). This report also follows the core option of the GRI Standards, and contains the GRI Content Index.

Basic information

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<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; background-color: #333; color: white; display: flex; align-items: center; justify-content: center; margin: 0 auto 10px auto;"> <div style="text-align: center; width: 10px; height: 10px; background-color: #333; border-radius: 50%; margin: 0 auto 10px auto;"> Chungli Factory </div> </div>	<p>TEL / +886-3-4522160 Address / No. 838, Section 1, Zhonghua Road, Chungli District, Taoyuan City</p>	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; background-color: #333; color: white; display: flex; align-items: center; justify-content: center; margin: 0 auto 10px auto;"> <div style="text-align: center; width: 10px; height: 10px; background-color: #333; border-radius: 50%; margin: 0 auto 10px auto;"> Pharma- ceutical Development Center </div> </div>	<p>TEL / +886-2-27967383 Address / 3rd Floor, No. 124, Xingshan Road, Neihu District, Taipei City</p>
<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; background-color: #333; color: white; display: flex; align-items: center; justify-content: center; margin: 0 auto 10px auto;"> <div style="text-align: center; width: 10px; height: 10px; background-color: #333; border-radius: 50%; margin: 0 auto 10px auto;"> Lioudu Factory </div> </div>	<p>TEL / +886-2-24512466 Address / No. 5, Gongjian West Road, Qidu District, Keelung City</p>	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; background-color: #333; color: white; display: flex; align-items: center; justify-content: center; margin: 0 auto 10px auto;"> <div style="text-align: center; width: 10px; height: 10px; background-color: #333; border-radius: 50%; margin: 0 auto 10px auto;"> Neihu Factory </div> </div>	<p>TEL / +886-2-27967383 Address / 5th Floor, No. 118, Xingshan Road, Neihu District, Taipei City</p>

Report Quality Control



Path to Sustainable Development

Material Topic
Sustainable Development Strategies

Corresponding GRI index

Policies and Commitment

Goals and Targets

Responsibilities and Resources

Assessment Mechanism and Results

Self-established Topic

With a focus on sustainable operations, and inclusive and sustainable economic growth, TTY Biopharm establishes company policies and sustainable development strategies in phases to comply with laws and respond to the expectations of private civilian groups and the public. Accordingly, TTY Biopharm not only operates from environmental, social and governance perspectives, but also fulfills supplier management expectations in developing new economic situations and maintains close alliance with international partners and global investors.

Short-term Goals

To drive a positive cycle in the pharmaceutical industry, TTY Biopharm strongly cooperates with suppliers and reduces supply chain risks through supplier selection, qualification assessment, risk rating and grading management. Furthermore, the "Supplier CSR Questionnaire and Commitment" has been introduced to promote sustainable economic, and social and environmental development together with suppliers.

Mid- to long-term Goals

Establish sustainable consciousness of employees through public welfare activities and daily promotion, allowing employees to carry the TTY business culture with them in their daily lives and working environment, and assist TTY to achieve sustainable goals based on development strategies.

Establish a Sustainable Development Committee. The Sustainable Development Committee is subordinated to the Board of Directors, and has the "Sustainable Development Promotion Center", "Ethical Operation Promotion Center" and "Risk Management Center" as the three functional centers for the promotion and implementation of sustainable development strategic goals of the enterprise. There is an executive secretary position served by the officer of corporate governance who takes charge of matters such as meetings of the Committee and matters assigned by the Committee.

For sustainable management of supply chains, TTY finalized the "Supplier CSR Questionnaire and Commitment" in Q1 2021.

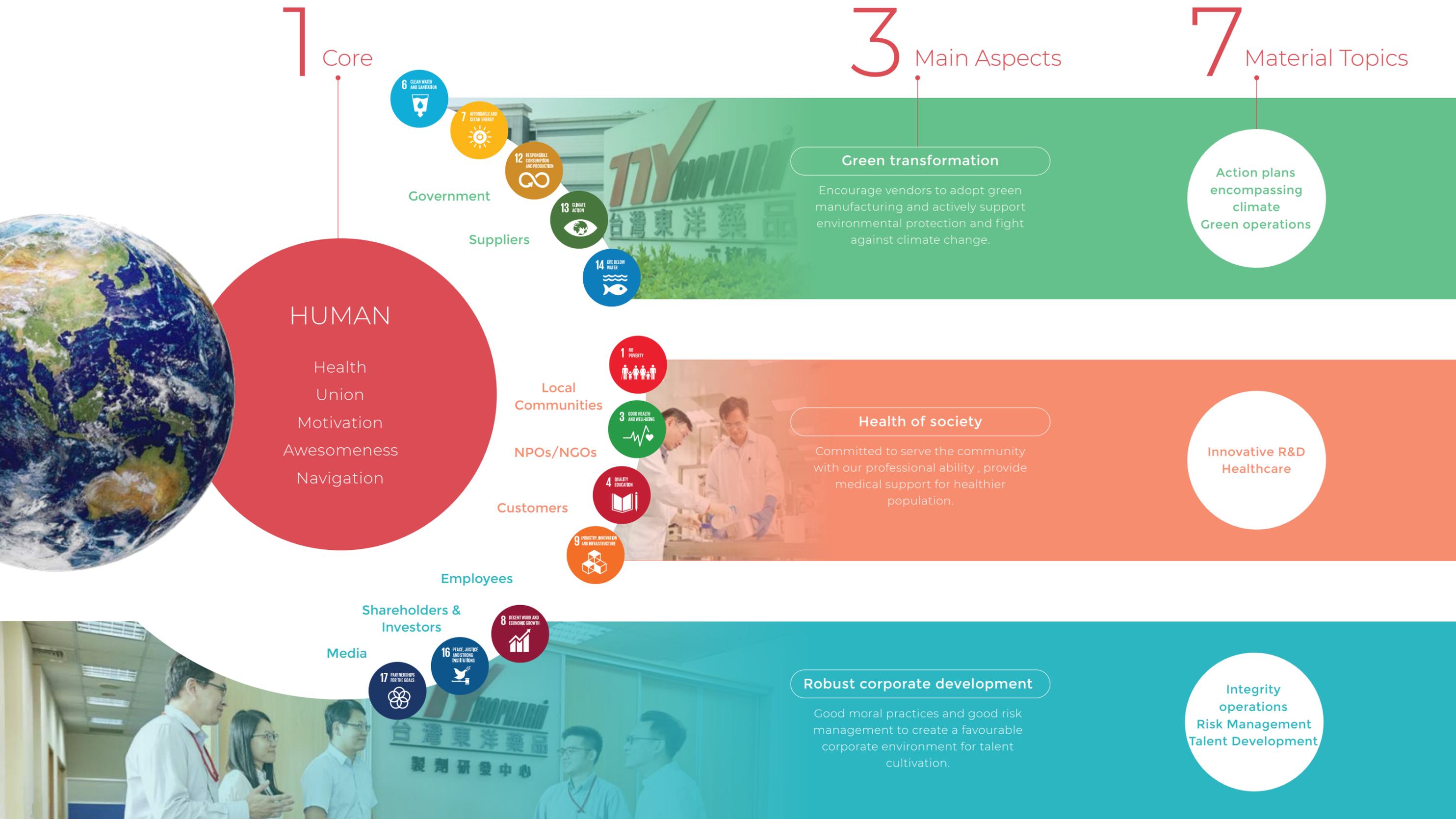
In terms of training, all employees have completed SDG online training and the company organized two environmental sustainability promotion programs and 4 employee LOHAS health education lectures.

TTY also organized three welfare activities and took part in daytime hospice care services in 2021.

TTY Biopharm SDGs Highlights

- 1 NO POVERTY**
 - "Yu-Cheng Social Welfare Foundation" charity purchase
 - Scholarship and financial aid to children of cancer patients
 - Sponsor activities for the Hope Foundation for Cancer Care
 - Donations to several social welfare groups and foundations
 - Sponsor home care and respite services
- 3 GOOD HEALTH AND WELL-BEING**
 - Supported the "Planting a Seed of Hope" project initiated by the Hope Foundation for Cancer Care
 - Supported and covered transportation fees for hospice case families
 - Supplied 890,000 vials of public-fund influenza vaccinations and 310,000 vials of self-pay influenza vaccinations
 - Invested exceeded NTD\$1.5 billion in R&D in the recent five years
 - Introduced the Taiwan Intellectual Property Management System (TIPS) to reduce the risks of new drugs on the market
 - Implemented pandemic prevention measures, providing employees with "family care leave"
 - Started a working-from-home program to reduce risks of group gatherings
 - Provided new pandemic prevention measures: "pandemic prevention insurance" and "vaccination insurance"
 - 100% major products passed health and safety regulations reviews
 - Donated 1,000 influenza vaccinations to Taipei Medical University Hospital
- 4 QUALITY EDUCATION**
 - Organized a Summer Internship Program (SIP) for 14 consecutive years
 - Organized "Regional Care for the Cancer-Affected" at remote campuses
 - Organized health education for cancer patients and their families
 - Organized osteoporosis and bone care health education
- 5 GENDER EQUALITY**
 - Two female members out of 9 total on the Board of Directors in 2021
 - 39.68% females serve as key leaders at manger level and above
 - Employee salaries are not gender-based
- 6 CLEAN WATER AND SANITATION**
 - Established a systematic water resources management program
 - The wastewater discharged by the Lioudu Factory, Chungli Factory, Neihu Factory and Pharmaceutical Development Division is satisfactory to national effluent standards
 - The COD contained in the effluent of the Lioudu Factory is 8 times lower than local standards
 - The SS contained in the effluent of the Lioudu Factory is 190 times lower than local standards
- 7 AFFORDABLE AND CLEAN ENERGY**
 - The COD contained in the effluent of the Chungli Factory is 35 times lower than local standards
 - The SS contained in the effluent of the Chungli Factory is 90 times lower than local standards
 - The Lioudu Factory and Chungli Factory implemented energy-savings of 123,415.517 kWh and 61.95 tonCO₂e via seven energy-saving measures
- 8 DECENT WORK AND ECONOMIC GROWTH**
 - The average salary of female entry-level employees is 1.51 times that of the basic salary, and 1.58 times for male employees
 - No supplier with a significant risk of forced or compulsory labor
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
 - Trained employees to acquire toxicity chemical professional technician certifications
 - Created a smart AI supportive kits territory with Wistron Medical Technology
- 10 REDUCED INEQUALITIES**
 - Established humanitarian policies based on international humanity standards
 - Established the Remuneration Committee to ensure the remuneration structure meets the requirements of relevant laws and impartiality
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
 - Established the Sustainable Development Committee to prepare sustainable development policies and implementation projects
- 13 CLIMATE ACTION**
 - Completed the identification of climate change related risks and opportunities
 - Planned concrete correspondent strategies based on risk identification results
 - Reinforced the disclosure of climate change related risks and opportunities by referring to the TCFD
 - Turned off the lights for the hour over lunch as part of our "Repair Our Earth" initiative on Earth Day on April 22, 2021
- 14 LIFE BELOW WATER**
 - Initiated the "Do One Thing for Tamsui River" action plan
 - Organized the "Dajia Riverside Park" creek cleaning activity
- 16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
 - No forced or threat of forced employment or child labor
 - Provided whistleblowing channels and a rewards system for reporting
 - Received an employee complaint in 2021, and the investigation and review was completed in January 2022. TTY will reinforce the communication and management abilities of officers to avoid recurring issues
 - Establish an ethical operation promotion center to prepare ethical operation rules and relevant operation procedures
- 17 PARTNERSHIPS FOR THE GOALS**
 - Explore the European market and reinforce relationships with business partners in Germany and England

I ESG Strategic Development of TTY Biopharm



I Short-, Mid- to Long-term ESG Goals of TTY Biopharm

	2021 Target	2021 Implementation Results	2021 Achievement	Short-Term Goal 2022 年	Mid-Term Goal 2023 年	Long-Term Goal 2024~2028 年
Environment	Two environmental sustainability promotions every year	Environmental protection promotions were organized in April 22 and December 10, 2021, and a total of 482 employees participated in the two events.	✓ Goal achieved	1. Organize two environmental sustainability promotions every year 2. Waste management policy - waste resources recycling to reach 2 tons in total 3. Introduce ISO 14064-1 greenhouse gas inventory, and pass verification before October 31. 4. Save 1.2% power compared to 2021 5. Complete the planning for aggressive energy saving and carbon reduction before October 15 6. Establish major standards for "climate governance" of the enterprise before October 31.	1. Organize two environmental sustainability promotions every year 2. Waste management policy - waste resources recycling to reach 3 tons in total 3. Assess green energy purchases or increase energy saving facilities 4. Assess the adaptation of environmental packing materials, increase the procurement ratio of equipment and products with environmental labels 5. Carry out toxicity recycling	1. Organize two environmental sustainability promotions every year 2. Waste management policy - waste resources recycling to reach 5 tons in total 3. Carry out water resources recycling 4. Paper-free office 5. Green building plan for future, if applicable 6. Join climate initiative organization or alliance, e.g., RE100, declare environmental sustainability, increase ratio of renewable energy 7. Establish a green supplier management system, incorporate into the planning of supplier environmental action
	Two factories complete the list of supplier risk level		✓ Goal achieved			
	Two factories complete the contents of the supplier/contractor CSR questionnaire and commitment	Completed the contents of questionnaire and commitment in Q1 2021	✓ Goal achieved			
Social	Four environmental LOHAS health education lectures every year	Four Environmental Health education lectures in health-related topics held in April 23, October 22, November 19 and December 10.	✓ Goal achieved	1. Organize LOHAS life of employees' activities 2. Daytime hospice care services 3. Donation of influenza vaccination 4. Community health education activities integrated with sustainable concept	1. Extensively courage family members of employees to participate in LOHAS activities 2. Apply digital tools to establish pharmaceutical safety online consultation platform to expand the target groups of medical services	1. Promote health prevention, pharmaceutical knowledge and sustainable concept incorporated with campus talent system 2. Cooperate with medical institution or different industry to build or assist on establishing online consultation APP
	Daytime hospice care services	Provide hospice services for more than 523 patients	✓ Goal achieved			
Governance	Establish a risk management center and policies	Established the center and risk management policies in December 2020	✓ Goal achieved	1. Organize business ethic in-person courses 2. Continuously organize business ethic related online courses: ethical operations, insider trade prevention, information security, business secret confidentiality 3. Continuously organize employee SDGs online courses 4. Introduce ISO 45001 occupational health and safety management system and acquire verification before December 31 5. Introduce TCFD risk management system, and report on implementation progress to the Sustainable Development Committee and the Board of Directors 6. More than 10% of suppliers commit to execute ESG	7. Reinforce information disclosure as stipulated in the TCFD and SASB 8. Reinforce information security promotion, and conduct information security scenario simulation and system improvement 9. Improve business risk management system and structure 10. More than 30% of suppliers commit to perform ESG	11. Create opportunities for sustainable reformation 12. Consolidate the connection between remuneration of executive managers and sustainable performance, and measure performance from an ESG perspective. 13. More than 60% of suppliers commit to execute ESG
	Implement risk identification and establish relevant management regulations	Established risk management regulations (risk management policies and procedures) in December 2020, and implementing risk identification since 2021.	✓ Goal achieved			
	Report quarterly financial report to Audit Committee for approval	The report has been approved by the Audit Committee and Board of Directors via discussion since Q1 2021	✓ Goal achieved			

I Integrated Reporting, IR

Six Major Capitals	Capital Contribution		Capital Output
	Action Concept	Action Plan	
Financial Capital 	TTY creates solid cash flow based on strong manufacturing and sales abilities. In addition to sharing operational results with shareholders, capital is further contributed to new market research and R&D development, and to introduce quality products to the world via strategic cooperation with international partners as an international enterprise.	<ul style="list-style-type: none"> Reinforce manufacturing abilities and optimize sales channels with income received from sales, CDMO and international market development, and introduce research results to the global market and complete overseas authorization. Focus on the medical environment of the target areas, identify unmet medical needs, apply group resources to achieve short-, mid- and long-term operational goals, and create profits as expected by stakeholders. 	<ul style="list-style-type: none"> Market value NTD\$ 17,107,117,000 Total assets NTD\$ 9,296,465,000 Consolidated revenue NTD\$ 4,535,610,000 EPS \$3
Manufacturing Capital 	TTY is an international pharmaceutical enterprise with high standards, high quality management flow and good production management. Meanwhile, the manufacturing base is satisfactory to international standards and applied to produce pharmaceuticals with highly competitive barrier and high added-value on the global market.	<ul style="list-style-type: none"> The Chungli factory passed the GMP/GDP audit of the Taiwan TFDA. During the period 2008~2021, TTY passed 24 international audits of 16 countries and acquired GMP official verification. The Lioudu factory passed 6 international audits in 2 countries and acquired GMP official verification in 2013~2021. The Neihu factory has met audit standards for 15 years from 2007 on. 	<ul style="list-style-type: none"> Annual capacity of the Chungli factory: 600,000~700,000 vials liposome injections; 2.5 million vials cytotoxicity oncology injections; 25 million oncology oral capsules. Annual capacity of the Lioudu factory: 350 million oral tablets; 72 million oral capsules; 1.5 million vials liquid injections; 200,000 vials lyophilized liposome injections.
Human Resource Capital 	TTY publicly appraises employees with long service every year and salaries of new employees are higher than the base salary standard. TTY does not discriminate salaries based on gender. We also value salary increases and our promotion system, allowing employees the opportunity to boost their salary and earn a promotion.	<ul style="list-style-type: none"> The TTY University employee training project connects training of six major colleges, general knowledge courses and new employee orientation programs for all employees. A talent retention project has also been launched to provide promotion opportunities for outstanding employees. TTY has an annual salary increase plan, split into "general salary raises" and "special salary raises" as an incentive to increase productivity and retain outstanding talent. Individual performance bonuses are distributed according to the performance assessment regulations and overall operational conditions to connect remuneration to performance. 	<ul style="list-style-type: none"> A total of 542 employees Employee turnover rate 3.49% Employee training of 6.74 hours per person on average

Six Major Capitals	Capital Contribution		Capital Output
	Action Concept	Action Plan	
Intellectual Capital 	In respect of technology, TTY enhances the stability of product quality through continuous innovation and customized production design for existing successful platform of long-released specialty dosage to create a win-win situation between TTY and cooperative partners. In respect of intellectual property, TTY firmly follows the Business Secrets Act to protect important core technologies and research technologies so it can establish a brand within target markets. TTY applies patents to protect all research results and registers trademarks in target product markets.	<ul style="list-style-type: none"> In respect of technology, more than a hundred of patent applications have been proposed to protect the results created along with the development of formulation, process and functional excipients in synthetic technologies. In respect of intellectual property, by following the registration and launch schedule to apply for trademark registration of product names and marketing feature designs to block forgery or use of similar product names, to establish a company brand and increase product visibility. TTY has been applied for approximately 380 trademarks to date. In addition, TTY reviews and eliminates patents and trademarks without value or practical use or protection to reduce maintenance fees and avoid wasting resources. 	<ul style="list-style-type: none"> By the end of 2021, a total of 10 invention patents were approved, including 1 invention patent application under review; 199 trademark registrations were approved and 25 trademark applications are under review.
Social Relationship Capital 	The TTY charity club "Boshiyuan" calls on volunteers to hold various social service activities, promote social wellbeing and environmental protection. This club has been instrumental in bringing public welfare to the TTY culture and everyone is welcome to contribute to make the world a better place.	<ul style="list-style-type: none"> TTY holds the "Regional Care for the Cancer-Affected" program on remote campuses to promote cancer prevention and healthcare lectures every year. It also organizes the "Dajia Riverside Park" creek cleaning activity through the charity club "Boshiyuan". 	<ul style="list-style-type: none"> 49 remote campus programs Due to COVID-19, two in-person cancer prevention lectures and an online lecture were held in 2021. 47 health care lectures were organized in 2021 with a total of 2,589 participants. Raising charity funds through activity, a total of NTD120,000 donated to social welfare organizations. 60 volunteers participated in the creek cleaning activity.
Nature Capital 	TTY has established energy and water-saving policies, and plans based on governmental regulations to examination plant standards of different countries. TTY is also committed to saving water, improving the processing and sewage discharge as well as trace and audits of waste.	<ul style="list-style-type: none"> The sewage discharged by TTY is satisfactory to the Water Pollution Control Act, self-governance laws of local governments and the incoming water quality standards for sewage treatment factories in industrial zones. In addition, all clearance vehicles of waste contractors have GPS systems for tracing, and on-site and vehicle audits are conducted. 	<ul style="list-style-type: none"> In 2021, the Lioudu and Chungli factories reduced energy consumption by 2,467,677 Joules, and greenhouse emissions by 794 tons of CO₂e. In 2021, the Lioudu and Chungli factories saved 123,415.517 kWh of power and 61.95 tons of CO₂e via seven measures. The total waste of TTY was about 45.02 tons in 2021. The Chungli and Lioudu factories achieve 100% in weekly and monthly waste clearance contractors follow-up audits.

Stakeholder Engagement

Analytical steps of sustainability material topics

<p>STEP 1 Identification of Stakeholders</p> <p>8 categories Stakeholder</p>	<p>TTY references the five principles of Stakeholder Engagement Standards to identify eight categories: government, shareholders/investors, customers (including hospitals and medical institutions, patients, manufacturers and general customers), employees, suppliers, the local communities, non-profit/non-governmental organizations and the media, based on five principles as follows: dependency, responsibility, tension, influence and diverse perspectives.</p>
<p>STEP 2 Communication with Stakeholders</p> <p>120 questionnaires for concerned material topics</p>	<p>To truly understand the needs and expectations of stakeholders through a diverse range of communication channels, TTY communicates through everyday business dealings, industrial, governmental and academic exchanges, routine surveys and 120 questionnaires regarding material topics of concern collected in 2020. Moreover, we also accurately report significant company policies, business changes and the latest news on corporate governance operations, welfare management and environmental protection in a timely manner to stakeholders for reference.</p>
<p>STEP 3 Material Topics of Concern Survey</p> <p>16 Material Topics of concern</p>	<p>To reflect the economic, environmental and social effects and impact caused by TTY's operations and matters that are likely to affect the decision of stakeholders, TTY conducted a survey aimed at executive officers and included 16 material Topics of concern, including remuneration, operation performance, ethics and integrity, talent retention, talent training and development, happy and healthy workplace, occupational health and safety, corporate image, social welfare, safe products, customer service, information security, regulatory compliance, sustainable development strategies, sewage and waste management, air pollution control and energy management.</p>
<p>STEP 4 Material Topics Identification</p> <p>9 Sustainability material topics</p>	<p>TTY has identified 9 material topics based on the results of the 120 questionnaires about material topics of concern collected in 2020; these are safe products, regulatory compliance, occupational health and safety, ethics and integrity, corporate image, operational performance, sustainable development strategies, sewage and waste management, and information security. These are the same topics that surfaced in the reporting period of the previous year.</p>
<p>STEP 5 Review and Discussion</p> <p>6 Sustainability reports</p>	<p>TTY designates third-party independent verification institution BSI to provide external guarantees relating to information disclosed in the report based on the AA1000AS v3 Type 1 application, moderate assurance standard. Meanwhile, all financial data disclosed by TTY Biopharm is audited by KPMG based on International Financial Reporting Standards (IFRS). This is the 6th sustainability report issued by TTY. Before issuing the 2021 sustainability report, in addition to internal auditing based on items in the annual audit plan for compliance with laws and regulations, the Sustainable Development Promotion Center also reviews the report.</p>

I Identification of Stakeholders

TTY references the five principles of the Stakeholder Engagement Standard, AA1000 SES 2011 to identify

key stakeholders. The five principles are as follows: (1) Dependency, (2) Responsibility, (3) Tension, (4) Influence, and (5) Diverse Perspectives. The stakeholders identified this year include the government, shareholders/investors, customers (including hospitals and medical institutions, patients, manufacturers and general customers), employees, suppliers, the local communities, non-profit/non-governmental organizations, and the media.

I Communications with Stakeholders

Each TTY department communicates with stakeholders through everyday business dealings, routine surveys, interviews and questionnaires on material topics of concern once every 2 years. The last "material topics of concern"

questionnaire was published in 2020. Therefore, we truly understand the needs and expectations of stakeholders through a diverse range of communication channels, and take into consideration of stakeholders' perspectives and adjust our operations management accordingly. Moreover, we also provide appropriate responses to stakeholders' key concerns.

The TTY Sustainable Development Promotion Center reported communications with all stakeholders in 2021 to the Sustainable Development Committee on March 9, 2022.

Material topics of concern of TTY stakeholders, communication method, frequency and specific procedures

Stakeholders	Material Topics of Concern	Engagement Method	Communication Frequency	Communication Performance
Governmental Agencies	Ethics and Integrity Occupational Health and Safety Safe Products Regulatory Compliance Sewage and Waste Management Air Pollution Control and Energy Management	Visit/Phone/Official letters/Email/Dissemination/ Policy and regulation training/Industrial, government and academic seminar/ Stakeholder Material Topics of Concern Survey	Irregularly	<ul style="list-style-type: none"> Three disseminations (including online) organized by TPEX 10 industrial, government and academic seminars More than 500 official letters Occupational safety audit Toxicity response practice Fire safety inspection and report GMP factories routine audit Regulation conferences Business waste operation audit

Stakeholders	Material Topics of Concern	Engagement Method	Communication Frequency	Communication Performance
Investors	Operation Performance Ethics and Integrity Information Security Regulatory Compliance Sustainable Development Strategies	Annual general meeting/Annual report	Annually	<ul style="list-style-type: none"> 52 material information announcements in Mandarin and English 42 email replies Four investor conferences Seven conference calls 28 domestic analysts visit 18 calls from shareholders
		Quarterly financial report	Quarterly	
Customers	Ethics and Integrity Safe Products Customer Service Regulatory Compliance	Operational overview announcements	Monthly	<ul style="list-style-type: none"> To provide more high-quality products and services that meets market needs, TTY interacts and discusses with domestic and foreign customers, including via: <ul style="list-style-type: none"> Domestic/foreign medical exhibition: 13 sessions Education activity/seminar: 124 sessions Academic platforms: three new academic platforms - Central Taiwan Hematology Academy and maintain North Taiwan Hematology Academy Clinical trial research: oncology, intensive care, healthcare, totaling 11 projects Factory visits: four sessions
		Investor Conferences Material information announcement/Press release/Corporate website/Phone/Email/Investor relationship mailbox/Stock affairs and investor relationship contact/Reporters questions/Reception of domestic and foreign analysts/Stakeholder <i>Material Topics of Concern</i> Survey	Quarterly or more frequently	
Employees	Remuneration Operation Performance Talent Retention Happy and Healthy Workplace Occupational Health and Safety Corporate Image Safe Products Regulatory Compliance	Exhibition/Academic activities/Education seminar/Academic platform/Clinical trial/Factory visits, inspection/Visits/Phone/Email/Letter/Stakeholder <i>Material Topics of Concern</i> Survey	Irregularly	<ul style="list-style-type: none"> Initial setup, mid-term revision and year-end assessment are conducted every year. Except for new employees who fail probation (2.5% of all employees), 100% TTY employees undergo periodical performance assessments. Aimed at new employees, the supervisor of the hiring unit fills in the "application for assessment of new employees" based on the actual status for assessment at the end of the probation period. Organized three labor-management meetings on 03/30, 09/27 and 12/30 In 2021, there was an employee complaint (complaint received on 2021/12/24, the investigation was completed in January 2022). The orientation plan started from July 2018, including a new employee satisfaction survey; 38 new employees in 2021, and the new employee satisfaction was 92 (scoring method based on environmental adaptation, interaction, work adaptation, life adjustment and counselor care, 20 points per item, total of 100 points). The retention rate of new employees was 94.44% (calculated based on number of resignations within 12 months).
		Annual performance interviews and assessment Labor management meetings Personnel announcements/ Intranet/Sexual harassment complaint channel/ Infringement report/ Stakeholder	Twice annually	

Stakeholders	Material Topics of Concern	Engagement Method	Communication Frequency	Communication Performance
Employees	Remuneration Operation Performance Talent Retention Happy and Healthy Workplace Occupational Health and Safety Corporate Image Safe Products Regulatory Compliance	complaint mailbox/ Orientation plan and satisfaction survey/ Employee welfare committee/Internal education training and e-learning/ External education training subsidy/ Stakeholder <i>Material Topics of Concern</i> Survey	Irregularly	<ul style="list-style-type: none"> Protect employees' parental leave without pay rights in accordance with the Act of Gender Equality in Employment. Employees may apply for parental leave without pay for each child under the age of three until said child is aged three, provided that the period does not exceed two years. During parental leave, employees may continue their social insurance. 10 people applied for parental leave without pay in 2021. Establish an Employee Welfare Committee in accordance with the Employee Welfare Act to manage all matters regarding employee welfare. The committee prepares the annual budget and welfare plan. In addition to a subsidy for marriage, bereavement, sickness and childbirth, there are also birthday and festival cash gifts and travel subsidy. <ul style="list-style-type: none"> - 2021/02/26 announced the employee travel and subsidy limit. - 2021/03/05 announced the education subsidy (2020 1st semester scholarship/ financial aid) - 2021/05/01 Distributed Labor Day cash gifts - 2021/05/03 Distributed spring e-gift coupons - 2021/06/14 Distributed a Dragon Boat Festival bonus - 2021/08/01 Announced the 2021 employee health checkups - 2021/09/10 Announced the distribution of TTY 60th anniversary bag - 2021/09/21 Distributed the Mid-autumn Festival bonus - 2020/09/30 Announced the education subsidy (2020 2nd semester scholarship/ financial aid) Organized 24 in-person courses in 2021; internal courses satisfaction: 4.63, full score 5, training 6.74 hours per person in 2021. There were 36 employees who transferred jobs internally. There were 89 external educational trainings subsidized by the company, totaling about 877.4 hours at an estimated cost of NTD\$ 297,225. After the training, employees mainly used training reports or internal sharing to feed back about the training. To protect the health and safety of employees, TTY provides all employees and their first-degree kinship, up to four people, with influenza vaccinations for free. Provided employees with statutory epidemic disease and vaccination protection insurance, and distributed self-exam rapid tests for COVID-19.
		complaint mailbox/ Orientation plan and satisfaction survey/ Employee welfare committee/Internal education training and e-learning/ External education training subsidy/ Stakeholder <i>Material Topics of Concern</i> Survey	Irregularly	

Stakeholders	Material Topics of Concern	Engagement Method	Communication Frequency	Communication Performance
Suppliers	Ethics and Integrity Occupational Health and Safety Safe Products Customer Service Information Security Regulatory Compliance	Supplier questionnaire survey Supplier audit Email/Phone/Visit/ Stakeholder <i>Material Topics of Concern</i> Survey	Bi-annually Annually Irregularly	<ul style="list-style-type: none"> The "supplier questionnaire survey" is required for new suppliers. Update the "supplier questionnaire survey" once every three years to ensure accuracy. Due to COVID-19, the on-site inspection in 2021 was suspended, but instead conducted queries over the phone and via email to confirm the operations and supply conditions of suppliers were stable.
Local Communities	Remuneration Occupational Health and Safety Corporate Image Safe Products	Email/Visit/Phone/ Meeting/Educational seminar/Stakeholder <i>Material Topics of Concern</i> Survey	Annually or irregularly	<ul style="list-style-type: none"> Attended two sewage treatment factory expansion meetings to exchange opinions with the sewage operation center and other suppliers.
NPOs/NGOs	Ethics and Integrity Social Welfare Safe Products Customer Service Regulatory Compliance Sustainable Development Strategies	Activity participation/ Email/Visit/Phone/ Meeting/Stakeholder <i>Material Topics of Concern</i> Survey	Irregularly	<ul style="list-style-type: none"> Sponsored the Hope Foundation for Cancer Care, and provided NT\$1 million to support children with cancer in the family through college Organized the Dachia River Park creek cleaning activity Corresponded about the "Realm full of Warm and Friendship" fund raising project and donated NT\$120,000 to social welfare institutions. Cooperated with cancer-related NPOs to organize two physical health education lectures for cancer patients and families, totaling 89 participants and one live broadcasting. Forward industrial and commercial policies. Attended labor advance studies at the Keelung Labor Association.
Media	Corporate Image/ Media Relationship Operation Performance Ethics and Integrity Regulatory Compliance	Press contact/ Organize press events/Event participation/Visits/ Phone/Reporters' questions	Irregularly	<ul style="list-style-type: none"> Organized an influenza vaccination workshop to understand flu education in relation to COVID-19. Organized media meetings with the Chairman and CEO to explain the company trends and plan. Issued press releases of the company movements and developments.

I Material Topics Identification

To effectively reflect the economic, environmental and social effects and impact caused by TTY's operations and matters that are likely to affect the decisions of stakeholders,

TTY conducted a survey aimed at executive officers and included 16 material topics of concern in the questionnaire, and finally identified 9 material topics based on stakeholders' concerns, including safe products, regulatory compliance, occupational health and safety, ethics and integrity, corporate image, operation performance, sustainable development strategies, sewage and waste management, and information security. These are the same areas of concern listed in the previous report.

TTY 2021 Material Topics Matrix



TTY 2021 Material Topics and Boundaries

■ Direct impact ● Cause impact ▲ Business impact

Material Topics	Chapter Page	Meaning to TTY	Stakeholders						
			Government	Investors	Customers	Employees	Suppliers	Local Communities	Non-profit/non-government organizations
Safe Products	P039~P041 Drug safety	API directly affects the efficacy and safety of pharmaceuticals. Therefore, TTY carefully reviews and controls material suppliers of generic drug factories in the US and Europe. In addition to having a Drug Mater File (DMF) registered with the Taiwan FDA, current Good Manufacture Practices (cGMP) and PIC/S GMP) are also required.	●	■	■	▲	●	●	●
Regulatory Compliance	P039~P041 Drug safety	Pharmaceutical products directly impact user health and safety. Therefore, TTY especially values safety and efficacy and is committed to developing quality drugs, creating a high-specification safety production system and carry out drug safety management. The main products of the company are 100% reviewed for compliance with health and safety regulations.	■	■	■	■	▲	●	●
Occupational Health and Safety	P098~P105 Occupational health and safety	TTY has established an Occupational Safety and Health Management Committee to supervise and provide suggestions on occupational health and safety planning and insurance for all employees. The company and factories have public liability insurance and report public safety equipment checks of the building and fire-equipment and facilities periodically. TTY has established occupational health and safety units in all factories pursuant to laws to manage personnel and first aid personnel, as well as manage health and safety training and physical checkups for employees to ensure everyone's health.	●	▲	■	▲	●		
Ethics and Integrity	P059~P061 Integrity operation	The pharmaceutical industry is an industry closely connected with the national economy, people's health and sustainable environment. Therefore, TTY has established the Ethical Operation Promotion Center to create a culture of ethical operations throughout all operations and cultivate development. TTY also carries out risk assessments to reinforce internal controls. TTY has established the "Ethical Operation and Guidelines for Conduct" to prevent dishonest behavior. Directors, managers and employees are strictly prohibited from engaging in any acts of bribery and other illegal acts.	■	●	■	■	▲	●	●

Material Topics	Chapter Page	Meaning to TTY	Stakeholders						
			Government	Investors	Customers	Employees	Suppliers	Local Communities	Non-profit/non-government organizations
Corporate Image	P106~P115 Community engagement	TTY is committed to sustainable operations and strives for inclusive and sustainable economic growth. Meanwhile, sustainable development strategies covering ESG have also been established so the company fully commits to corporate governance, enhancing the quality of people's lives, responsible production, environmental protection, employee care and social welfare, and enhancing its reputation and compliance with all governmental regulations. These all help TTY meets the expectations of civilian groups and the public and builds trust and branding recognition among customers and other stakeholders.		■		■	▲	●	●
Operation Performance	P022~P033 About TTY drugs	To lead in inclusive, sustainable economic growth, TTY speeds up the development of generic drugs of specialty dosage forms and new drugs with high barrier and high economic value that serve unmet medical demand. Additionally, the goal of TTY is to improve the quality of human lives with scientific innovation.		■		■			●
Sustainable Development Strategies	P006~P013 Sustainable development path	TTY has established a Sustainable Development Committee to instill the core value of ethical operations and promotion of corporate social responsibilities. It is expected to take more pragmatic and actionable corporate social responsibilities and promote sustainable goals. The Committee will revise and review sustainable development policies, implementation status, results and systems.	●	■					●
Sewage and Waste Management	P080~P082 Water resources management P082~P083 Waste management	The process of pharmaceutical manufacturing greatly relies on clean water resources. Therefore, TTY is committed to process improvement and the sewage discharge process, while also saving water to fulfill its obligations and responsibilities. TTY assigns five professional waste technicians to handle and submit waste clearance proposals in accordance with the Waste Clearance Act and to properly clear and handle business waste and everyday waste pursuant to laws. TTY also traces and audits the handling of contractors who facilitate waste disposal to meet the requirements of the competent authorities.		■			▲	●	●
Information Security	P069~P071 Information security risks	To protect the company's IP and the privacy of employees and stakeholders, the organization has established a holistic information security management system to reinforce information security consciousness and follow strict control regulations and protection measures, and fulfill personal data protection obligations. In addition, TTY also improves IP and the confidentiality management system to protect its intellectual property and reduce the risk of products launching into the market, allowing the company to invest more in resources for new drug protection.	●		■	■	■		

01

About TTY Biopharm

About TTY Biopharm
TTY Strategy Deployment
TTY Development Strategies



Key Performance

- Consolidated revenue was NTD\$ **4,535,610** thousand in the 2021 (**6.01%** CAGR for 2015-2021).
- Form an alliance with Wistron Medical Technology (WMT) to create a **new domain for smart supportive devices** through bilateral groups of R&D and sales.
- Conclude a cooperation agreement** with a well-known German company for the joint development of specialty dosage forms **in the European market**.
- Conclude a cooperation agreement with a British R&D pharmaceutical company for submission and launch of new products in Taiwan.
- By the end of 2021, a total of **10 invention patents** have been approved (including one application for an invention patent under review).
- Won a bid for the public-fund influenza vaccine for the third time. TTY will supply a total of **890,000 vials of publicly funded vaccines** and **310,000 vials of self-pay vaccines** in 2021.

I About TTY Biopharm



Corresponding GRI index

GRI 201-1 Direct Economic Value Generated and Distributed from the Organization.

Policies and Commitment

In view of the aging population, the demands for health alertness and treatment should continue to soar in the future, and that is why TTY has deeply developed in the field of target treatment, not to mention its well-recognized and comprehensive customer cooperation relationship and healthcare education programs for patients. In the future, TTY will continue to develop competitive pharmaceuticals in specialty dosage forms to sustain its stable operations and strive to achieve the goal of sustainable operations.

Goals and Targets

Short-term Goals

TTY will deploy a complete sales network all over Taiwan. Aside from increasing the coverage of sales areas and also improving the effectiveness of utilization of company resources, it will also strengthen strategic cooperation for drugs with a certain market size and value, and introduce new drugs in late clinical stages from targeted treatment areas through authorization. To combine with the efforts of the marketing team, we will optimize revenue for the product.

Mid- to long-term Goals

Continue to specialize in the development and manufacturing of oncology, intensive care, and anti-infection treatments, develop generic drugs and new drugs in specialty dosage forms with high barrier and high economic value, and strengthen cooperation with international partners to complete regulatory submission and launch.

Responsibilities and Resources

The management center will plan development strategies and schedules for high barrier drugs, strengthen regulatory negotiation and breakthroughs, and speed up the launch of products in target markets by deepening awareness and knowledge of pharmaceutical regulations of various target markets worldwide and integrating R&D project management capabilities.

Assessment Mechanism and Results

In 2021, parent-level sales revenue of TTY was NTD\$4,038,636 thousand, and net profit before tax was NTD\$1,082,219 thousand; 99.92% of the annual budget target.

The consolidated sales revenue in 2021 reached NTD\$4,535,610 thousand.

In 2021, the domestic sales of primary products amounted to NTD\$4,169,949 thousand and export sales amounted to NTD\$254,239 thousand.

In recent five years, accumulated R&D expenditure has exceeded NTD\$1.5 billion, with an annual R&D expenditure accounting for about 6% of annual revenue.

In 2021, R&D expenses reached NTD\$287,595 thousand, amounting to 6.34% of revenue.

Concluded a cooperation agreement with a well-known German company to develop a specialty dosage form for the European market.

Financial Operation Result

TTY Biopharm Co., Ltd. was founded on July 22, 1960, and its headquarter is located on the 3rd floor, No. 3-1, Park Street, Nangang District, Taipei City. The number of regular employees is 542, and the primary categories of businesses include manufacturing, processing, and trading of various pharmaceuticals and chemicals. Primary products include oncology (cancer) drugs, anti-infective drugs, and healthcare drugs for chronic diseases. It was listed on the OTC in September, 2001 (4105:TT), and the paid-in-capital

was NTD\$24.86 billion, with consolidated revenue reaching NTD\$4,535,610 thousand in 2021.

The "Liposome and Microsphere Technology Platforms" are the competitive niche of TTY. These platforms not only enjoy a leading position in R&D capabilities in Taiwan, but the commercial mass-produced products are also superior to its peers both in terms of consistency and stability, adding momentum to operational growth. TTY currently has six operating locations: (1) the headquarter, (2) Chungli factory, (3) Lioudu factory, (4) Translation Research Center, (5) Pharmaceutical Development Center, and (6) Neihu factory.

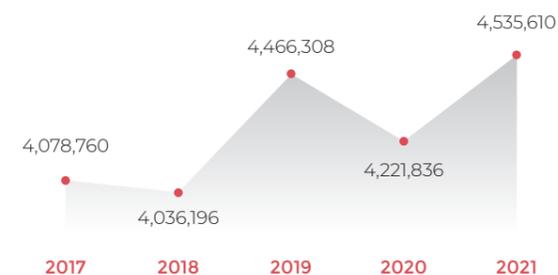
Consolidated Financial Statements of TTY and its Subsidiaries for the Recent 5 Years (currency: NTD\$)

Year / Item	Unit	2017	2018	2019	2020	2021
Paid-in Capital	NTD\$ Thousand	2,486,500	2,486,500	2,486,500	2,486,500	2,486,500
Operating Revenue	NTD\$ Thousand	4,078,760	4,036,196	4,466,308	4,221,836	4,535,610
Gross Profit	NTD\$ Thousand	2,671,059	2,663,879	2,907,241	2,607,052	2,766,553
Operating Income (Loss)	NTD\$ Thousand	1,256,990	1,059,677	1,228,609	957,379	1,140,652
Income Tax	NTD\$ Thousand	226,753	205,769	294,949	222,848	264,811
Net Income	NTD\$ Thousand	1,368,314	1,462,299	907,705	978,677	822,569
Net Income Attributed Majority	NTD\$ Thousand	1,344,731	1,461,381	900,081	924,178	831,894
EPS	NTD\$ / Share	5.41	5.88	3.62	3.72	3.35
R&D Expense	NTD\$ Thousand	295,675	361,063	298,552	261,597	287,595
Labor Salary & Benefit Cost	NTD\$ Thousand	881,703	938,506	988,792	1,035,162	1,032,301
Community Investment	NTD\$ Thousand	48,444	52,445	52,787	46,230	47,099
Cash Dividend	NTD\$ / Share	4.5	4.5	4.0	4.0	3.0(註)

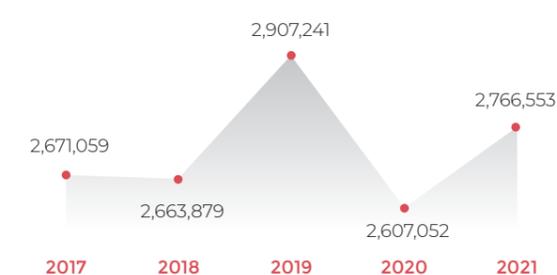
Note:

- The entities included in the consolidated financial statements include TTY and all its subsidiaries. For detailed information of subsidiaries, please refer to P005 of TTY subsidiary.
- 2021 cash dividends will be distributed by the resolution of the Annual General Meeting on May 26, 2022.

Consolidated Revenue (Unit: Thousand)



Gross Profit (NTD\$ Million)



Operation Analysis

The development of new drugs is a long and arduous process, and is not only time-consuming, but also requires tremendous financial support. Therefore, the pharmaceutical R&D industry and the Contract Development and Manufacturing Organization (CDMO) have been complementary to each other for years. The CDMO is responsible for process development and formulation testing, and capable of running from pre-clinical small-scale production to commercial mass production, speed up the process of product launch through its business model of industrial division of labor.

TTY also provides CDMO services through comprehensive solutions related to manufacturing throughout the value chain of the entire pharmaceutical industry, such as preparation development and research, scale-up, and even customized design of equipment and factory and subsequent commercial mass production. As such, our

partners can avoid unnecessary over-investment and make use of appropriate resources to develop products that meet market needs. This is the primary reason that we can work with internationally renowned manufacturers in mutual trust for such a long period of time. In 2021, the CDMO of TTY accounted for about 10% of its revenue, with its customers in Taiwan, Japan, Europe and US, and we have ensured development and manufacturing quality via regular factory inspections by the competent authorities from countries where customers and host countries are located.

TTY has exceptional talent and core technologies, and has owned great advantages in cost control. It has also actively expanded its CDMO business, and sought out manufacturers with contract manufacturing needs both in domestic and foreign markets. It can not only improve the domestic biotechnology industry, but also support R&D and market expansion. Furthermore, such a market can also create stable cash flow and share operating results with investors.

Revenue Proportion of TTY in the Recent 3 Years

Year/Business Unit	2019	2020	2021
Oncology	53%	53%	52%
Anti-infection	19%	26%	28%
Healthcare	7%	6%	5%
CDMO	20%	9%	10%
BDD	-	5%	4%
Others	1%	1%	1%

TTY passed US FDA inspection certificate



TTY passed inspection certificate of Japan



Market Deployment

TTY has based Taiwan as its primary market for providing services, while the area of export is mainly Southeast Asia, including Thailand, the Philippines, Vietnam, and Malaysia. No products or services are prohibited from any specific markets. Sales channels are mostly direct to medical centers

and regional hospitals, while regional hospitals, clinics, and pharmacies are marketed by distributors. The majority of beneficiaries are cancer patients, hospitalized patients with infectious diseases, or patients with gastroesophageal reflux, osteoporosis, high uric acid, and bacterial infections.

TTY Sales Volume in the Recent 5 Years (Unit: Thousand Tablets/Thousand Pieces)

Main Product	2017		2018		2019		2020		2021	
	Domes-tic Sales	Export								
Ointment	2,290	-	2,036	-	2,479	-	2,491	-	2,266	-
Oral Drug	360,700	10,765	358,317	12,111	393,049	15,551	346,908	15,725	331,583	15,497
Injection	5,137	513	4,250	330	4,592	486	5,151	205	5,309	235
Other	439	47	727	1,551	789	-	505	-	703	-

TTY Sales in the Recent 5 Years (Currency: NTD\$, Unit: Thousand NTD)

Main Product	2017		2018		2019		2020		2021	
	Domes-tic Sales	Export								
Ointment	73,160	-	74,630	-	89,429	-	88,869	-	94,491	-
Oral Drug	1,667,333	45,889	1,820,313	92,307	2,006,218	130,556	2,035,732	150,747	2,144,779	129,256
Injection	1,351,268	947,217	1,327,902	461,879	1,478,173	555,205	1,683,176	125,056	1,817,541	124,983
Other	52,618	-	133,938	7,167	112,712	-	109,662	-	113,138	-
Total	2,704,166	993,106	3,356,783	561,353	3,686,532	685,761	3,917,439	275,803	4,169,949	254,239

Patent Technology

Investment of R&D

TTY has been submerging in the Taiwan market, taking high-quality manufacturing as its niche, actively researching and developing pharmaceuticals that have yet to meet the needs of the medical market, and expanding into overseas markets with difficult generic drugs. In fact, TTY has utilized liposomes and microspheres within its technology platforms and offers long-acting, sustained-release, and targeted benefits that do not affect the liver and kidney function in excessive dosages, creating fewer side-effects for patients.

TTY is considered one of the few pharmaceutical R&D and

manufacturing companies in Taiwan that provides a one-stop service from front-end R&D to manufacturing to sales. In particular, the R&D capability of the organization occupies a leading position in Taiwan, with its accumulated R&D expenditure in the recent 5 years to have exceeded NTD\$1.5 billion. About 6% of annual revenue has been invested in R&D every year. In 2021, R&D expenses reached NTD\$287,595 thousand, accounting for 6.34% of revenue. In the future, TTY will continue to leverage the advantages of these platforms and invest resources as it develops products that can be used on blood-brain barrier, hormone, mental and other related diseases. In addition, it will also continue to expand drug indications to extend product life cycles and meet the target of taking 10% of annual revenue for investment on R&D.

TTY R&D Expenses in the Recent 5 Years (same as the data in previous financial report, supplementary design)

Item	Unit	2017	2018	2019	2020	2021
Operating Revenue	Thousand	4,078,760	4,036,196	4,466,308	4,221,836	4,535,610
R&D Expense	Thousand	295,675	361,063	298,552	261,597	287,595

Patent Deployment

To facilitate successful R&D and product launches, TTY has filed corresponding patent and trademark applications. By the end of 2021, the company had approved a total of 10 invention patents, including 1 invention patent application currently under review. This amounts to a

total of 199 trademarks approved of registration, and a total of 25 trademark applications currently under review. Furthermore, TTY launched the trade secret management system and introduced it into project and established system documents in 2020 to ensure that TTY's classified information remains confidential and the company's trade secrets are effectively safeguarded.

Regional Distribution Statistics of TTY's Valid Patent and Trademark Applications

Main Product	Area	Taiwan	Japan	Korea	China	South-east Asia	Others	Total
Number of Invention Patent	Certificate claimed	7	0	0	1	0	1	9
	Under application	0	0	0	0	1	0	1
Number of Trademark Patent	Certificate claimed	122	0	8	14	34	21	199
	Under application	3	0	0	6	11	5	25

Note: Statistics are as of December 31, 2021.

Patent Management

Grade A Certification for TIP

To ensure that the company's intellectual property rights are sufficiently protected, avoid or reduce the risk of product launches infringing on the intellectual property rights of others, and even further expand the value of the company's intangible assets, TTY has introduced "Taiwan Intellectual Property Management System" (TIPS) to improve the intellectual property confidentiality management system as well as reduce the risk of product launches. At least an internal audit and trade secret drill is held annually with the goal of continuously improving and strengthening risk control and management capabilities, and referring to the product development strategy of the business, also focus on primary products of development for patent infringement risk control. It is also stipulated for R&D management that "pre-patent searches" must be carried out before new products or new technology development projects, not just to reduce the risk of infringement, but also avoid wasting resources.

TTY completed company-wide introductions as well as passed the basic verification of the 2007 version of TIPS in 2016. In response to the revised version of the TIPS management standard, the company had first internally

reviewed and improved existing system documents, registered and passed an audit by an external verification institute in 2018, and successfully obtained the grade A verification certificate of TIPS 2016. In 2020, TTY once again applied for verification and passed the audit to sustain the validity of TIPS certification. The grade A verification certificate for the new TIPS 2016 version is valid until December 31, 2022.

Educational Training Strengthen Internal Audit

To integrate the intellectual property management verification system, and ensure that all company employees have a correct understanding of intellectual property management principles and are aware of the importance of company secrets, R&D and innovation, the headquarter and various factories routinely offer TIPS-related educational training to current and newly recruited staff. Furthermore, TTY also imposes annual internal audits and continues to hold educational training for internal auditors. All departments must have staff to participate in these programs to strengthen and deepen relevant awareness and appreciation of the TIPS management system and principles. So far, more than 60 qualified internal auditors have been trained and carry out TIPS and internal audits.

External Engagement

Facing the rapid economic, social and environmental changes around the world, TTY has, as an excellent biotech pharmaceutical company focusing on the development of specialty dosage forms and new drugs, actively participated in external initiatives and public associations, and also maintains favorable exchanges with the industry and government, and in academic arenas. In 2021, TTY participated in five major external initiatives and 16 public associations, and held important positions and participated in conferences to communicate industry viewpoints and progress ideas through information exchange and sharing. Such a high degree of participation has helped provide assistance to the sustainable development of the biotechnology and pharmaceutical industry, and facilitate collaboration with peers to establish a far-reaching social influence.

External Initiative

1. Sustainable Development Goals, SDGs of the UN
2. Sustainability Reporting Guidelines (Global Reporting Initiative, GRI)
3. The United Nations Global Compact, UNGC
4. World Economic Forum, WEF's Partnering Against Corruption — Principles for Countering Bribery
5. The Commonwealth Water Conservation Action Initiative "Do One Thing for Tamshui River"

Participation in External Associations and Memberships

Name of the organization	Position held
Institute for Biotechnology and Medicine Industry (IBMI)	Member
Taiwan Bio Industry Organization	Member
Taiwan Pharmaceutical Manufacture and Development Association	Director; Deputy Chairperson of Drug Administration Committee; Deputy Chairperson of Intellectual Property and Legal Committee
Industrial Technology Research Institute (Small Molecule Drug Development Industry Alliance) and Biomedical Technology and Device Research Laboratories, Industrial Technology Research Institute	Member
Taiwan Pharmaceutical Manufacturers Association	Alternate supervisor
Taipei Pharmaceutical Agents and Distributors Association	Supervisor
Importers and Exporters Association of Taipei	Member
Taipei Pharmaceutical Business Association	Member
Taiwan Society of Regulatory Affairs for Medical Products	Member
T.M.U. Pharmacy Foundation for Culture and Education	Member
Taiwan Parenteral Drug Association	Executive Director
Keelung Federation of Labor	Member
Medical and Pharmaceutical Industry Technology and Development Center	Member
Taiwan Generic Pharmaceutical Association	Director
Taipei Medical Instruments Commercial Association	Member
Monte Jode Science & Technology Association of Taiwan	Member

I TTY Strategy Deployment

Collaborate with Wistron Medical Technology to Create a Domain for Smart Supportive Devices

TTY has always worked hard to fulfill the core concept of "improving the quality of human lives with scientific innovation", and help provide patients and medical teams with better medical services. In 2021, TTY formed an alliance with Wistron Medical Technology (WMT), a subsidiary of Wistron Corporation, to develop smart mobility assistive devices combined with the sales and service advantages of TTY. The aim of this collaboration is to create a new domain of smart medical assistive device through the cross-industry cooperation of R&D and sales.

Since the healthcare business unit of TTY has been deeply engaged in the field of bone healthcare for a long time, it has not only provided treatment drugs for chronic diseases and sub-health groups, but also focused on preventive healthcare medicine. In doing so, it is able to provide such comprehensive care from prevention to treatment to rehabilitation, with the hope that it can work to build up a more complete business entity in orthopedic medicine, assist with medical processes, reduce the labor burden, and improve the efficiency of medical care services, thus playing an all-round role as a medical service and providing the best care for patients and their families.

It is a common goal for WMT and TTY to combine medicine with technology to improve more human being's quality of life. It is hoped that we can promote these smart assistive devices in clinical practice and to more medical institutions so this technology becomes the new device of choice in medical rehabilitation. Choosing this product will not only benefit more caregivers and recipients, but will also enable TTY to further boost its operational performance in the long-term.

Expand European Market, and Strengthen Germany-UK Business Partnerships

TTY has accumulated more than 20 years of experience in the development of specialty dosage forms. It currently has two platforms for specialty dosage forms for long-acting injections, with the continuous investment of R&D resources. In the third quarter of 2021, TTY partnered with a well-known German company and concluded a cooperation

agreement to jointly develop a specialty dosage form for the European market. These efforts have enabled the R&D strength of TTY to be further recognized in an advanced market.

TTY has also worked to expand its presence in oversea markets by concluding a cooperation agreement with a British R&D pharmaceutical company, and will launch new products in Taiwan following product authorization. Such cooperation has helped enrich the product portfolio of TTY in the space of intensive care in Taiwan, and provide medical professionals with a more complete and diverse selection of treatments.

The Epidemic causes Demand to Spike, and Continues to Increase Market Momentum for Influenza Vaccines

Since 2019 the world has been confronted with two major challenges: changing lifestyles due to the novel coronavirus pneumonia (NCP) epidemic, and the outbreak of the influenza season every October to February and March of the following year. If both influenza and the NCP virus coexist and attack the respiratory tract, it can seriously affect the health of the general public. The novel coronavirus has also been constantly mutating recently, potentially reducing the effectiveness of the influenza vaccine. The probability of severe disease as well as the interaction of viruses has become an important element of vaccine development. The influenza vaccine is generally recommended by the medical community before patients receive treatment for coronavirus.

Due to the demand for epidemic prevention driven by the NCP epidemic, influenza vaccine inoculations can reduce the interaction between severe disease and viruses. Having found a soaring demand for influenza vaccines, TTY has worked hard to import self-pay influenza vaccines, and has also continued to expand the supply of vaccines. Compared to the supply of 550,000 vials of public-fund vaccines and 95,000 vials of self-pay vaccines in 2020, TTY increased its supply to a total of 1.2 million vials in 2021 (890,000 vials of public-fund vaccines and 310,000 vials of self-pay vaccines). Furthermore, since the vaccines supplied by TTY are the cellular influenza vaccine with a low virus variability and higher unit price, it will generate hundreds of millions of dollars in revenue.

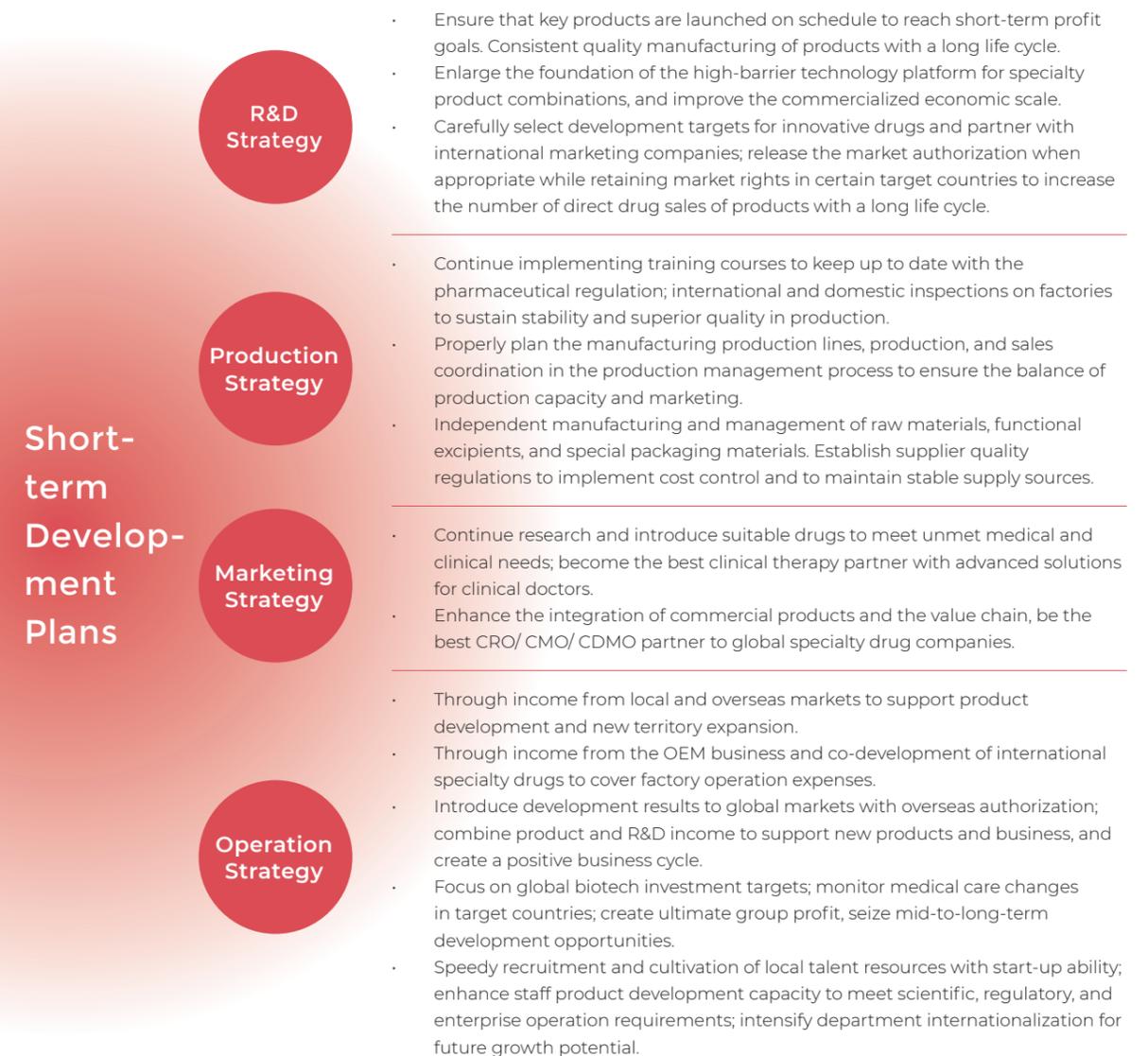
In addition, TTY has been actively carrying out ESG practices in recent years. In 2021, the domestic epidemic of coronavirus was exceptionally severe, and rendered sporadic community infection rates which not only became an alarming burden on public health, but also increased the pressure on front-line epidemic prevention personnel. TTY,

serving as one of the important domestic pharmaceutical factories, donated 1,000 vials of influenza vaccine to Taipei Medical University Hospital (TMUH) to fulfill its corporate social responsibility and improve social health and wellbeing. It also planned staff vaccinations through TMUH, and encouraged the hospital to promote teaching, research and public welfare activities. Most of all, TTY will continue to carry out public welfare actions in conjunction with its core business, and together strive to prevent epidemics in Taiwan.



Mechanical walking aid researched and developed by WMT

I TTY Development Strategies



Mid-term Development Plans

R&D Strategy

- Optimize the development of carefully selected innovative drugs, partner with international marketing companies at the correct time for co-development whilst input R&D expenses and company revenue through the tiered achievement of new contracts, milestone payments, and royalties.
- Continue with the development of brand-name drugs in specialty dosage forms and new drugs of high economic value; enhance international partnerships; launch registrations for products.

Production Strategy

- Upgrade equipment specifications, expand production capacity and keep consistent and top-quality products in compliance with global and local quality regulations.
- Install a new production line for new drugs in specialty dosage forms for the commercialization and globalization of drugs of specialty dosage forms for production integration.
- Fortify the association between supply chains and procurement to best control the quality and price of supplier materials; green procurement and supplier sustainability management mechanism promotion.

Marketing Strategy

- Introduce flu and other vaccines from abroad to contribute a well-established public health and safety system in Taiwan; an intensive care team is to be assembled to complete clinical treatment options for critical patients and fulfill the void and requirement for medical solutions in the current system based on the foundation of the governmental health and care policy.
- Accelerate the setup of sales and distribution overseas with drug licenses; continue to focus on each targeted market for brand activities that promote differentiation for local optimization, together with the operation and management of the business life cycle; grow product sales overseas to increase revenue from global market coverage.

Operation Strategy

- GIRA (Government, Industry, Research, Academy) partnership initiatives to gather voices and support from every direction. International experience sharing to expedite business development sustainability.
- Speedy recruitment and cultivation of local talent resources with start-up abilities; enhance the product development capacity to meet scientific, regulatory, and enterprise operations balanced and equally, as well as cross-field operations and marketing skills.

Long-term Development Plans

R&D Strategy

- Seek the evaluation and investment balance of targeted drug development for initial, middle, and final phases; optimize product combinations and competence of the targeted disease treatment domain (specialty drug, biological drug, new drug). Sustain the company's short- and long-term growth momentum as well as value chain integration.
- Foster international partnerships and/or self-accelerated development to meet unmet medical needs, high-barrier drugs, the needs of brand-name drugs and new drugs of specialty dosage form of profitable value, or clinical and medical associated products with a market niche.

Production Strategy

- Drug manufacturing sites that follow, renew, and comply with international drug regulations.
- Install a new production line for new drugs to accomplish the commercialization and globalization of drugs of specialty dosage forms and new drugs for production integration.
- Maximize manufacturing energy and supply chain management through critical strategic actions including M&A, strategic alliances, and joint ventures; complete consolidation of production quality and efficiency.

Marketing Strategy

- The ongoing optimization of business activities and business life cycle management according to each target market.
- TTY international business development expansion through company-owned and co-developed competitive specialty drugs, sustainable co-development business practice pattern, as well as a cross-border resource consolidated marketing strategies for new and specialty drugs.
- Accelerate the expansion of overseas sales and distribution; strengthen proprietary trading markets and targeted management; extend corporate core market borders to enhance the company's mid-to-long-term revenue and international development diversity.

Operation Strategy

- Commit to the development of new drugs, drugs of specialty dosages, biological drugs, and medical treatment technology to create a more complete product portfolio.
- Continue to strengthen and develop high-barrier dosage drug platforms to extend their application benefit.
- Continue to expand the development and manufacturing territory of drugs for cancer, intensive care, anti-infection drugs, and specialty dosage drugs; continue to increase international market share.
- Become one of the world's most innovative biotech pharmaceutical companies, and the best partner to work with for other international biotech companies.

02

Quality and Assurance

Manufacturing Advantages
Technology Development
Drug Safety
Supplier Management

- **PIC/S GMP** certified Chungli Factory and Lioudu Factory.
- Chungli Factory owns the sole liposome automated manufacturing equipment in Taiwan that withstood **24 inspections** from **16 countries** to date.
- Lioudu Factory hosts Italian-made Automatic Tunnel-Styled Filling Machines. As the liposome production center, it has undergone **6 international inspections** from **2 countries** to date.
- **125 drug licenses** were granted in 2021.
- More than **37 pharmaceutical items** were listed in the NHI Pharmaceutical Benefits and Reimbursement Schedule in 2021.

Key Performance



“

The only Automated Liposome Mass Production Factory in Taiwan.

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I Manufacturing Advantages

Chungli Factory

Established in 1968, Chungli Factory is the first pharmaceutical factory in Taiwan to have the capacity to independently mass-produce anti-cancer injections. The factory mainly produces cytotoxic injections, liposome injections, and oral capsules for cancer.

Features

- The sole liposome manufacturing equipment for automated mass production in Taiwan.
- Oncology facilities and exclusive equipment are compliant with PIC/S GMP international requirements.
- Successfully passed international pharmaceutical standards and various inspections conducted by the USA, Europe, Japan, etc., and exported products globally.
- Best CMO (contract manufacturing organizations) partner for international pharmaceutical manufacturers.

Production Capacity

- Liposome injection: 600,000 ~ 700,000 vials/year
- Cytotoxicity injection: 2.5 million vials/year
- Oncology oral capsule: 25 million capsules/year

Certified International Inspection

- 16 countries, 24 international, and Taiwan GMP certified inspections
- 2021 passed the Taiwan PIC/S GMP inspection
 - 2019 passed the Taiwan PIC/S GMP inspection
 - 2018 Kenya, USA, EU (Belgium), South Korea
 - 2017 Belarus, Indonesia
 - 2016 USA
 - 2015 South Korea, Kazakhstan, EU (Belgium)
 - 2014 EU (Belgium), Turkey
 - 2013 USA, Japan
 - 2012 Japan
 - 2011 EU (Germany), Brazil
 - 2009 EU (Hungary)
 - 2008 EU (Hungary), Saudi Arabia

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**PIC/S GMP Certified Analysis
Methods and Development
Capacity**

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Lioudu Factory

The factory was founded in 2011 and was formerly owned by Shionogi Taiwan. The factory owns production lines for oral and liquid injection products which have successfully passed PIC/S GMP inspections. The factory mainly produces non-cytotoxic oral tablets and capsules, liquid injections, lyophilized liposomes, sterile manufacturing filling equipment for biopharmaceuticals (vaccines).

Features

- Oral and liquid injection manufacturing plants that comply with PIC/S GMP international requirements.
- Italy Automatic Tunnel-Styled Filling Machine (vial washing machine, dehydrogenating tunnel, filling machine, lyophilizer, and capping machine) and sterile manufacturing plant and advanced equipment to ensure the safety of manufacturing operators.
- Liposome production center.
- International pharmaceutical standards; inspections by Taiwan TFDA and Japan PMDA. International inspections by the USA and Europe to be conducted gradually.
- Best CMO partner for international pharmaceutical manufacturers.
- Capacity to develop new drug microbiology analysis methods consistent with USP, EP, and JP Pharmacopoeia; PIC/S GMP, and standards of global advanced countries.

Certified International Inspection

2 countries, 6 international, and Taiwan GMP certified inspections

- 2021 Taiwan- Production lines for liquid injection products
- 2020 Taiwan- Production lines for orally administered and liquid injection products
- 2018 Taiwan- Production lines for orally administered and liquid injection products
- 2016 Taiwan- Production lines for orally administered and liquid injection products
Japan -Production lines for orally administered products
- 2013 Taiwan - Production lines for orally administered products

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**Diversified Projects &
Services**

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Neihu Factory

More than 70% of employees at the Pharmaceutical Development Center (PDC) hold master's or doctoral degrees. Personnel in different fields have their own professional knowledge and expertise in areas ranging from R&D to GMP compliance, and from analytical method development to product manufacturing. We are able to process diverse projects flexibly, and collaborate with well-known international partners from the Netherlands, Germany, Taiwan, and China. We have extensive production experience in oil-based injections, liposomes, and microspheres, making TTY a timely, reliable, and excellent service provider with leading product quality.

The Company specializes in the manufacturing of clinical trial supplies, pilot batches, and submission batch production. There is a seamless connection from the development of drugs to GMP production, while GMP-compliant and related submission documents are provided with traceability. All storage and transportation processes comply with the Good Distribution Practice (GDP).

Parenteral Production Line

Compliant for 11 years with inspection standards since 2007.

- 2022: TFDA routine inspection
- 2020: TFDA routine inspection
- 2018: TFDA routine inspection
- 2010: EMA certified
- 2009: TFDA certified
- 2007: PIC/S GMP certified

In addition to inspections by official drug administration authorities, we also underwent an on-site audit by international partners and QP from Netherlands, Germany, China, and the USA.

GMP Production Capacity of Parenteral Factory

- PIC/S Grades A, B, C, and D clean rooms
- Filling lines (filling size from 2mL to 100mL)
- Lyophilizer (3500 units * 2mL)
- 24-hour continuous monitoring of particle and pressure difference
- Maximum batch: 50L

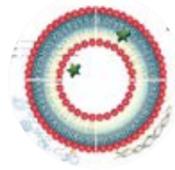
Excipient Production Line

The excipient plant in Neihu factory was established in 2013 and complies with the Joint IPEC-PQG Good Manufacturing Practice Guide.

- PIC/S Grade D clean rooms
- Synthesis and purification of lipid ligands, such as short peptides
- Polymerization system
- Pulverizer
- Production batch: 5 kg

I Technology Development

Liposomes



We have more than 20 years of experience dedicated to the liposome, a 30nm-500nm phospholipid particle with hydrophilic and hydrophobic properties. With specialized techniques, TTY inserts the API (Active Pharmaceutical Ingredient) into a tiny ball that is only 1/500 times the diameter of a hair by the requests from doctors or pharmaceutical companies.

The Chungli factory of TTY has fully automated equipment for liposome injections, whereas Lioudu factory has its lyophilizer equipment for liposome injections, and related products include: Lipo-Dox® (Liposomal Doxorubicin Injection) and Lipo-AB® (Liposomal Amphotericin B).

Microspheres



Through this unique drug delivery technology that consists of biodegradable high molecule encapsulated bioactive drugs; microspheres are capable of long-term release after injection. The sterile microsphere production complies with GMP and is a world-leading process at Lioudu factory with more than billion NTD investment. Strict parameters and an aseptic environment are quintessential for microsphere manufacturing, adding extra difficulty to its production. The superior custom-made capacity for excipient and GMP grade factory, formulation, and process development are competitive advantages for TTY.

Conventional Products



TTY has years of experience in conventional dosage form development, especially in oral dosage, liquid injection, ointment, and gel administration forms; TTY obtains extensive product combinations and has its own market share worldwide. More than the many products that are already available on the market, the R&D team works beyond expectations by upgrading the formulas of Amtrel®, Gemmis®, Tyxan®, and Oxalip®. And there are three production plants with respective functions in Taiwan. Chungli factory has focused on the production of oncology drugs, Lioudu factory on non-cancer drugs, and Neihu factory on clinical trial products.

Formulation Capabilities



With over 20 years of partnership with global pharmaceutical companies, TTY has accumulated solid, professional R&D and production capacity. TTY even provides holistic approaches to drug delivery technology. The pharmaceutical R&D procedures include the development of formulation, analytical development, microbiological development, and process development, as well as animal studies, functional excipient synthesis, GMP manufacturing, and the preparation of documentation for Chemistry, Manufacturing, and Controls (CMC).

CRO Technology



TTY Translational Research Center focuses on drug innovation to meet unmet medical needs, and also provides a contract research service based on new drug development and concept validation experiences, assisting in drug development for pre-clinical candidates and clinical specimens through multiple analytical and testing methods.

I Drug Safety



Corresponding GRI index

Policies and Commitment

Goals and Targets

Responsibilities and Resources

Assessment Mechanism and Results

GRI 416-1 Assess the Impacts of Product and Service Categories for Health and Safety

To enable patients to use high-quality, safe, effective and reasonably priced drugs, TTY has strictly implemented drug safety management, and followed the regulations of Taiwan Food and Drug Administration (TFDA) and gathered safety information related to drug products, and abide by international standards to ensure drug safety.

Short-term Goals

TTY has complied with "International PIC/S GMP Pharmaceutical Standards" and "Good Distribution Practice" for products distribution to ensure pharmaceutical manufacturing and sales processes meet the standards, so that the company provides safe products for clinical treatment.

Mid- to long-term Goals

To realize the corporate vision of improving the quality of human lives with scientific innovation, TTY has actively accommodates medical needs through three business units. The oncology business unit aims to offer cancer patients high-quality anti-cancer drugs, so that TTY can provide patients and physicians with the most optimal treatment plan; for the intensive care business unit, TTY is actively moving towards the field of emergency and serious diseases as well as the approach of disease prevention; for the healthcare business unit, it will be done through the improvement of specialty dosage forms, authorization and cooperation with international innovation companies, and introduction of smart medical equipment, thus improving drug efficacy and utility.

Establish the process of "Adverse Drug Reaction Reporting" and staff training, and assign dedicated staff to be responsible for reporting and handling events of adverse drug reaction in a timely manner to maintain drug safety.

TTY works in compliance with "International PIC/S GMP Pharmaceutical Standards" and "Good Distribution Practice", and 100% of its primary products are subject to health and safety regulatory audits, while no products and services are found in violation of health and safety-related regulations.

Products of TTY's intensive care business unit, can be classified into license-in or self-manufactured drugs, to ensure that the production process and quality of license-in drugs produced in the country of origin comply with the drug manufacturing regulations of both Taiwan and the locality. As for self-manufactured drugs, they have to comply with local drug manufacturing regulations as well as the requirements of quality and manufacturing specifications of the country of export.

According to TFDA's "Reporting Regulations of Severe Adverse Drug Reactions", it will collect safety information on drug products and complete the reporting within time limit.

The oncology business unit follows the "Reporting Regulations of Severe Adverse Drug Reactions", with a compliance rate of 100%, and it has ensured the implementation of drug safety management.

100% of the employees of the healthcare business unit have also completed internal educational training for "Adverse Drug Reaction Reporting" and passed the appraisal.

Material Topic
Regulatory Compliance

Corresponding GRI index

GRI 417-2 Incidents of Non-compliance with Regulations as Related to Information and Labelling of Products and Services

Policies and Commitment

The product name, package, instructions, and labeling of the drugs in compliance with the requirements of regulations for drug information.

Goals and Targets

Short-term Goals

Products and services are of 100% in compliance with domestic and foreign regulations

Mid- to long-term Goals

Establish an effective legal compliance system to enable sustainable and steady growth of operations

Responsibilities and Resources

The Legal Department will ensure that the entire company complies with economic, and social and environmental protection regulations, and closely monitors domestic and international regulatory trends.

Assessment Mechanism and Results

In 2021, all of the product labels made by TTY meet the requirements of local laws and regulations for drug information and labeling.

There is no any incident of non-compliance to laws and regulations as related to information and labelling of products and services.

For all marketing advertisements, they are furnished in accordance with laws and regulations, and are submitted to the competent health authority for review to obtain advertisement registration. So far, no incident of non-compliance to relevant laws and regulations regarding marketing and communication has occurred this year.

Passed PIC/S GMP Certification

Products in the pharmaceutical industry are closely related to the health and safety of users, so that its safety and effectiveness must be particularly reviewed. TTY follows the most stringent PIC/S GMP standards recognized around the world, and the safeguard for raw material supply, plant facilities and equipment is initiated from the source of drug manufacturing. Besides, the production and quality control operations are ensured via prevention of cross-contamination, avoidance of confusion, and validation and others in the process to guarantee continuous and stable manufacture of drugs. In 2021, TTY obtained a total of 125 drug licenses, while more than 37 pharmaceutical items

are listed in the Taiwan National Health Insurance (NHI) Pharmaceutical Benefits and Reimbursement Schedule.

To implement the safety management of drugs, TTY has invested a lot of resources in the process of drug research and development, production, storage and use labeling to ensure product safety. Aside from various safety control measures for "license-in and authorized drugs" and "brand generic drugs", TTY has also developed the featured products with liposome or microsphere coating, and long-acting sustained-release injection technology to reduce burden of drugs on the body. In addition, all the drugs sold by TTY are legally attached with a package insert of instructions for use, and the package insert is provided on the official website for checks and inquiries.

PIC/S GMP inspection certificate of TTY



Statistics of Valid Drug Licenses of TTY in 2021

Business Unit	Domestic	Foreign	Subtotal
Oncology	37	57	94
Intensive Care	19	2	21
Healthcare	6	4	10
Total	62	63	125

Safety Control Measures by TTY

License-in and Authorized Drugs

1. Before introducing license-in and authorized drugs, TTY will first evaluate the approval status of drugs in various countries around world, for instances, if the drugs have been approved by the US Food and Drug Administration (FDA), the European Medicines Agency (EMA), or the top 10 advanced pharmaceutical countries.
2. If the drug needs to undergo clinical trials in Taiwan before launch, TTY will conduct clinical trials in accordance with laws, and evaluate the efficacy and side effects based on the test results to support the efficacy and safety of products. Besides, dedicated staff will be assigned to be in charge monitoring drug safety.
3. After the drug is launched, incidents of adverse drug reactions are evaluated, and a real-time reporting mechanism is established, while a reporting mailbox for adverse drug reactions is also set up at: drugsafety@tty.com.tw.

Brand Generic Drugs

1. Brand generic drugs include oncology and anti-severe infection drugs.
2. For generic drugs that need to undergo bioequivalence, TTY will conduct bioequivalence tests as in accordance with the regulation of "Bioavailability and Bioequivalence Studies" in order to apply to the central health authority for marketing authorization of such generic drugs.

Cool Chain Management

As the leading manufacturer in the mass production of liposomes in Asia, to ensure customers' safety, TTY implements strict control over API management, product storage, and Cool Chain Logistics for the purpose of securing drug quality and stability at international standards.

API Management

Despite that Taiwan's API management is not yet under GDP*, Chungli factory has followed the international management system and is ready to follow potential regulations in Taiwan. API storage and management have been complied with the GDP of PIC/S GMP. The liposome is a product under the Cool Chain management. Since their arrival at the factory, the API and excipient of Liposome are stored in a temperature-controlled warehouse with refrigeration equipment until entering manufacturing process.

Note: GDP stands for "Good Distribution Practice"

Product Storage

Upon the completion of the product packaging, the products will be immediately stored in a warehouse of 2°C~8°C. To ensure 24-hour temperature control, all refrigeration warehouses are equipped with 2 air conditioners and fans. That is, either one would cover a faulty air-conditioner if the occasion should arise. All equipment of refrigeration warehouses is linked to backup power to prevent equipment malfunction or power disruption.

For general refrigeration warehouse maintenance, in addition to twice inspections every day, inside manufacturing warehouses have a nonstop data logger and alarms in place. When the temperature exceeds a certain range, flashing lights and a sound alarm will go off and security guard will notify the relevant authorities upon hearing the alarm. Every refrigeration warehouse in the Chungli factory is access controlled, and only authorized warehouse personnel may enter the factory for operation. This is to safeguard products and minimize the change of temperature by unnecessary entry and exit. A Temperature Mapping Qualification (TMQ) is conducted in every refrigeration warehouse at the coldest and hottest season of a year to ensure the temperature at every corner meets the requirements of storage.

Cool Chain Product Transportation

2 °C ~8 °C end-to-end temperature control must be followed during the transportation and delivery of Liposome to hospitals and clients. To find a qualified logistics company, the warehouse and QC departments have conducted a number of visits and audits to ensure the storage, delivery, and temperature control of LN2, gel pack, and dry ice, TTY then signs agreements with the logistics companies and these companies become qualified Cool Chain logistic suppliers for TTY.

Our Liposome is packed in the most suitable Refrigerated Delivery Box made from a suitable material of a scientific method when being delivered from Chungli factory's refrigerated warehouse. Moreover, the maximum number of times the ice can be used, its efficacy period and other standard procedures are specified as well. The package is then sealed by TTY-Logo void tape with a 3M Monitor Mark. Every year TTY invests nearly million NTD on WHO-certified 3M Monitor Mark. There were no cases of abnormal temperatures in 2021.

Cool Chain delivery by ground or by air, to Taiwan mainland, Kinmen and Penghu should not exceed 24 hours from pickup to proof of delivery. 3 statistic tests and route dynamic tests are each to be performed for different box sizes, and the shortest delivery time should be selected and recorded as a standard for general transportation management. Validation should be run once every summer and winter to eliminate various factors affecting temperature changes during transportation.

Ongoing Improvement

To continuously improve the stability of the cold chain, TTY optimizes the inner box of cooler and unifies the material as well as volume to facilitate subsequent simplification of material and storage management. At present, the preliminary comparison and verification was completed in 2021, confirming that the new inner box is better than the original one for it can provide more stable temperature and longer thermal insulation effect. Also, it is expected that the new inner box will be replaced after the verification is done in the third quarter of 2022, so that it can render the temperature more stable during transportation and ensure product quality.

In addition, TTY expects to expand its refrigerated space from the second to the third quarter of 2022 as in response to its increased demand for inventory and in line with the optimization of the production line for the oncology plant. After the construction and optimization of the production line for the oncology plant is completed, semi-finished products can be stored, and the refrigerated space will convert semi-finished products into finished products in stages. As for the newly expanded refrigerated space, it will not only increase the refrigerated space for finished products by about 30 boards, but also enable the tally staff to have more space to conduct cold chain operations.



I Supplier Management

As in view of the supply chains towards the pharmaceutical manufacturing structure, the upstream and midstream are the preparation of raw materials (APIs), whereas the downstream is the manufacturing of drugs and operation of various sales channels. As a matter of fact, drugs can be simply divided into 3 types, named as

original drugs (original), imported or domestic generic drugs with bioequivalence generic drugs (BE Generics), and general generic drugs (Non-BE Generics). At present, the pharmaceutical industry in Taiwan is generally classified as downstream suppliers, and most of them are manufacturing and selling Non-BE Generics. Yet for TTY, it is a domestic biotech pharmaceutical company that focuses on the development of specialty dosage forms and new drugs, and also one of the few companies in Taiwan that provides one-stop service front-end R&D, manufacturing, and to sales. During the period of report in 2021, no major changes were found with the supply chains.

Supply Chains of Pharmaceutical Manufacturing



Step 1 Choosing New Suppliers

To ensure the sustainable development of the environment, an evaluation questionnaire is filled out by new and existing suppliers of TTY regarding whether the solvent is properly recycled; the cleaning procedure and validation of production equipment; pest and rodent control; proper air conditioning, and a water system to avoid cross-contamination. It also includes the related SOP to minimize environmental impact, and evaluation of, compliance with, and continued strengthening of control concerning environmental risks. All fields should be approved by a professional consultant. Moreover, TTY conducts audits on all suppliers with a non-fixed timetable to ensure stable quality. The inspection is carried out either by questionnaire survey or field trip.

"Quality Assurance", "Stable Production Capacity", "Cycle Time Reduction", and "Sustainability" are the 4 major policies of TTY, and it is important to evaluate supplier's financial status, organization management, and CSR implementation capability. The "Supplier Sustainability Management Assessment" is executed as a standard to select and assess new suppliers, reevaluate and renew contracts with existing ones, conduct a risk assessment and management, and assist with improvements. The aim is to properly choose and manage suppliers with sustainability and transparency as key factors. In 2021, 100% of the new suppliers were screened and chosen according to the selection mechanism.

- Quality assurance:** Assessment and onsite due diligence to ensure a quality system and quality supply.
- Stable Production Capacity:** Multiple suppliers are required to maintain a flexible and stabilized supply and quantity.
- Cycle Time Reduction:** Credible suppliers with qualified delivery capabilities are needed to promote cycle time reduction.
- Sustainability:** Long-term partnerships are necessary to build stable developments and establish a sustainable supply chain. TTY demands suppliers to observe eco-friendly actions, and constantly consider safety and security, human rights, and CSR, as well as engage in risk management and have a sustainable operation plan.

Step 2 The Eligibility of New Suppliers

Active pharmaceutical ingredients (API) are substances extracted from natural plants and synthesized chemically, which are then processed by the Company's high-quality technology and made into a universally approved and certified safe drug that can be used directly by patients. The API can be a determinant of the effectiveness and safety of drugs, thus TTY proceeds with caution to inspect and manage EU and US brand-name drug suppliers. DMF (Drug Master File), cGMP, and PIC/S GMP are the principal criteria to select proper suppliers. We further examine and assess their manufacturing of raw materials, any product risks, quality system control competency, and their order execution.

Step 3 Evaluation and Risk Assessment for Existing Suppliers

- General Evaluation: Scores will be deducted for any abnormality on material delivered by suppliers and will be referred to for annual evaluation.
- Suppliers' assessment are held once a year, and the assessment items include: Cycle Time (on time, credibility); Quality (stable supply quality); Customer Complaint (a timely improvement over customer quality complaint); Supportiveness (speedy and immediate return and exchange of goods); and Sustainability (environmental protection and human rights assessment).
- TTY conducts a risk evaluation based on the above two items for classification management.
- Suppliers with scores lower than TTY requirements will be terminated from the purchase contract and will be removed from the supplier list.

Step 4 Existing Supplier Classification Management

- Assist suppliers with improvement on the basis of grading results
- Classification according to supplier risk evaluation

Grade	Risk	Scores	Measures
Grade A	Low	90~100	<ol style="list-style-type: none"> Suppliers to be considered when new items are required to be purchased. Paper review based inspection.
Grade B	Medium	70~89	<ol style="list-style-type: none"> Normal purchase contract. Paper review-based inspection. Suppliers should provide an action plan according to the inspection results. When the improvement fails to meet TTY requirements, on-site inspection will be conducted.
Grade C	High	≤ 69	<ol style="list-style-type: none"> Cease the purchase of items from the suppliers. Deemed as disqualified suppliers and the contract is terminated.



Chungli Factory

Paper Review

The purchasing department from the headquarter of TTY will distribute the "Sustainable Supplier Evaluation Questionnaire" on a unified basis to conduct a preliminary investigation. After having confirmed that there is no major risk with regard to supplier's economy, quality, environment and human rights, each respective factory will, based on their procurement needs, conduct supplier selection. The content of the "Sustainable Supplier Evaluation Questionnaire" is found as follows:

Economy	Quality	Environment	Human Rights
<ol style="list-style-type: none"> Operation Overview Client Management Safety Stock, Deliver Time 	<ol style="list-style-type: none"> Management of Source Supplier Quality Control Drug Master File Relevant GMP Compliance 	<ol style="list-style-type: none"> GHG Emission Water Management Energy Management Waste Management Overall Environmental Evaluation Environment, Safety, Health Compliance with Laws and Regulation 	<ol style="list-style-type: none"> Occupational Safety and Health Worker Health Improvement Welfare Policy Feedback Channel All Forms of Discrimination Compliance With Laws and Regulations

Onsite Inspection

Suppliers are to provide the following information for onsite inspections:

- Company Introduction: product supply, capacity, process description, facility, and equipment introduction.
- Environment Safety, and Health Management: Information regarding overall environmental safety, health control and management, waste control, cross-contamination prevention.
- Certificates and Licenses: The acquired government or global certified QC documents (PIC/S GMP or ISO 9001) and certification of the environmental management system (ISO 14001).
- Quality System Management: A document for the procedure regarding the handling of CC (Customer Complaint), defects, abnormality management, change management, and corrective and preventive action.
- Raw Material Information: SDS and COA, production procedure.

The qualified suppliers of Chungli factory include 496 raw materials (OEM included) and 104 manufacturers, of which 116 are raw materials (API and Excipient) and 380 are materials. There were 16 additions in 2021, of which 1 was raw material and 15 were materials.

The 272 items purchased in 2021 by Chungli factory were

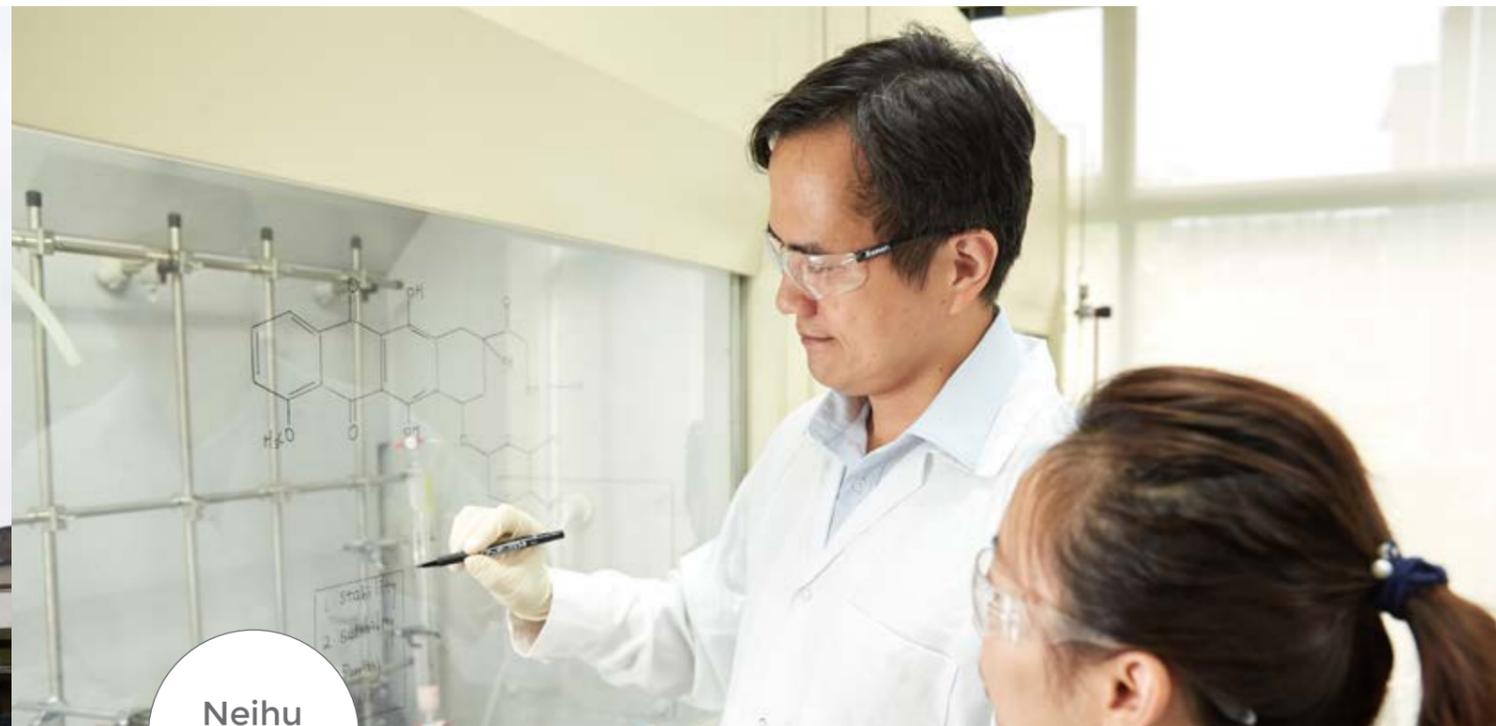
assessed based on cycle time, quality, customer complaints, supportiveness, and sustainability. The results came out as 272 classified as Grade A, 0 as Grade B, and 0 as Grade C. The management measures for suppliers of grade A items would be that if the company has launched new items the supplier will be prioritized for consideration, and it will be provided to the quality control department as objects of exemption from test and evaluation of raw materials.

2021 TTY Chungli Factory Supplier List

Grade	API	Excipient	Packing Material	Total
Number of Items	35	81	380	496
Number of Manufacturers	29	42	33	104

2021 TTY Chungli Factory Items Classified Assessment Results

Grade	API	Excipient	Packing Material	Total
Grade A Supplier (lowest risk)	23	54	195	272
Grade B Supplier (moderate risk)	0	0	0	0
Grade C Supplier (highest risk)	0	0	0	0
Total	23	54	195	272



**Liudu
Factory**

The qualified suppliers of Liudu factory include 432 raw materials and 166 manufacturers, of which 194 are raw materials and 238 are materials. There were 33 additions in 2021, of which 11 were raw material and 22 were materials.

The 281 items purchased in 2021 by Liudu factory were assessed based on quality and customer complaints. The results came out as 277 classified as Grade A, 4 as Grade B, and 0 as Grade C. Follow-ups and improvement will be required for Grade B suppliers, and these suppliers will be prioritized on the supervision list with increased frequency for review in 2022 when necessary.

2021 TTY Liudu Factory Supplier List

Grade	API	Excipient	Packing Material	Total
Number of Items	66	128	238	432
Number of Manufacturers	54	65	47	166

2021 TTY Liudu Factory Items Classified Assessment Results

Grade	API	Excipient	Packing Material	Total
Grade A Supplier (lowest risk)	48	63	166	277
Grade B Supplier (moderate risk)	0	2	2	4
Grade C Supplier (highest risk)	0	0	0	0
Total	48	65	168	281

**Neihu
Factory**

Onsite inspections and paper reviews are the methods to evaluate suppliers' qualification. A supplier engages closely without major deficiency, and delivers with consistently good standards, it is identified as a qualified supplier. Conversely, where a reviewee with poor commitment shows significant faults or fails to deliver with consistency, they will be regarded as disqualified and the candidate will be removed from the contract. In this case, proper sources of

material will be on request.

The qualified suppliers of Neihu factory include 132 for raw materials, 58 are manufacturers, and 30 agents, of which 72 are raw materials and 60 are materials. There were 4 additions in 2021, of which 1 was raw material and 3 were materials.

The 73 items purchased in 2021 by Neihu factory were assessed based on quality and supportiveness. The results came out as 73 classified as eligible, and no supplier failed the assessment.

2021 TTY Neihu Factory Supplier List

Category	API	Excipient	Packing Material	Total
Number of Items	8	64	60	132
Number of Manufacturers	7	29	22	58
Number of Agents	4	17	9	30

2021 TTY Neihu Factory Items Classified Assessment Results

Category	API	Excipient	Packing Material	Total
Qualified Items	5	40	28	73
Unqualified Items	0	0	0	0
Total	5	40	28	73

03

Governance

Governance Structure
Principles of Governance

Key Performance

- **Top 5%** of TPEX companies in the TWSE Corporate Government Assessment for six consecutive 6 years since 2016.
- **11%~20%** among non-electronic and non-finance TWSE and TPEX listed companies with a market value of over 10 billion.
- 10 Board meetings convened in 2021, with an attendance rate of **97.78%** (excluding attendance via proxy).
- The average advanced training hour of Board members reached **9.78 hours** in 2021. Board members include **2 female directors**, and **3 independent directors**, showing a diversified and independent governance culture.
- 4 Remuneration Committee meetings in 2021, with an attendance rate of **85%** on average (excluding attendance via proxy).
- 8 Audit Committee meetings in 2021, with an attendance rate of **100%** (excluding attendance via proxy).

TTY observes investment market trends over the long term to assess whether an investment is beneficial from the perspective of single financial indicators to the environment and social and corporate governance factors. In addition, TTY refers to the OECD Principles of Corporate Governance published by the Organization for Economic Cooperation and Development to effectively carry out corporate governance. Value creation for stakeholders and contribution to global sustainable goals are common ground among TTY directors. In 2021, we received remarkable results in diversified governance, improvement to the intellectual property management system, ethical management and risk management.

To facilitate corporate sustainable development, TTY has initiated 17 Sustainable Development Goals (SDGs),

including the following: the Board of Directors to facilitate SDG 5 "Gender Equality"; introduce the Taiwan Intellectual Property Management System (TIPS) to improve the intellectual property confidentiality management system, echoing SDG 9 "Industry, Innovation, and Infrastructure"; the Sustainable Development Committee (SDC) and the Ethical Management Promotion Center (EMPC) to realize corporate sustainable operational development to respond to SDG 11 "Sustainable Cities and Communities"; establish a system to prevent conflicts of interest, realize independent supervision, ethics and integrity to meet SDG 16 "Peace, Justice, and Strong Institutions"; and follow international trends, implement risk evaluation and management and global sustainable development partnerships, in response to SDG 17 "Partnerships for Goals".

I Governance Structure

Diversity and Professionalism of the Board of Directors

TTY follows the OECD corporate governance principles and established the Board of Directors as the highest power of governance. All directors fully assist the company to increase profits, effectively supervise the company for risk management, fraud detection and prevention, protection of business secrets and information security, and prevention of any social or economic violations. The Board members possess diversified professional cultures in the areas of biotechnology, finance, banking, commerce, law, finance and accounting, sufficient to assume the responsibility for major decisions related to the economy, environment and social topics, supervise the management team and mitigate management risks. TTY convened a total of 10 Board meetings with an attendance rate of 97.78% on average.

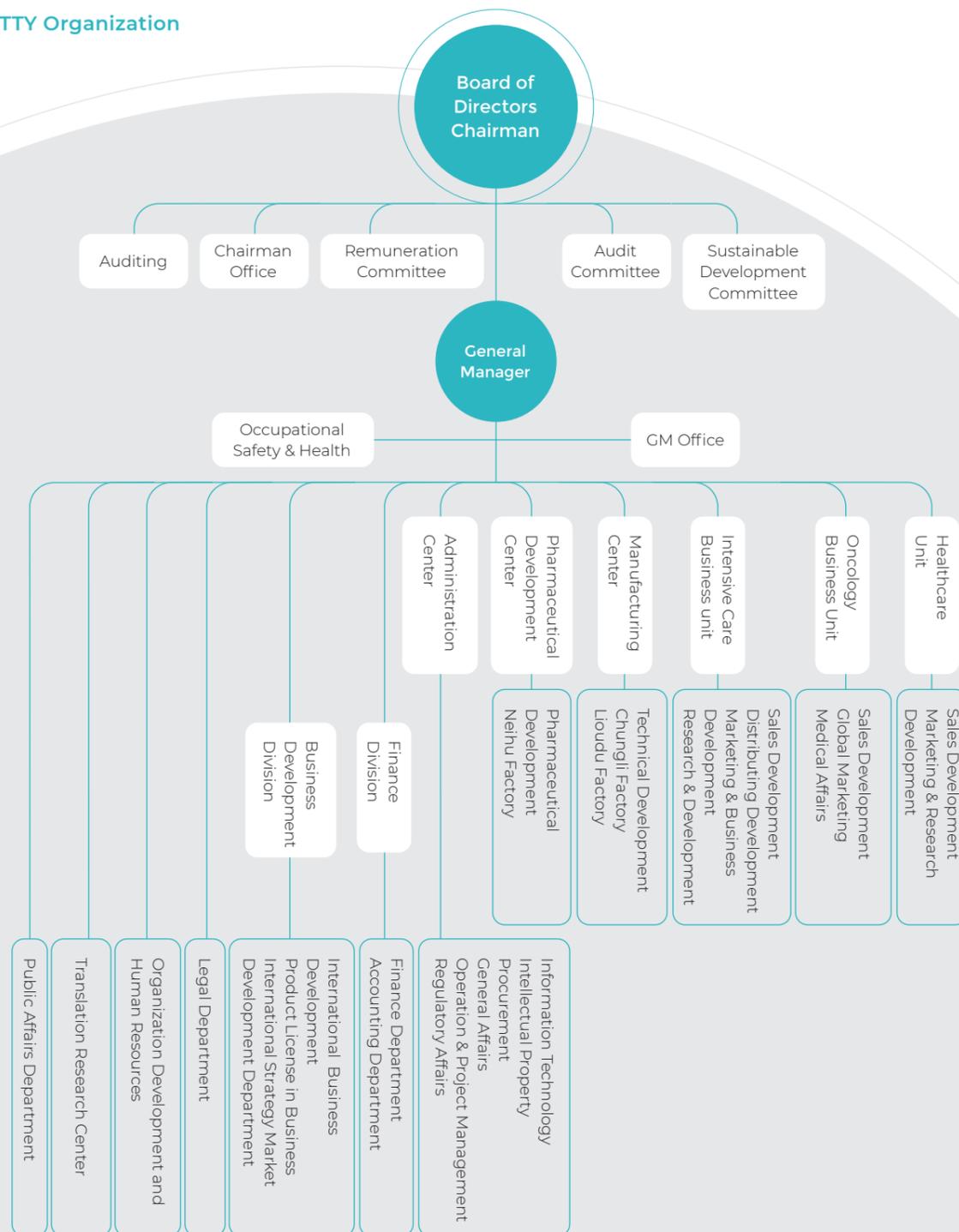
The Board of Directors values gender equality and listens to voices of all ages. There were 9 directors in 2021; from among them three seats were independent directors, accounting for 33.33%, two female directors, and one director in the 31-40 age bracket. The tenure of this session of the Board members is from August 25, 2021 to August 24, 2024.

TTY Board Members in 2021

Chairman	Lin Chuan	♀		71-80
Vice Chairman	Chang Wen-Hua	♀		51-60
	Carl Hsiao	♀		31-40
	Yang Tze-Kaing	♀		61-70
Directors	Chang Hsiu-Chi	♀		61-70
	Liao Ying-Ying	♀		51-60
	Tsai Duei	♀		71-80
Independent Directors	Hsueh Ming-Ling	♀		61-70
	Lin Tien-Fu	♀		71-80

The Audit Committee, Remuneration Committee and Sustainable Development Committee are subordinated to the Board of Directors with different professional divisions developing the functions of the Board. The functional committees assist the company with supervising and managing important operational activities, the overall remuneration policy and compensation to directors and managers, and strategic plans for promotion of sustainable development. The CEO Office is in charge of Occupational Safety and Health and three categories of business groups, three centers and other divisions, and departments across the organization. Please refer to the company's annual report for more details about the duties of each department.

TTY Organization



Enhance Group Knowledge of Directors

The Board of TTY is professional and fair. If any proposals present a conflict of interest to a director or their representative(s), they recuse themselves from the discussion and voting and do not vote on behalf of other directors. Any recusals are disclosed in the annual report. Since 2016, a self- or peer-assessment of the Board and individual directors has been conducted periodically, and the assessment results are reported to the Board before the end of Q1 of the following year. The average score for the overall performance of the Board of Directors was 4.97 out of 5; the weighted average score for the performance of individual directors was 4.98 out of 5; and the average score for the performances of the three functional committees was 5. The 2021 assessment results were reported to the Remuneration Committee and the Board on March 9, 2022 as basis for review and improvement. The Board expects the company to reinforce the successor plan, risk assessment and control of the management team and integrate business decision processes. As demonstrated, the

overall operations of the Board of Directors and functional committees all perform well.

In addition to self-assessment of the Board and functional committees, external professional and independent institutes or experts and scholars are deployed every three years for assessment in accordance with the Regulations for the Assessment of the Performance of the Board and Functional Committees. The company commissioned an external institute, the Taiwan Corporate Governance Association, to conduct an efficacy evaluation of the Board and functional committees for the period from September 1, 2020 and August 31, 2021. The Board assessment was divided into the eight areas of the composition of the Board, instruction, authorization, supervision, communication, discipline, inter-control and risk management and was conducted via a questionnaire and field interviews. For details regarding the summary and suggestions of the Taiwan Corporate Governance Association and correspondent actions of the company, please refer to TTY's official website.

Summary of the Board Performance Evaluation

no. 1

The Chairman respects the proficiencies of the directors. He especially consults independent directors for their opinions and for a third-party perspective to enhance decision-making. The three independent directors also take an active role and form a great Board meeting culture.

no. 2

TTY has established the Sustainable Development Committee subordinated to the Board. The committee reports on the implementation of work projects and plans for the coming year by the end of the current year, which effectively improves communication and implementation of all units, focusing on strategic actions in the areas of corporate sustainability and social responsibilities.

no. 3

TTY arranges a Board gathering and invites the Board to visit factories on an ad-hoc basis. The management team interacts with the Board closely, facilitating full functional actions.

To seize the opportunities presented by global risk trends and enhance group knowledge in terms of economic, environmental and social topics, TTY's Board members aggressively participates in various advanced training courses to create maximum operational value for all stakeholders. The average advanced training hour of Board members amounted to 9.78 hours in 2021.

2021 Advanced Training Courses of Directors

Title	Name	Date	Course	Hour(s)	Total Hour(s)
Chairman	Lin Chuan	2021/09/17	Operation Dispute Cases and Introduction of Trials for business Events	3	6.0
		2021/10/14	Business Strategies and Corporate Governance Corresponding with Non-sustainable Global Risks from the Perspective of COVID-19	3	
Vice Chairman	Chang Wen-Hua	2021/09/17	Operation Dispute Cases and Introduction of Trials for Business Events	3	6.0
		2021/10/14	Business Strategies and Corporate Governance Corresponding with Non-sustainable Global Risks from the Perspective of COVID-19	3	
Director	Carl Hsiao	2021/09/10	The Fulfillment of Corporate Acquisition Value – Discussion of Integration Issues after Corporate Acquisition and Establishment of a Management System	3	9.0
		2021/09/16	Hostile Takeover, Corporate Control Battle Analysis and Countermeasures	3	
		2021/09/17	Operation Dispute Cases and Introduction of Trials for Business Events	3	
Director	Yang Tze-Kaing	2021/09/16	Corporate Sustainable Development - Environmental Protection and Laws Compliance	3	6.0
		2021/11/11	Understanding related Parties' Trading, Unconventional Transactions and Insider Trading from Case Studies	3	
Director	Chang Hsiu-Chi	2021/09/17	Operation Dispute Cases and Introduction of Trials for Business Events	3	6.0
		2021/10/14	Business Strategies and Corporate Governance Corresponding with Non-sustainable Global Risks from the Perspective of COVID-19	3	
Director	Liao Ying-Ying	2021/09/01	2021 TPEX Sustainable Upgrade Online Forum	2	8.0
		2021/09/17	Operation Dispute Cases and Introduction of Trials for Business Events	3	

Title	Name	Date	Course	Hour(s)	Total Hour(s)
Director	Liao Ying-Ying	2021/10/14	Business Strategies and Corporate Governance Corresponding with Non-sustainable Global Risks from the Perspective of COVID-19	3	8.0
		2021/08/31	2021 TPEX Sustainable Upgrade Online Forum	2	
Independent Director	Tsai Duei	2021/09/01	2021 TPEX Sustainable Upgrade Online Forum	2	10.0
		2021/09/17	Operation Dispute Cases and Introduction of Trials for Business Events	3	
		2021/10/14	Business Strategies and Corporate Governance Corresponding with Non-sustainable Global Risks from the Perspective of COVID-19	3	
Independent Director	Hsueh Ming-Ling	2021/02/25	The Strategic Turning Point for International Centennial Enterprises, Learning Sustainability from Centennial Enterprises	1	31.0
		2021/04/09	2021 Global Macroeconomic Outlook	3	
		2021/04/29	Corporate Governance Blueprint 3.0 and Directors Responsibilities	3	
		2021/05/04	Money Laundry Prevention and Anti-information Terrorism Practices and Studies	3	
		2021/08/03	The Challenges and Countermeasures of Information Security	3	
		2021/08/06	Practical Case Studies on Research and Ethical Management of Important Economic and Trade Issues	3	
		2021/09/07	Sustainable Financial Innovation and Management	3	
		2021/10/05	Introduction and Response to the Financial Consumer Protection Act	3	
		2021/10/28	Practical Operation of Employee Incentives for OTC Listed Companies	3	
		2021/12/22	Corporate Governance Summit - ESG Governance and Sustainable Development	6	
Independent Director	Lin Tien-Fu	2021/05/04	Money Laundry Prevention and Anti-information Terrorism Practices and Studies	3	6.0
		2021/08/03	The Challenges and Countermeasures of Information Security	3	

Internal Control and Internal Audit

Internal Audit Organization and Operation

TTY manages internal audit affairs in accordance with the Guidelines for the Establishment of Internal Control Systems by Public Companies. The audit office under the Board of Directors is responsible for internal audits. The audit office has one chief auditor and competent auditors arranged depending on company scale, business conditions, management requirements and other relevant laws and regulations. The internal auditors work independently to prepare the annual audit plan, identify items to be audited monthly and quarterly, and verify the internal control system with an audit report enclosed upon approval of the Board. If any discrepancy is found, the audited business unit has

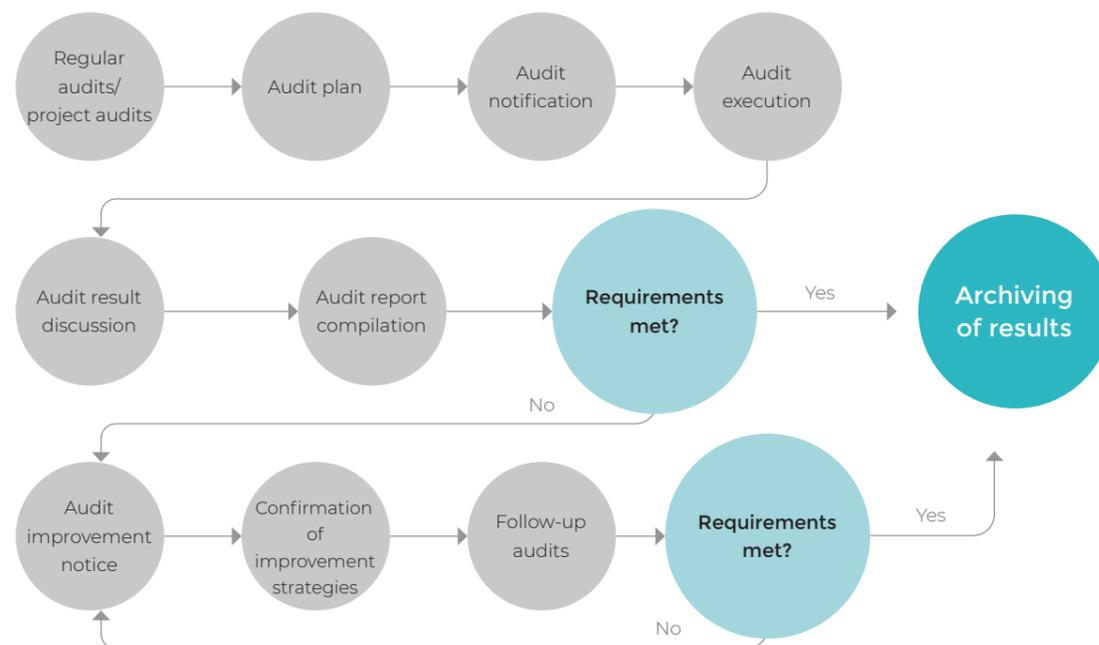
to propose improvement measures, disclose in the audit report and trace the discrepancy and abnormality quarterly. In addition to reporting the implementation status to the Audit Committee periodically, the chief auditor shall also report at Board meetings.

Meanwhile, the company has stipulated “the employment, assessment and remuneration of internal auditors shall be based on the employment, performance development plan and performance bonus assessment and salary management regulations” in accordance with the Internal Audit System. Except for the employment of the chief internal auditor, which is approved by the Audit Committee before submission to the Board of Directors for approval, all remaining items shall be reported by the chief auditor to the Chairman for approval. The internal auditors shall be qualified, competent for the role, and engage in advanced training hours as required sustainably.

TTY Internal Audit Reporting Status

Submission Deadline	Report Content	Counterparty
End of January annually	Basic information of internal auditors	Website appointed by the competent securities authority
End of February annually	The implementation status of the audit plan in previous year	
End of May annually	Discrepancies in the internal control system and improvement required from the previous year	
End of December annually	Audit plan for the coming year	

TTY Internal Audit Flowchart



Functional Committees

To assist the Board with supervision, TTY has established the Remuneration Committee, Audit Committee and Sustainable Development Committee. Moreover, it established the Sustainable Development Promotion Center, Ethical Management Promotion Center, and Risk Management Center in 2020 subordinated to the Sustainable Development Committee, to control uncertain factors posing the potential threats to corporate operations.

Remuneration Committee

To consolidate the remuneration system for Board members and managers, ensure the fairness of performance and individual compensation of directors and managers in respect of economic, environmental and social factors, the Remuneration Committee has been established under the Board of Directors. Since 2016, the Remuneration Committee has comprised of three independent directors and two external experts. All members of the Remuneration Committee exercise as good administrators to duly perform their duties and propose suggestions to the Board to reinforce the independence of the Remuneration Committee. There were four meetings convened in 2021, with an average attendance rate of 85%.

The company implements self-assessments of the Board, functional committees and individual directors once annually, and designates external professional and independent institutes or experts and scholars for assessment every three years. Self-assessments are mainly conducted via questionnaires. Indicators of the Board performance evaluation include “involvement in the company’s operations”, “enhancement of the quality of the Board’s decision-making”, “the composition and structure of the Board”, “election of Board members”, “enhance knowledge development” and “internal controls”. Individual directors are assessed on their “understanding of the Company’s goals and mission”, “awareness of director’s duties”, “involvement in the Company’s operations”, “internal relationships and communications”, “director professionalism and continuing knowledge development”, and “internal controls”. The Remuneration Committee suggests the criteria for compensation and specific amount based on the self-assessment evaluation results and external institutes as well as referring to overall operation performance.

The Remuneration Committee assists the Board with the implementation and evaluation of overall compensation and welfare policies as well as compensation to directors and managers through a review of the compensation system. It also refers to payment standards in the industry and the achievement of individual directors and managers in respect to corporate governance, economic performance and service posts. Meanwhile, the Committee proposes revisions aimed at the compensation structure periodically to ensure TTY’s compensation meets the requirements of relevant laws and the principle of fairness. In the future, the Remuneration Committee will connect the remuneration

of Board members with sustainable performance (environmental protection, employee care, and social and public welfare issues). It is expected that TTY fulfills the spirit of sustainable operations from the top down, led by directors.

Sustainable Development Committee

To realize corporate governance, develop environmental sustainability, maintain social welfare in operations and implement corporate social responsibilities, TTY established the Sustainable Development Committee in accordance with the Principles of Corporate Social Responsibilities Practice on October 7, 2019 (named the Principles of Sustainable Development Practice on December 24, 2021). The Sustainable Development Committee is subordinated to the Board of Directors, and its duties include preparing policies, goals, strategies and execution plans relating to sustainable development from an environmental, social and governance perspective, as well as reviewing and revising the implementation system and results annually for submission to the Board of Directors.

Three functional centers– the Sustainable Development Promotion Center, Ethical Management Promotion Center and Risk Management Center– are subordinated to the Sustainable Development Committee to promote and implement the sustainable development strategic goals of the company. The committee has one executive secretary served by the chief corporate governance officer who oversees meetings of the committee and matters assigned by the Board of Directors.

Audit Committee

To strengthen supervision and reinforce management mechanisms, the Board of TTY has established the Audit Committee in accordance with the Securities Exchange Act. The Audit Committee consists of three independent directors with duties covering financial statements, internal audits, the internal control system, acquisition or disposal of assets and financial derivative transactions, fund lending to other parties, endorsement and guarantee, issuing securities, compliance with relevant laws, potentials conflicts of interest among managers and directors, fraud investigation, risk management, employment, discharge or compensation to the CPA, and employment or discharge of financing, accounting or internal chief auditor employees. The attendance rate of all members of the Audit Committee in 2021 was 100%.

I Principles of Governance

Promote Corporate Social Responsibility

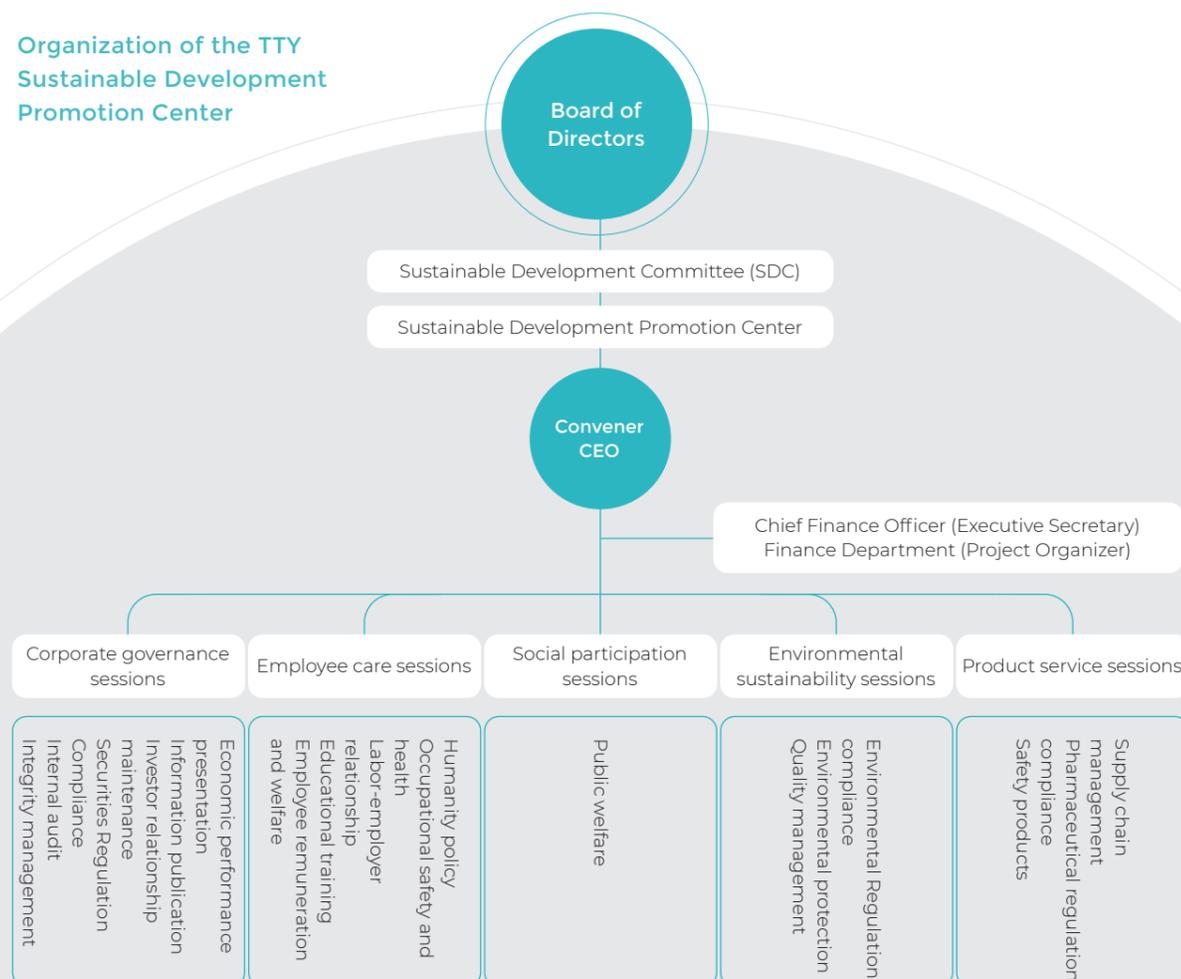
To realize corporate governance and ensure the fulfillment of policies in relation to corporate social responsibilities, the Board of TTY has established the Sustainable Development Promotion Center under the Sustainable Development Committee that is responsible for the proposal and implementation of sustainable development policies, systems, relevant guidelines and promotion plan, and submits such plans to the Sustainable Development Committee which subsequently reports to the Board of Directors periodically. The CEO is the convener of the Sustainable Development Promotion Center, and the financial department is responsible for the promotion of

relevant policies.

The Sustainable Development Promotion Center is divided into corporate governance sessions, employee care sessions, social participation sessions, environmental sustainability sessions and product service sessions based on ESG factors. In addition, a stakeholder section has been established in the sustainability zone on the company's website as a smooth and effective communication channel. The center also has internal meetings to confirm the requirements and expectations of stakeholders of the company. Meanwhile, all sessions propose methods to improving ESG operations and advance future goals to promote the concept of business operations and social responsibility.

The Sustainable Development Promotion Center prepares the implementation plan for the coming year by the end of the current year, and submits the plan to the Sustainable Development Committee and the Board of Directors. The 2022 work plan was submitted to the Sustainable Development Committee for implementation upon approval on December 24, 2021.

Organization of the TTY Sustainable Development Promotion Center



Ethical Management



Corresponding GRI index

GRI 205-2 Communication and Training of Anti-corruption Policies and Procedures

Policies and Commitment

Engage in business activities in the principle of fairness, honesty, good faith, transparency, and effectively carry out the ethical management policy, aggressively preventing dishonest behavior and allowing the company to be responsible to stakeholders honestly.

Goals and Targets

Short-term Goals

Organize corporate ethics related online and in-person courses

Mid- to long-term Goals

Commit to creating a business culture of integrity in operations

Responsibilities and Resources

Establish the Ethical Management Promotion Center to develop an ethical management system

Assessment Mechanism and Results

The Sustainable Development Committee convened a total of 4 meetings in 2021. The Ethical Management Promotion Center reported the ethical management status and proposed a 2022 work plan: organize 2 corporate ethical management promotions and 2 insider trading prevention programs to the Sustainable Development Committee.

Regulations: establish ethical management principles, ethical management procedures and guidelines, internal material information management and procedures for the prevention of insider trading to complete the anti-corruption system.

Educational training: organize an online corporate ethical management program and an online insider trading prevention program aimed at employees in 2021.

Reporting mailbox: dedicated personnel will report non-advertising or spam mail to the Sustainable Development Committee immediately after receipt, and will report the summary of reporting mail quarterly.

Educational training: organize an online corporate ethical management insider trading prevention programs for all employees.

Principles of Procedures for Ethical Management

To prevent dishonest behavior, TTY has established an Ethical Management Promotion Center subordinated to the Sustainable Development Committee, in which the CEO is the convener and members include officers of the administration center, finance division, the chief auditor, officers of organization development and human resources, and legal department. All executive managers have issued a statement of ethical management compliance, and both the CEO and vice-presidents signed the integrity behavior statement. The functions of the Ethical Management Promotion Center include establishing a business culture of ethical management, and drafting the Principles of Procedures for Ethical Management, the Procedures for Ethical Management and Guidelines for Conduct, and the Operating Procedures for Handling Internal Material Information and Insider Trading Prevention, making every effort to ensure anti-corruption.

To minimize risk from dishonest behavior, TTY has established a holistic complaint and reporting investigation system by creating a whistleblowing channel on the official website and intranet and providing reporting mailbox to stakeholders: ethical@tty.com.tw. Dedicated personnel

accept reporting cases, and provide quarterly reports to the Sustainable Development Committee. There were a total 256 messages received in 2021, most of which were advertising, and only one reporting case that has been managed in accordance with the procedures as stipulated by the company.

The Procedures for Ethical Management and Guidelines for Conduct have been established to specify the knowledge to be noted by all company personnel when executing relevant business activities, and which clearly stipulate the disciplinary and grievance policies for any violations. The guidelines specify measures for preventing unethical behavior to strictly prohibit directors, managers, and employees from giving and collecting bribes and engaging in illegal conduct. Employees who engage in activities that violate the regulations will be punished, suspended, or dismissed depending on the severity of the situation. To protect whistleblowers from improper punishment due to reporting, TTY strictly follows standard investigation procedures and a related confidential mechanism for reporting and keeps the identity and report content confidential. A whistleblower may also submit a report anonymously. The company would issue severe punishment to anyone who discloses the identity of a whistleblower or the content of a report.

Education and Training on Ethical Management

To ensure all employees are aware of the regulations of ethical management, TTY disseminates dishonest behavior related regulations to all new employees and also provides the integrity policy program for each newly recruited employee and makes announcements about Operational Procedures and the Guidelines for Ethical Management on the intranet and in email to all employees. To ensure new employees realize and follow company regulations as soon as possible, TTY arranges a series of online and in-person orientation courses, including Introduction to the Taiwan Intellectual Property Management System (TIPS), Basics of Intellectual Property, Drug Safety Supervision, and Environmental, Safety and Health. There was a total of 212 participants in online training courses; 96 participants attended in-person courses totaling 126 training hours in 2021.

Focusing on anti-corruption policies and procedure communication with members of the governance unit, TTY manages insider trading prevention related legal training for directors, managers and employees at least once annually, and reports on operation results and provides

training information to the Sustainable Development Committee and the Board of Director every year. Insider trading related laws and a case study analysis were reported at the Board meeting on August 5, 2021. The 2021 ethical management status was reported on March 9, 2022.

In-person courses are focused on types of interest and dishonest behaviors and the whistleblowing system, and reward and punishment within the regulations to ensure employees' full awareness and compliance in daily work. Due to COVID-19, only one pharmaceutical patent protection course and one insider trading prevention course were organized in 2021. A total in 80 trainees attended and recorded 170 training hours.

TTY organizes various online and in-person courses on an ad-hoc basis for employees' advanced development. The 2021 online courses included Drug Safety Supervision, Introduction to Good Drug Practice (GDP) Management, Information Security, Introduction to Trade Secrets, Corporate Ethical Management, Insider Trading Prevention and Material Business Event Handling Principles; all were compulsory lectures. All 542 employees completed 100% of online courses.

TTY Anti-corruption Improvement Act: Operating Procedures for Handling Internal Material Information and Insider Trading Prevention

In 2021, there was one suspicious event involving insider trading due to the misconduct of a few employees who were investigated by a juridical department. This event affected the reputation of the company significantly. Since the case is still in trial and no decision has been made, TTY discharged the CEO without termination or discontinuation of any contract. Seeing the importance of insider trading prevention and preventing a similar event in future, TTY reported improvements to action to prevent insider trading on December 3, 2021 and proposed a revision to the regulations by adding insider trading prevention and management related information. In addition, two online programs are held annually to deepen all employees' awareness of which activities are deemed insider trading and to share possible cases in company operations.

Moreover, based on the improvement actions and suggestions of the independent directors, TTY held an insider trading prevention lecture on December 9, 2021, with a total 60 employees participating on-site and via live broadcast. Meanwhile, the Board of Directors approved the amendment to the Operating Procedures for Handling Internal Material Information and named the Operating Procedures for Handling Internal Material Information and Insider Trading Prevention following the addition of strict insider trading prevention related regulations.

TTY 2021 Anti-corruption Training Status

Employee Category	Total Employees	Actual Participants	Percentage
Administration	72	72	100%
Marketing & Sales	136	136	100%
Research	99	99	100%
Factory	235	235	100%
Total	542	542	100%

Risk Management

Aimed at management of risk and uncertain factors that could potentially threaten business operations, TTY has added a Risk Management Center subordinated to the Sustainable Development Committee in 2020 to effectively evaluate common risk and countermeasures. TTY also arranges educational training for employees, and has established basic knowledge regarding various operational safety procedures and protection to reduce the impact of operational risk and reinforce sustainable operations.

Risk Management Organization



Important Risk Items and Countermeasures

TTY 2021 Important Risks Identification and Countermeasures

Risk Item	Risks Explanation	Risk Management Strategies
Industrial and Market Change	The adjustment of NHI drug price affects some drug price and sales, which also affects overseas product prices resulting in a reduction of revenue and profit	<ol style="list-style-type: none"> 1. Arrange a complete sales network nationwide to increase sales coverage. 2. Reinforce strategic cooperation aimed at drugs with market scale and value. 3. Enhance the confidence of hospitals and physicians in drugs through cooperation with clinical experts to increase the opportunity of reasonable use. 4. Introduce new drugs in late clinical phases for target treatment through licensing, cooperate with the schedule of certificate acquisition in advanced countries to shorten the time for domestic certificate acquisition. 5. Create optimal revenue in cooperation with the marketing team and resources to avoid drug price adjustment that reduces profits.
Product Safety	The negative effects of adverse drugs reaction to company operations and the reputation of the company	<ol style="list-style-type: none"> 1. Implement Drug Master File (DMF) management. 2. All products are satisfactory to PIC/S GMP regulations. 3. Conduct Drug Safety Supervision training for employees annually.
Supply Chain	Risks of unstable raw material quality and supply sources, supplier environment and labor human rights	<ol style="list-style-type: none"> 1. Maintain a cooperative relationship with existing suppliers and aggressively develop new suppliers to ensure second or third sources of materials. 2. Establish a supplier sustainable selection mechanism, evaluate suppliers periodically and irregularly annually and establish a list of qualified suppliers and classification management.

Risk Item	Risks Explanation	Risk Management Strategies
Occupational Safety	Occupational accident causing personal casualty and property loss	<ol style="list-style-type: none"> 1. Working places of all operational sites are insured with public liability insurance. 2. Comply with occupational related laws.
Information Security	Loss derived from personal data leak, malicious programs and hackers	<ol style="list-style-type: none"> 1. Establish an information security management system to regulate the operational conduct. 2. Install information security management equipment to implement information security management measures. 3. Conduct information security training and enhance information security awareness of all employees.
Intellectual Property Rights	Loss due to stolen, forged or embezzled patents, trademarks or trade secrets	<ol style="list-style-type: none"> 1. Patent and trademark management: establish an intellectual property management system, manage patent and trademark cases and control flow; physically taking the quantity and status of a patent and trademark periodically every year and review the consistency of the name of the product and trademark on the market to ensure trademark protection for corresponding products. 2. Trade secret management: establish confidentiality measures, review the implementation status via internal audits annually, and provide trade secrets and confidential management related training to employees every year to enhance their awareness. Include non-disclosure clauses in employee contracts; employees are obligated to keep confidential trade secrets acquired during service and after resignation.
Exchange Rate Fluctuations	Impairment to assets value due to exchange fluctuation	<ol style="list-style-type: none"> 1. Natural hedge is adopted to prevent loss arising from exchange fluctuations.
Climate Change	Extreme climate results in loss directly from climate incidents, and indirectly from global supply chain disruption and resources shortage	<ol style="list-style-type: none"> 1. Improve disaster response ability. 2. Actively develop new suppliers to ensure second or third source of raw materials and ensure the implementation of supplier sustainability management. 3. Establish a sustainable environment mechanism. <p>For detailed measures of TTY in relation to climate change, please refer to: Task Force on Climate-related Financial Disclosure.</p>
Major Epidemic Disease	Operational impact caused by the large-scale epidemic	<ol style="list-style-type: none"> 1. Establish a Business Continuity Plan corresponding with the epidemic, including employee health monitoring and care management, supply chain risk management, client management and crisis communication, reinforce infrastructure and human resources management to backup operations in different locations, such as emergency offices, video conference, remote and home working.

Note: for detailed risk management information, please refer to the official website [corporate governance implementation status > risk management](#).



TTY BCP Practice in 2021

Corresponding Risk of Operation Discontinuation	Practice Item	Common Goals
Supply Chain Disruptions	<ol style="list-style-type: none"> 1. Regulation compliance: API requires DMF certification and GMP regulations, and an inventory of certificates annually. 2. Assessment system: factory quality control conducts a supply assessment annually. 3. Inventory management: continuously improve the inventory monitoring system and demand forecast precision to assure a safe inventory level of API and finished products. 4. Multiple sources strategy: actively develop second and third sources to increase the coverage ratio. 	<ul style="list-style-type: none"> Test the effectiveness of disaster response and reporting procedures Activate restoration rapidly through planning for disaster in advance
Shutdown due to Violation of Pharmaceutical Industry related Regulations	<ol style="list-style-type: none"> 1. Regulation compliance: all parts of the business satisfy the GMP, GDP, and Pharmaceutical Affairs Act, and pass periodical and irregular official inspections by TFDA and different countries. 2. Marketing activity: establish a drug advertising checklist for compliance of the marketing unit. 3. Drug review: all changes to products have been reviewed by quality control and the legal unit. 4. Change in laws: receive official news and messages from various associations periodically, and gather relevant units to discuss response to changes. 	
Company Image Affected by Adverse Drug Quality, Adverse Drug Reaction of Patients	<ol style="list-style-type: none"> 1. Regulation compliance: <ul style="list-style-type: none"> (1) Manufacturing factories follow GMP and GDP regulations in business activities and pass periodical and irregular official inspections by the TFDA and different countries. (2) Construct an adverse product reporting system incorporated with the TFDA, create an adverse drug reporting mailbox and hold quality management meetings periodically. 2. Educational training: organize Drug Safety Supervision annually and an Introduction to GDP Management every two years. 	
Information Security	<ol style="list-style-type: none"> 1. Management policies: information security management system and authorization system management. 2. Prevention system: firewall, anti-blackmail virus tools and anti-virus software. 3. Conduct internal or outsourced penetration tests on an ad-hoc basis and introduced a priority management/file access monitoring system in 2020. 4. Educational training: open information security training courses. 5. Establish private equipment (computers, mobile phones, tablets) to access the intranet management system and expand periodical inventory against authorization. 	
Work Suspension due to COVID-19	<ol style="list-style-type: none"> 1. Emergency response team: continuously follow pandemic developments in accordance with the Principles of Disaster Emergency Response Handling. 2. Work separation practice and a WFH plan. 3. Safe inventory establishment: complete the safe inventory level for finished products and raw materials. 	
Occupational Safety and Health	<ol style="list-style-type: none"> 1. The Chungli factory conducts regional united drills online, two fire safety drills and one chemical leakage drill annually. 2. The Lioudu factory conducts alert-free drills, and fire safety and chemical leakage drills. 	

Business Continuity Plan (BCP)

The purpose of the Business Continuity Plan (BCP) is to protect employees when the company faces the risk of discontinued operations so it can recover key activities as soon as possible. Therefore, the Risk Management Center develops and publish preventive measures, disaster mitigation measures and related drill steps for six common operational discontinued risks and scenarios, and conducts a review and practice annually to ensure no operational discontinuation crisis occurs to the company.

Type of Disaster	Disaster Event
Environmental Disaster	Typhoon, flood, draught, fire, earthquake, severe cold winter, major epidemic disease
Human Accident	Work accident, adverse product, war, spying, burglary, arson
Facility Failure	Shortage of power, gas, water, oil, communication failure
Information Event	Cybercrime, record loss, information system failure

Task Force on Climate-related Financial Disclosure

To correspond with global warming, extreme climate, environmental protection and energy saving initiatives, and to increase awareness of safety, health and conservation, TTY has identified risks and opportunities brought by climate change and has planned physical response strategies, including water resource management and development, disaster response and adaptation, and city and value chain cooperation reinforcement.

The possible major impacts TTY will face in the future include energy, environment, safety and health issues and external restrictions due to regulations, while low carbon energy, power and carbon footprint issues will constitute important items requiring extreme attention

of the company. To respond to these important impacts, in addition to organizational adjustment and group corresponding strategies, TTY will also reinforce strategic cooperation with domestic and foreign peers in the same industry, the green energy industry, suppliers, and academic and research circles. It is expected to reduce operational risk and create more favorable operation conditions.

In addition to cooperating with national policies and the GHG reduction plan, TTY will further establish an energy-saving and carbon reduction team, plan for the promotion of energy savings and carbon reduction, evaluate low-carbon, high-efficacy actions and replace low-efficiency equipment to reduce pollution generated by operational processes.

TCFD Core Elements

Governance

The Risk Management Center is the responsible unit for climate change management, and the CEO is the convener of the Risk Management Center responsible for decisions, evaluation and monitoring climate change related matters.

The center reports the progress of the climate change response plan to the Sustainable Development Committee and the Board of Directors in accordance with the climate governance material principles established by the Risk Management Center annually.

In addition, it manages climate change related training to enhance climate change awareness at governance level.

Strategy

TTY is committed to fulfilling low carbon green processes and promoting the green supply chain. It is expected to lead the environmental transformation in the biotechnological pharmaceutical industry and achieve GHG gas reduction goals.

Risk Management

The Risk Management Center convenes sessions to identify risks and opportunities related to climate change, and establishes management plans for major risks and opportunities to trace progress and results and achieve environmental goals.

Metrics and Targets

Short-term Goal
Save 1.2% power in 2022 compared to 2021.
Introduce the ISO-14064-1 GHG inventory standards in 2022 and complete certification before October 31.
Complete aggressive energy saving and carbon reduction plan in 2022.
Establish climate governance material principles in 2022.

Mid-term Goal
Increase carbon emission targets.

Long-term Goal
10% carbon reduction or above in 2025 compared to base year 2022.

TTY 2021 Climate Change Related Risks Identification and Countermeasures

	Risk category	Risk Impact	Countermeasure and Potential Financial Effects
Transformation Risk	Policies and Laws	The Greenhouse Management Act is getting stricter. If GHG emission control is launched in the future, carbon prices will increase the operational costs of the company.	To improve energy efficiency, TTY will continuously implement its energy-saving and carbon-reduction plan and install energy-saving facilities. TTY will also continually improve processes to reduce the environmental impact via source controls and terminal prevention equipment reinforcement. According to data from PTC, if nuclear power is replaced by renewable energy and fuel coal is replaced by gas in the future, power generation costs per degree will increase by 45.45% in 2025. Taking the average power price of NTD\$2.6 per degree in 2018, power generation costs per degree will increase by NTD\$1.182 in 2025. With outsourced power of 13,000,000 degrees in 2020, TTY estimates that an additional NTD\$15,400,000 will be expensed annually in the future.
	Technological Risks	The economic system has gradually turned to supporting low-carbon, highly efficient technology improvement and innovation, which may affect the competitiveness of the company and likely increase procurement, production and distribution costs to meet demand and depth as required by customers.	Evaluate the comprehensive impact to climate change related policies to make short- to mid-term operational plans. The roof placement is now in progress to effectively reduce building temperatures and lowering carbon emissions from overall product processes, gradually moving toward green transformation. <ol style="list-style-type: none"> 1. The estimated expenditure of equipment replacement is NTD\$20 million in 2022. 2. The estimated expenditure is NTD\$3 million for the installation of heat insulation materials on the roof and windows of factory to reduce building temperature.
	Market Risks	To correspond with climate change risk and carbon emission control requirements, new business models have gradually been created and enterprises are required to create carbon assets management capabilities to adapt to this trend. The inventory costs of TTY were increased to avoid risks of supply chain disruption due to unstable supply of raw materials.	To enhance the ability to assume climate change risk, TTY has created new revenue opportunities and market expansion through the establishment of environmental protection related mechanisms and carbon emission control measures. Meanwhile, inventory costs will increase along with the increase of safe inventory levels. With inventory of about NTD\$940 million in 2021, NTD\$9.4 million inventory costs will increase by an additional 1% each.
	Reputation Risks	Climate change might affect the image that customers and social groups have in terms of how committed the company is to the low carbon transformation. If the company produces high carbon emissions or great levels of pollution, it may not win tenders, lose orders, experience a decrease of revenue or even damage the company's reputation.	To develop more environmentally friendly products and services, TTY not only continuously improves wastewater and waste recycling rates, and manages environmental sustainability activities to build a green enterprise culture from the inside out, but also evaluates its investment in green energy and low carbon logistic development to reduce the carbon footprint of company products, and enhance its industrial competitiveness in line with market demand.

Risk category	Risk Impact	Countermeasure and Potential Financial Effects
Physical Risk	Immediate Risks Climate change may cause a typhoon, flood, draught and other extreme climate events, resulting in damage to assets, supply chain disruption and other immediate financial impact.	Reinforce water resource management and ensure the safety of plant equipment to maintain uninterrupted operations. In response to draught in Taiwan, TTY has completed a list of water suppliers but costs have increased. With 141,500 degrees of water consumption in 2021, TTY may need to pay an additional NTD\$140,000 for water purchases annually; an additional cost of NTD\$1 per unit. Revenue will also be affected if materials and finished products cannot be delivered due to a typhoon and floods. To avoid this situation, warehouse leases in different locations will be evaluated and rent will be increased accordingly.
	Long-term Risks Global rising temperatures and the gradual shortage of water, electricity and fuel resources may cause discontinued factory operations, resulting in rising operational costs or penalties due to delivery delays.	Evaluate the use of regional energy and resources consumption and arrange off-peak production as needed. Prepare the BCP to actively find new suppliers and create a list of emergency power generators and water suppliers to ensure stable materials and energy resources supplies, and enhance the ability of TTY to respond and adapt to disasters accordingly.

TTY 2021 Climate Change Related Opportunities and Countermeasures

Type of Opportunity	Opportunity Explanation	Countermeasures and Potential Financial Effects
Resources Use Efficiency	Increase energy use efficiency to reduce mid- to long-term operational costs and achieve carbon reduction goals.	Evaluate the installation or replacement of low energy consumption equipment, establish power and water reduction goals, and increase resources efficiency. It is estimated to reduce operational costs by about NTD\$400,000 annually.
Products and Services	Update the method and frequency of providing products, which may improve customer satisfaction while also achieving carbon reduction goals.	Introduce low carbon transportation by adjusting the supply method and frequency. In addition to maintaining customer relationships, it is estimated to reduce operational costs by about NTD\$100,000 annually.
Duration	Improve the ability to adapt to climate change to managing climate change related risks and seizing the opportunities.	The Risk Management Center convenes all sessions to identify climate change related risks and opportunities and plans for climate change risks management strategies. The Operation and Project Management Department establishes the climate governance material principles to trace progress and effects and reinforce the risk response ability of the company.

Information Security Risks



Corresponding GRI index

GRI 418-1 Verified Complaint for an Infringement of Privacy of Customers and Loss of Customer Data

Policies and Commitment

Reinforce information security management and operations and enhance information security protection measures.

Goals and Targets

Short-term Goals

Continuously organize information security related online and in-person courses

Mid-term Goals

Reinforce information security propaganda, and conduct information security simulation and system improvement

Long-term Goals

Enhance information security awareness of all employees, consolidate information security protection and maximize TTY's information security protection

Responsibilities and Resources

The information department is responsible for the establishment and planning of information security, while the audit office is responsible for auditing internal and external information security status to effectively trace results periodically.

Assessment Mechanism and Results

Implement important host weakness scans, and arrange repairs based on severity to reduce the possibility of an attack.

Take the software system used by the host and classify the importance of the system based on use frequency, scope and environment created, and generate corresponding control measures through classification, and plan to introduce a new host to maintain system reliability in the formal environment and system of an importance level of medium or above.

No infringement of customer privacy or complaint due to loss of customer data occurred in 2021.

Reduction of Information Security Risks

To maintain overall information security and reinforce security management for all information assets, TTY has one information officer and professional information personnel responsible for the establishment of internal information security policies, planning and execution of information security policies and reporting on information governance to the Board of Directors periodically. The audit office is the unit responsible for information security supervisory, while the audit officer and professional audit personnel are responsible for the implementation of internal information security. In case of any discrepancies, the audit office will ask the audited units to propose an improvement plan and actions and trace periodically to reduce the risk of internal information security breaches. In 2021, no complaints were submitted due to an infringement of customer privacy or loss of customer information.

TTY identifies various risks and implements control measures as appropriate through the responsibilities, and risk assessment methods and steps to reduce potential threats to information security. The Risk Assessment and Handling Procedures were established to keep information assets and network security within the scope of the information security management system. TTY shall execute system risk evaluations at least once every year to detect potential issues early, implement corresponding actions, and submit the annual information security report to the Board of Directors for review.

To reinforce secret data management, TTY implements internal and external information safety audits periodically:

- **Internal audit:**

In addition to a daily information security control audit, the audit office also executes an annual audit covering information security items based on the Regulations Governing the Establishment of Internal Control Systems by Public Companies.

According to TIPS, the audit team attends relevant trainings periodically to implement all-unit audits covering confidential documents and the management representative holds a management review meeting to review discrepancies and identify improvements.

- **External audit:**

Designate the Institute for Information Industry to conduct an audit of TTY's intellectual property management regulations every two years to ensure TTY's operational procedure is satisfactory to TIPS.

Designate an external consulting company to inventory trade secrets and optimize the internal management system to ensure TTY's information security management is satisfactory to industrial standards and there are no security concerns.

Information Security Risk Management Framework

Information Security Protection Measures

Information Security Risks Assessment and Management

Internal, External Information Security Audit

To correspond with new types of business working models due to the Covid-19 breakout worldwide, TTY has prepared overall planning from three major aspects: computer room security, external connection access and internal network control, detailed as follows:

1. **Computer room security:**

For security when accessing the host in the computer room and file servers, TTY established an ultra-host integration structure and professional file service resolution in 2021 to establish real time, flexible and a complete backup system corresponding with potential information security risks derived from remote working, accelerating system recovery time to reduce the possibility of operational disruption.

2. **External connection access:**

To avoid breaches of accounts and passwords when using VPN services, TTY activated multiple-factor verification to reinforce personnel identification and verification to improve online access security in November 2021.

3. **Internal network control:**

According to a security report of domestic information security institutions, 80% of invasions and threats derive from improper use of the intranet. TTY introduced its famous intranet security monitoring product that effectively screens the terminal connected to the intranet in October 2021 to avoid mail viruses and ensure company network security.



04

Environmental

- Environmental Symbiosis
- Energy Management
- Air Pollution Control
- Waste Management
- Toxic Substances Management

Key Performance

- Lioudu factory, Chungli factory had reduced **123,415.517 kWh** of electricity saving and **61.95 tonCO₂e** via 7 electricity saving measures.
- The actual chemical oxygen demand (COD) emission in the water quality of Lioudu factory was **8 times** lower than sewer connection standards.
- The actual quantity of suspended solids (SS) discharged in the water quality of Lioudu factory was **190 times** lower than sewer connection standards.
- The actual chemical oxygen demand (COD) emissions in the water quality of Chungli factory was **35 times** lower than sewer connection standards.
- The actual quantity of suspended solids (SS) discharged in the water quality of Chungli factory was **90 times** lower than sewer connection standards.
- Chungli factory, Lioudu factory achieved **100%** of weekly and monthly waste clearance contractors follow up audit.

I Environmental Symbiosis

Management Guidelines

Being a pharmaceutical company enhancing the quality of human lives, TTY is aware that human being's health greatly relies on good environment, including clean air, water and proper handling of wastes. Therefore, TTY holds "environmental sustainability is the first priority of all operations" as guidelines for environmental protection management. All suppliers are requested to follow TTY supplier management policies and continuously optimize process, saving energy to reduce the impact of climate change.

Greenhouse gas is the main reason causing global warming and climate change. TTY expects to introduce ISO14064-1 greenhouse inventory standards in 2022 and passes the certification before October 31 as basis of our management guidelines as well as regulations for all energy saving and carbon reduction measures to improve energy efficiency of all operational locations.

Environmental Goals

In compliance with the relevant environmental law and international guidelines, TTY takes the initiative when it comes to environmental conservation and has worked with every possibility to minimize ecological impact in the manufacturing process. In 2021, there was no significant fine for the violation of related laws*; besides, all activities and business including operation and interior management of all TTY locations and sites should be conducted to fulfill sustainable environmental goals.

Dedicated environmental management unit or personnel are to designate, facilitate and maintain environmental management systems and action plans such as proper water consumption, recycling, and related measures to enhance water usage efficiency. Meanwhile, monitor the climate changes' impact on operational activities, policies and strategies were promoted to decrease carbon footprints and GHG emissions. For all employees, periodical environmental education focuses on the idea of being a sustainable consumer and going for the following five goals to build a good corporate constitution in environmental friendliness.

Five Major Environmental Goals of TTY



Note:

Material penalty refers to fine of one single violation over one million or fine less than one million but at least three times the minimum statutory limit.

I Energy Management

TTY is the leading company of domestic biotechnology industry. To achieve the commitments "sustainable development" and "responsible for any resources used", TTY expects to introduce ISO14064-1 greenhouse inventory standards in 2022 and passes the certification before October 31. Meanwhile, the aggressive electricity saving and carbon reduction plan must be completed as well as set physical goal "electricity saving 1.2% in 2022 as comparing to 2021" by October 15. In the future, TTY will

continuously evaluates the procurement or adding green energy and energy saving facilities, establish green supplier management system and join climate initiative organization or alliance. It is expected that TTY may carry out energy management and environmental protection management policies via physical actions in term of energy saving and carbon reduction and seeking for alternative energies.

In 2021, 2 major manufacturing sites Lioudu factory and Chungli factory had reduced 123,415.517 kWh of electricity saving and 61.95 tonCO₂e via 7 electricity saving measures. It is expected to implement 4 electricity saving measures in 2022, which may decrease 585,550 kWh of power and reduced 293.96 tonCO₂e as comparing to 2020.

Statistics of Energy Consumption

With continuous effects of COVID-19, the slightly reduced domestic and overseas orders of TTY and 7 electricity saving measures implemented in Lioudu and Chungli factories effectively reduced the energy and greenhouse emission intensities. Compared to 2020, a total 2,467,677 million joules of energy consumption and 794 tonCO₂e were reduced

in 2021. In 2021, Lioudu factory purchased 8,299,200 kWh of power and consumed natural gas 326,087m³; Chungli factory purchased 5,596,000 kWh of power and consumed natural gas 165,678m³. These two major manufacturing sites consumed total 66,490,946 million joules and GHG emission 7,900 tonCO₂e. In the future, TTY shall continue to work on the reduction of energy consumption and GHG emissions through the better practice of electricity-saving measures and higher energy efficacy.

TTY Energy Consumption for the Recent Five Years (Unit: MJ)

	Energy Type	2017	2018	2019	2020	2021
Lioudu Factory	Category I	10,197,096	9,587,246	10,323,547	11,411,672	10,920,001
	Category II	28,809,360	28,142,064	28,156,536	31,368,240	29,877,120
Chungli Factory	Category I	7,208,292	5,611,316	7,094,433	5,574,111	5,548,225
	Category II	18,743,760	19,088,640	20,711,880	20,604,600	20,145,600
Total		64,958,508	62,429,266	66,286,396	68,958,623	66,490,946

Note

1. In January 2018, natural gas boilers have swapped the consumption of low sulfur fuel oil (LSFO) and reduce CO₂ emission.
2. Category I is the emission of natural gas boilers. Calculation: natural gas 1 m³ = 8000 kcal = 33,488,000 Joule
3. Category II is the emissions from purchased electricity., Calculation: purchased electricity 1 kWh = 3,600,000 Joule

TTY Energy Emission Intensity for The Recent Five Years (Unit: MJ / Revenue Thousand NTD)

Year	2017	2018	2019	2020	2021
Energy Consumption (Unit: MJ)	64,958,508	62,429,266	66,286,396	68,958,623	66,490,946
Revenue (Unit: Thousand NTD)	4,078,760	4,036,196	4,466,308	4,221,836	4,535,610
Energy Emission Intensity (Unit: MJ / Revenue Thousand NTD)	15.9	15.5	14.8	16.3	14.7

Note:

1. The scope of energy consumption statistics is Lioudu and Chungli factories
2. The revenue is consolidated sales revenue of the Group

Statistic on GHG Emission

TTY GHG Emission for Recent 5 Years (Unit: tonCO₂e)

	Energy Type	2017	2018	2019	2020	2021
Lioudu Factory	Category I	756	538	579	640	613
	Category II	4,225	4,128	4,169	4,827	4,166
Chungli Factory	Category I	534	315	398	313	312
	Category II	2,749	2,800	3,067	2,913	2,809
Total		8,264	7,780	8,213	8,693	7,900

Note:

1. The emission from Lioudu and Chungli factories is within Category I & II. Category III is not included.
2. In January 2018, the use of natural gas boilers replaced the consumption of low sulfur fuel oil (LSFO). The natural gas boilers dominate the emissions source of Category I. The types of GHG generated from burning natural gas, including CO₂, CH₄, N₂O are all included in calculation.
3. Category II calculates the emissions from purchased electricity, 0.554 kgCO₂e/kWh in 2017; 0.533 kgCO₂e/kWh in 2018; 0.509 kgCO₂e/kWh in 2019; 0.502 kgCO₂e/kWh in 2020, the one in 2021 was not yet declared during report compilation and therefore the 2020 was used 0.502 kgCO₂e/kWh for calculation.

TTY GHG Emission Intensity for the Recent Five Years (Unit: tonCO₂e/ Revenue Million NTD)

Year	2017	2018	2019	2020	2021
GHG Emission (Unit: tonCO ₂ e)	8,264	7,780	8,213	8,693	7,900
Revenue (Unit: Revenue Million NTD)	4,078	4,036	4,466	4,221	4,535
Energy Emission Intensity (tonCO ₂ e/ Revenue Million NTD)	2.03	1.93	1.84	2.06	1.74

Notes:

1. The scope of GHG emission statistics is data of category 1 and category 2 within Lioudu and Chungli factories
2. The revenue is consolidated sales revenue of the Group

Results of Electricity Reduction

In 2021, two major manufacturing sites Lioudu factory and

Chungli factory had reduced 123,415.517 kWh of electricity saving and 61.95 tonCO₂e via 7 electricity saving measures. It is expected to implement 4 electricity saving measures in 2022, which may decrease 585,550 kWh of power and reduced 293.96 tonCO₂e as comparing to 2020.

2021 TTY Electricity Saving Actions and Results at the Lioudu & Chungli Factories

	Lioudu Factory	Chungli Factory
Electricity Saving Plans	Continued the replacement of lamps of office Building A and Building C with LED lamps continuously. In addition, installed automatic dosing machine at cooling tower of oral drug in Building C to control the water quality and pipeline structure for increasing cooling efficiency of chiller. → Total 65,568.85 kWh of power and 32.92 tonCO ₂ e GHG emission were reduced in 2021	Chungli factory installed converter at chiller, cooling pump in plant C1 and gradually replaced the lamp from T8 with LED to reduce the energy consumption. → Total 57,846.667 kWh of power and 29.04 tonCO ₂ e GHG emission were reduced in 2021
Electricity Saving Actions	<ol style="list-style-type: none"> Changed Office Bld. A to LED lightings. 16,580 kWh saved 59,688 MJ energy saved 8.32 tonCO₂e emission reduced Bld. C changed to LED lightings. 1,531.25 kWh saved 5,512.5 MJ energy saved 0.77 tonCO₂e emission reduced Bld. C (Oral Drug) installed 900RT cooling tower. 47,457.6 kWh saved 170,847.3 MJ energy saved 23.82 tonCO₂e emission reduced 	<ol style="list-style-type: none"> Converter add to air-con chiller pumps of Plant C1 to lower operation frequency to 50HZ with 8-month recognition. 36,880 kWh saved 132,768 MJ energy saved 18.51 tonCO₂e emission reduced Change T8 lightings in air-con rooms C2 & B1 to LED 20W lamps with 8-month recognition. 1,830 kWh saved 6,588 MJ energy saved 0.92 tonCO₂e emission reduced 51 T8-lighting in the B1 cleanroom switch to LED with 1-month recognition. 696.667 kWh saved 2,508 MJ energy saved 0.35 tonCO₂e emission reduced Converter add to air-con chiller pumps of Plant C1 to lower operation frequency to 50HZ with 4-month recognition. 18,440 kWh saved 66,384 MJ energy saved 9.26 tonCO₂e emission reduced

Note:

- Calculation: purchased electricity 1 kWh =3,600,000 Joule
- The 2021 discharge coefficient was yet to be published, hence, the 2020 discharge coefficient published by the Bureau of Energy in September 27, 2021 was adopted as 0.502 kgCO₂e/kWh in this report.

2022 TTY Electricity Saving Plans in Lioudu & Chungli Factories

	Lioudu Factory	Chungli Factory
Electricity Saving Plans	Lioudu factory expects to improve and enhance the efficiency of cooling tower motor in Plant C and use energy saving fan to reach about 20% energy saving effects. → It is expected to save 14,892 kWh of power and 7.48 tonCO ₂ e GHG emission in 2022.	Chungli factory expects to replace 150RT and 120RT spiral chiller used in Plant B over 20 years with magnetic bearing chiller, and the power consumption will be reduced from 167.2KW to 113KW. Meanwhile, the lamp replacement and installment of converters on chiller, cooling water pumps were conducted aiming at Plant C1 to adjust water volume as appropriate, which expected to reduce about 5% of operational power. → It is expected to save 570,658 kWh of power and 286.48 tonCO ₂ e GHG emission in 2022.
Electricity Saving Actions	<ol style="list-style-type: none"> Improve the air-con chiller tower efficiency in Plant C. 14,892 kWh to be saved 53,611.2 MJ energy to be saved 7.48 tonCO₂e emission to be reduced 	<ol style="list-style-type: none"> Replace spiral chiller used in Plant B with magnetic bearing chiller. 474,792 kWh to be saved 1,709,251 MJ energy to be saved 238.35 tonCO₂e emission to be reduced T8-lightings in the Plant C1 switch to LED. 9,142 kWh to be saved 32,911 MJ energy to be saved 4.59 tonCO₂e emission to be reduced Converters add to chiller, cooling-water pumps of Plant C1. 86,724 kWh to be saved 312,206 MJ energy to be saved 43.54 tonCO₂e emission to be reduced

Note:

- Calculation: purchased electricity 1 kWh =3,600,000 Joule
- The 2021 discharge coefficient was yet to be published, hence, the 2020 discharge coefficient published by the Bureau of Energy in September 27, 2021 was adopted as 0.502 kgCO₂e/kWh in this report.



Air Pollution Control

TTY presents no effort on the air pollution issue. In 2020, our two main manufacturing sites adopted source classification to minimize air pollutants during the manufacturing process. Treatment technology at multiple sections has helped elevate the processing performance of the terminal preventive facility. The annual inspection on air pollutant

discharge as well as implementation meant that the maintenance and training were put in place to make certain that pollutants going into the air fall within the criteria of the "Stationary Pollution Source Air Pollutant Emissions Standards" with the pollutant concentration superior to existing regulation. In 2021, the two manufacturing sites Lioudu and Chungli factories of TTY discharged particle pollutants PM 10.82kg; SO₂ 39.26kg; NO_x 1,109.53kg in total.

Material Gas Emission of Lioudu and Chungli Factories in 2021

	PM(mg/Nm ³)	SO ₂ (ppm)	NO _x (ppm)
Total Emission of Lioudu Factory (unit: kg)	8.65	32.97	999.97
Total Emission of Chungli Factory (unit: kg)	2.17	6.19	109.56

Note: The data of verification report designated by the factories is adopted for the calculation of emission, which is emission per hour x operation hours of boiler per day x working days per year.

Lioudu Factory

2021 TTY Lioudu Factory Stationary Pollution Source Measure Results

	PM(mg/Nm ³)	SO ₂ (ppm)	NO _x (ppm)
Stationary Pollution Source Air Pollutant Emissions Standards	30 mg/Nm ³	50 ppm	100 ppm
Gas boiler (P001)	1.3 mg/Nm ³	ND	64.5 ppm
Gas boiler (P001)	0.7 mg/Nm ³	ND	62.9 ppm
Gas boiler (P003)	0.6 mg/Nm ³	1.6 ppm	61.7 ppm

Chungli Factory

2021 TTY Chungli Factory Stationary Pollution Source Measure Results

	PM(mg/Nm ³)	SO ₂ (ppm)	NO _x (ppm)
Stationary Pollution Source Air Pollutant Emissions Standards	30 mg/Nm ³	50 ppm	100 ppm
Gas boiler (P001)	2.3 mg/Nm ³	ND	26.4 ppm
Gas boiler (P001)	ND	0.9 ppm	22.8 ppm

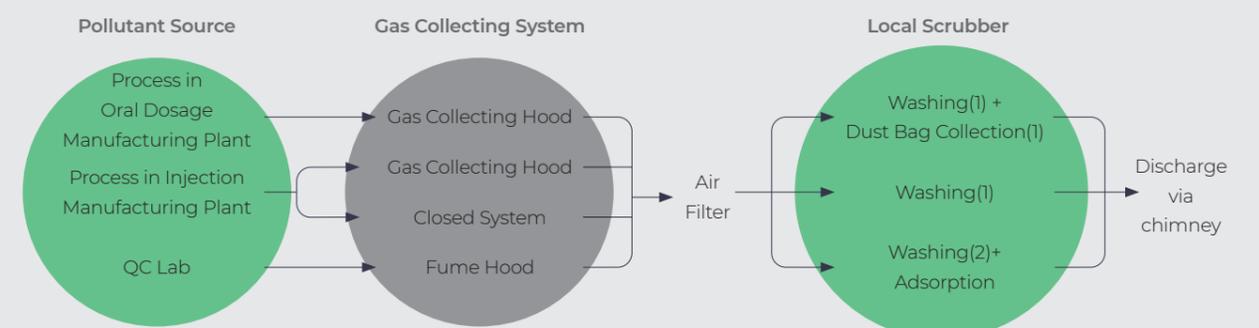
Notes:

1. ND (Not detected), i.e. extremely low content, lower than minimum detection limit (MDL) possibly detected by the machine.
2. The MDL of SO₂ in Lioudu factory is 1.5ppm ; MDL of SO₂ in Chungli factory is 0.9ppm; the MDL of PM in Chungli factory is 0.3mg/Nm³
3. No Persistent Organic Pollutant (POP), Volatile Organic Pollutant (VOP) and Hazardous Air Pollutant (HAP) is discharged from Lioudu and Chungli factories.

Taking control from the beginning works best to minimize pollutants. In TTY, the "effective minimization on emission sources and enhanced treatment at the terminal preventive facility" is our current practice. Starting at the source in phase I, the pollutants are classified based on their nature such as dust, organic, solvents, and odors. Then the local

scrubber is treated through washing, then activated carbon absorbers or bag-type dust collectors process the remaining exhaust before they are released into the air. The pollutant concentration is now in accordance with the relevant regulations. The sectional treatment is a perfect, all-direction solution to making air emission treatment more effective.

Air Pollutant Control Process



I Water Management



Corresponding GRI index

GRI 303-4 Water Discharge Volume
GRI 306-5 Direct Disposition of Wastes

Policies and Commitment

In order moderate the impact caused by process to environment, TTY assures that the quality of effluent not only meet requirements of relevant laws and regulations, but also better than sewer connection standards through installation of pre-sewage treatment facilities.

Short-term Goals

The monitoring results of effluent are all better than sewer connection standards; audit waste clearance contractors weekly and monthly assuring no violation of "Waste Clearance Act" or major pollution event and without causing impact to local environment.

Mid-term Goals

Aggressively cultivate environmental safety dedicated personnel, organize environmental sustainability propaganda and deepen consciousness of employees to environmental protection.

Evaluate the adoption of environmental packing materials, increase the percentage of equipment and product with environmental logo to reduce the wastes output.

Promote wastes recycling to 3 tons in total, carry out toxicity management and recycling mechanism.

Organize 2 environmental sustainability (water resources) activities.

Long-term Goals

Implement water resources recycling, procedure improvement to reduce demand of water resources.

Paper free office operation.

Establish green supplier management system, incorporated with supplier plan for environmental action.

Goals and Targets

Establish systematic water resources management plan, including creation of recycling system and improvement of cooling procedures.

Arrange dedicated personnel for handling waste professional technology, submit waste clearance plan, install GPS system on all clearance vehicles of waste contractors, trace and audit contractor handling status every month.

Responsibilities and Resources

The COD value contained in effluent of Lioudu factory is 72.94mg/L, which is 8 times lower than local statutory standard 600 mg/L.

The SS contained in effluent of Lioudu factory is 3.15mg/L, which is 190 times lower than local statutory standard 600 mg/L.

Assessment Mechanism and Results

The COD contained in effluent of Chungli factory is 13.5mg/L, which is 35 times lower than local standards 480 mg/L.

The SS contained in effluent of Chungli factory is 3.55 mg/L, which is 90 times lower than local standards 320 mg/L.

The total waste is about 45.02 tons. Among them, hazardous waste 25.59 tons, non-hazardous waste 19.43 tons are all delivered to qualified clearance contractors for off-site treatment.

The audit rates of Chungli and Lioudu factories achieved 100% in weekly and monthly basis.

No violation of "Waste Clearance Act" and relevant laws.

Reinforced Water Consumption Strategy

According to "Aqueduct water risk atlas" of World Resources Institute, the water resources risks in Taiwan are all in low-medium level (1-2), which is not the water resources pressure area. All water sources of major operation sites Lioudu, Chungli factories and Neihu Pharmaceutical Development Center (Neihu factory + Pharmaceutical Development Division) of TTY are 100% obtained from local water plants without using underground water affecting water source. The quality of water discharged is free of high density chemicals and the low concentration wastewater is discharged to sewage treatment plant in local industrial zone for final process after preliminary treatment inside the factories, and it will not be discharged to bearing water unless it is satisfactory to national effluent standards.

In 2021, the water intake of TTY Lioudu, Chungli factories and

Neihu Pharmaceutical Development Center was about 141.5 million liters, sewage discharge about 113.207 million liters. Since the CDMO cases of Lioudu factory were increased, the sewage discharge was slightly increased 10.492 million liters as comparing to previous year. The sewage discharged by TTY is no unscheduled event of leakage, overflow. All sewage discharged complies with the "Water Pollution Prevention Act", local governance laws and sewage treatment plant "incoming water quality standards" in industrial zone. The COD and SS in wastewater discharged by TTY Lioudu and Chungli factories are far lower than local sewer connection standards without impact to water nature and biological diversity. In the future, the overall water saving policy will further expand to systematic water management, inclusive of the circulation system, recycle and reuse of chilling tower water; chilling procedure upgrades, better heat recovery rate, and lower water demand. The importance of saving water is disseminated across employees up to the managerial level for fundamental action.

Statistics on Water Consumption

TTY Water Discharge and Water Quality Monitoring Results in the Recent Five Years (Unit: Million liter/Revenue Thousand NTD)

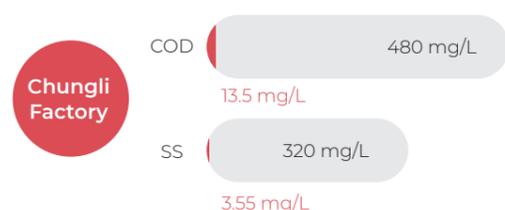
	Water Discharge	Unit	Local Sewer Connection Standards	2017	2018	2019	2020	2021	
				Million liter					
Lioudu Factory				82,056	79,518	68,292	76,961	91,323	
	COD	mg/L	600	59.86	68.34	73.42	22.68	72.94	
	SS	mg/L	600	10.24	12.69	16.80	6.31	3.15	
Chungli Factory				25,151	24,165	37,739	23,811	20,086	
	COD	mg/L	480	91.75	87.94	77.36	66.58	13.5	
	SS	mg/L	320	12.21	5.65	3.53	4.53	3.55	
PDC			N/A	1,571	1,696	1,905	1,943	1,798	
	Water Discharge	Million liter							
Total of Water Discharge				Million liter	108,778	105,379	107,936	102,715	113,207
Revenue				Thousand NTD	4,078,760	4,036,196	4,466,308	4,221,836	4,535,610
Sewage Discharge Intensity				Million liter /Revenue Thousands NTD	0.0000267	0.0000261	0.0000242	0.0000243	0.0000250

The Comparison of COD, SS Contained in Effluent with Local Sewer Connection Standards



The actual COD (72.9 mg/L) in wastewater discharged in 2021 was 8 times below the local sewer connection standards (600 mg/L).

The actual SS content (3.15 mg/L) in wastewater discharged in 2021 was 190 times below the local sewer connection standards (600 mg/L).



The actual COD (13.5 mg/L) in wastewater discharged in 2021 was 35 times below the local sewer connection standards (480 mg/L).

The actual SS content (3.55 mg/L) in wastewater discharged in 2021 was 90 times below the local sewer connection standards (320 mg/L).

I Waste Management

To actually seize the waste flow of factories and reinforce supplier audit, in addition to order check every week and clearance vehicle GPS abnormality tracing, TTY also actually follows the supplier handling conditions every month and conducts on-site audit every year to confirm the output and flow after processing. Moreover, TTY implements irregular vehicle following audit to confirm that waste clearance and handling contractors do business pursuant to laws. In 2021, the total wastes of TTY in Lioudu, Chungli and Neihu factories were about 45.02 tons. Among them, hazardous waste 25.59 tons, non-hazardous waste 19.43 tons are all delivered to qualified clearance contractors for off-site treatment. The audit rates of Chungli and Lioudu factories achieved 100% in weekly and monthly basis without violation of “Waste Clearance Act” and relevant laws or causing impact to local environment. Meanwhile, the Neihu factory expects to complete at least one on-site audit and irregular vehicle following audit in 2022.

To fulfill the sustainable government goals of friendly environment, in addition to arrange professional technology personnel in accordance with article 28-2 of the “Waste Clearance Act”, TTY also aggressively train dedicated personnel. In 2021, TTY had total five dedicated waste professional personnel for management (two in Lioudu factory, two in Chungli factory and one in Neihu factory) and submitted waste clearance plan pursuant to laws for operation against the approval of agency designated by municipality, county (city) competent authority or central competent authority. TTY also signs the contracts with qualified clearance and processing institution to clear and process business wastes and daily garbage properly pursuant to laws. In addition, the regulations for management of wastes clearance and tracing are based on Article 14-2 of “Permit Management Regulations for Public and Private Waste Clearance and Disposal Organizations”. All clearance machine and device of waste contractors need to be reported for approval. Meanwhile, all vehicles of delivering TTY business wastes must have GPS and the vehicle trace return rate must reach 90% to facilitate real-time monitoring of competent authority and the company.

TTY Wastes Categories by Groups in Recent 5 Years (unit: tones)

年度	2017	2018	2019	2020	2021
Hazardous Industrial Waste	12.64	19.08	15.83	25.18	25.59
Non-hazardous Industrial Wastes	10.92	13.04	10.13	13.95	19.43
Total Wastes	23.56	32.12	25.96	39.13	45.02

2021 Disposal Contractors Audit Results

Site	Weekly Articulation Rate	Monthly Articulation Rate	No. of Physical Audit	No. of Unscheduled Follow-ups
Chungli Factory	100%	100%	1	1
Lioudu Factory	100%	100%	2	3
Neihu Factory	100%	100%	0	0

The Wastes Directly Disposed by TTY According to Disposition Operation in Recent 5 Years (unit: tons)

Disposition Operation \ Year	2017	2018	2019	2020	2021
Hazardous Waste					
Incineration (including energy recycling)	-	-	-	-	-
Incineration (excluding energy recycling)	10.91	17.05	13.75	22.09	22.23
Landfilling	-	-	-	-	-
Other Disposition Operation (physical treatment)	1.73	2.03	2.08	3.09	3.36
Total	12.64	19.08	15.83	25.18	25.59
Non-Hazardous Waste					
Incineration (including energy recycling)	-	-	-	-	-
Incineration (excluding energy recycling)	0.87	0.79	1.01	No clearance	4.27
Landfilling	-	-	-	-	-
Other disposition Operation (physical treatment)	10.05	12.25	9.12	13.95	15.16
Total	10.92	13.04	10.13	13.95	19.43

Note: to correspond with the revision of GRI special topic standard “GRI 306 wastes” and changes in measurement, the statistical information regarding the wastes in previous report is restated.

I Toxic Substances Management

Management Policy

According to "Regulations of Toxicity and Concerned Chemical Substances Management", the toxicity chemicals are classified into four categories; categories 1-3 are not prone to decompose, chronic toxicity and acute toxicity respectively, and category 4 is chemicals with endocrine disruptor properties, environmental pollutants, or chemicals which endanger human health. There are currently 344

substances under categories 1 to 4, and an additional three are listed under "Concerned Chemical Substance".

Those that manufacture, import, export, sell, transport, use, or store categories 1, 2, or 3 toxic chemical substances must apply for a permit, registration, or approval documents; the disposal of such substances should have a report, an attached disposal declaration and detail by batch to the special municipality, county or city competent authority for registration according to regulations, and may only begin handling after doing so. The handling of category 4 toxic chemical substances shall be performed upon permission of the competent authorities in compliance with authorized items.

Toxic and Concerned Chemical Substances Category

Classification	Category 1 (Not prone to decompose)	Category 2 (Chronic Toxicity)	Category 3 (Acute Toxicity)	Category 4	Concerned Chemical Substance
Description	Not prone to decomposing in the environment or pollute the environment or endanger human health due to bioaccumulation, bioconcentration, or biotransformation.	Cause tumors, infertility, teratogenesis, genetic mutations, or other chronic diseases.	Endanger human health or the lives of biological organisms immediately upon exposure.	Chemicals have endocrine disruptor properties, or environmental pollutant endanger human health.	Chemical substances other than toxic chemical matters and are based on their specification or local and international consumer expenditure subjects.

Toxic and Concerned Chemical Substances Used by TTY

Toxicity Classification	Chungli Factory	Lioudu Factory	Neihu Factory	Translational Research Center
Categories 1~3	16	19	14	1
Category 4	12	16	25	1

Control Measures

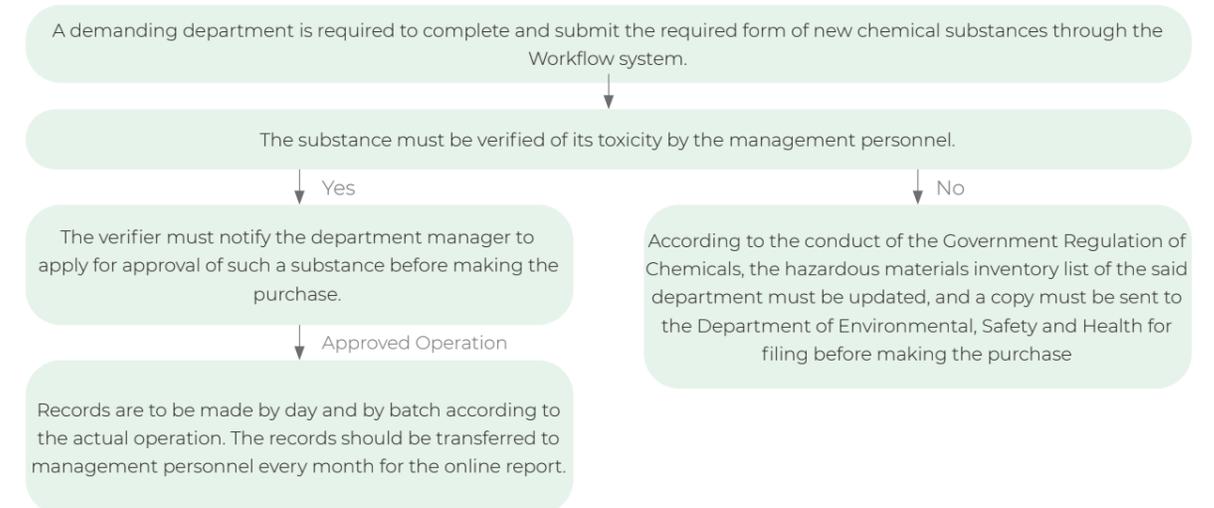
To create safer working environment, TTY still adopts management better than regulations by educating relevant managerial personnel, assisting them to acquire toxicity professional management personnel certificate continuously even the toxicity and concerned chemical substance operation volume in all factories are lower than statutory standards; there are a total eight colleagues in Lioudu and Chungli factories that have acquired a certificate of toxicity professional management personnel (six in Lioudu factory, two in Chungli factory), Neihu factory and the Translational Research Center also have a person in charge of toxicity control for chemicals in accordance with the toxicity management flow of the company.

All chemicals must be determined by internal toxicity management personnel if they are toxicities controlled by the government before the purchase. If so, the application for permit of toxicity, registration documents or approval

documents shall be filed with local environmental bureau. Besides, the usage record must be filled after use every time and the managerial personnel shall report the use volume online monthly.

Before the usage of toxic chemical substances, TTY will apply for the required documentation and prepare an SDS and Basic Disaster Prevention Data Sheet. The containers for such substances are labeled with cautionary warning signs. In addition, TTY has joined the "National Disasters Prevention and Protection Commission", an organization that reacts to disasters with agreed-upon protocols for incidents that occur during the use or storage of toxic chemical substances. Any incidents should be reported within 30 minutes, and contingency teams must reach the location within 2 hours. Members who handle toxic chemical substances in the area (who can) must be allowed to help one another in minimizing the impact of such incidents.

TTY Toxicity Management Flow



TTY Toxicity Management Improvement Measures

In January 2021, the quality control and environmental safety personnel failed to apply for approval documents of category 4 toxicity in accordance operational procedures and was imposed by the fine NTD\$60,000 due to violation of "Toxicity and Concerned Chemical Management Act". Aiming at this, TTY has paid up the fine and acquired permit for the use of relevant toxicities on March 24. Moreover, TTY has reviewed and improved current operation procedures and established standard operational flow for recording and tracing as well. Aiming at the abnormality, the chemical substance management regulations has been revised and the form "application for non-approved controlled toxicity chemical substances" is added to prevent occurrence of similar event again.



05

Social

- Social Inclusion
- Labor-employer Relationship Management
- Talent Cultivation
- Occupational Safety and Health
- Social Participation



Key Performance

- 55 new employees joined in 2021, expanding the total to **542**.
- 39.68%** of managerial positions are filled by females, demonstrating our commitment to gender equality in the workplace.
- In 2021, the average salary of entry-level position was more than **1.5 times** higher than the local minimum salary.
- In 2021, the average training time of each employee was **6.74 hours**.
- Free flu vaccines were offered to **690 employees** and their relatives in 2021.
- Consecutive 14 years since 2008, a total of **363 interns** benefited from the Summer Internship Program (SIP).

I Social Inclusion

Human Resource Structure

More Job Opportunities

We believe that employees are one of our most valuable assets. We are committed to providing a friendly working environment that allows everyone to express his/her talent. We have been recognized as one of the "Best Companies to Work for in Asia" by HR Asia in the Taiwan area with excellent scores in company culture and organizational leadership, employee recognition and satisfaction, and organizational atmosphere. We have also been recognized for our outstanding performances in the categories, outlining on the company "encourages constant self-enhancement and learning", and " encourages cross-departmental collaboration and positions rotation".

By the end of 2021, the 542 full-time employees in TTY were

categorized by age as follows: 13.47% of employees are under 30 years old, 69.56% are 31-50, and 16.97% are 51 years old and above. Furthermore, 55 new employees accounted for 10.15% of the entire staff. It is important to note that the 100% local employment rate demonstrates our priority for the local workforce. Moreover, 27 people were hired on regular contracts in positions such as consultants and research nurses, and 32 people were hired as temporary workers in response to production needs. The full-time employees excluded contractors nor temporary workers. Overall, the total number of employees represents a minor change compared to the previous reporting period.

In addition, an employee satisfaction survey was conducted for new employees who have reached 3 months' tenure. The scoring method included 5 major items: environmental adaptation, interaction, work adaptation, life adjustment and counselor care (20 points per item). The system sent the questionnaire with a notice to fill it in within six months. By the end of 2021, a total of 38 new recruits had been surveyed, with a satisfaction rate of 92%.

TTY 2021 No. & Percentage of New and Departed Employees

	Age	Male		Female		Total	
		Number	%	Number	%	Number	%
New Employees	≤The 30s	8	28.57%	7	15.56%	15	20.55%
	31s-50s	15	8.33%	22	11.17%	37	9.81%
	≥51s	1	2.44%	2	3.92%	3	3.26%
	Subtotal	24	9.64%	31	10.58%	55	10.15%
Departed Employees	≤The 30s	2	7.14%	8	17.78%	9	13.7%
	31s-50s	14	7.78%	21	10.66%	36	9.28%
	≥51s	5	12.20%	4	7.84%	9	9.78%
	Subtotal	21	8.43%	33	11.26%	54	9.96%

Note:

1. New employee percentage = no. of the same gender in each age category/no. of employees in the category by the end of 2021.
2. Departed employee percentage = no. of the same gender in each age category/no. of employees in the category by the end of 2021.

Diversity and Equality in the Workplace

Diverse and inclusive talent recruitment is the engine of TTY's continuous innovation. TTY occupies a superior position knowing that our employees represent a range of diversity, be it in relation to value, belief, race, age, gender, experience or background. Everyone is given the opportunity to express his/her talent in the company. Consequently, we grow together, explore career opportunities, and live an enriched life. TTY strives to create an inclusive and non-discriminatory workplace that accommodates all employees, regardless of gender. Inclusive mindsets are incorporated into our Human Resource Department to enable employees to fulfill their

duties and showcase their experiences and perspectives. As we operate in the high-tech industry, pharmaceutical work relies heavily on expertise and specific knowledge. We strive to hire an equal number of female and male employees all year round. In 2021, 249 male employees accounted for 45.94% of the entire workforce, while 293 female employees represented the remaining 54.06%. Our female employees have accounted for more than 50% of the workforce for recent 5 years. In addition, to promote equality in the employment environment, 5 aborigines and 4 people with physical and mental disabilities were employed in 2021. The proportion of vulnerable groups of all employees is 1.66%.

TTY 2021 Employee Structure

	Male		Female		Total		
	Number	%	Number	%	Number	%	
Age	≤ 30s	28	5.17%	45	8.30%	73	13.47%
	31s-50s	180	33.21%	197	36.35%	377	69.56%
	≥ 51s	41	7.56%	51	9.41%	92	16.97%
	Subtotal	249	45.94%	293	54.06%	542	100%
Job Category	Management and Administration	26	4.80%	46	8.49%	72	13.28%
	Sales and Marketing	64	11.81%	72	13.28%	136	25.09%
	R&D	46	8.49%	53	9.78%	99	18.27%
	Factory	113	20.85%	122	22.51%	235	43.36%
	Subtotal	249	45.94%	293	54.06%	542	100%
Type of Labor and Employment	Full-time	249	45.94%	293	54.06%	542	90.18%
	Contracted	13	48.15%	14	51.85%	27	4.49%
	Dispatched	9	28.13%	23	71.87%	32	5.32%
	Subtotal	271	45.09%	330	54.91%	601	100%

Employment Protection Rights

Protecting Employment Rights

To provide a fair and safe workplace, our operations comply with internationally recognized human rights standards, including the ILO Declaration of Fundamental Principles and Rights at Work, the Universal Declaration of Human Rights, UNGC 10 Principles, and UN Guiding Principles on Business and Human Rights. The stipulation of the TTY human rights policy follows local labor regulations to treat and respect every stakeholder equally. On December 24, 2021, one feedback was received from an employee and although the investigation was completed in January 2022 by the TTY Complaint Review Board, it urged the company to disseminate information on human rights to ensure that no such case occurs again in the future.

Ensure equal job opportunities by eliminating discrimination, implementing workplace diversity, and ensuring that employees are not subjected to any discrimination or unfair treatment based on gender, race, age, marital status, religion, or political position, etc.

In compliance with international human rights standards and local laws and regulations, the Company strives to protect the basic human rights of employees and to recognize and comply with these international human rights conventions. The Company must not violate human rights and must protect the legitimate rights and interests of its employees.

Health examinations and diverse activities are arranged for employees to help prevent potential health risks and assist colleagues with their physical and mental health and work-life balance. There was extensive interaction among co-workers through clubs participation, as well as child-care services within the Company to assist parents with childcare needs.

Forced labor or child labor that does not meet the minimum legal age is prohibited. No forced, compulsory labor or child labor is permitted at the Company in 2021.

Ensure a safe and healthy working environment under the guidance of relevant laws and regulations; strong occupational safety mechanisms, and health education and training to ensure workplace and personal safety protection. Establish an occupational safety and health team, labor meetings, and complaint handling channels to continue improving the safety and health conditions of the working environment. This reduces the risk of occupational injuries, ensures the physical and mental health of employees, and ensures mutual rights are observed.

Through the Supplier Sustainability Management Assessment, which reviews suppliers' performance in relation to deliver time, quality, customer complaints, supportiveness and sustainability, it was verified that in 2021, no forced or compulsory labor or other material risks were committed by suppliers.

Harmonizing Labor-employer Relations

The representatives of TTY labor meetings are composed of senior executives and colleagues from respective departments. Regular meetings are held every 3 months to discuss issues such as the revision of labor conditions. TTY complies with the Taiwan government's labor laws and regulations. No significant operational alterations that severely affected employee rights or resulted in large numbers of labor contract terminations were noted during the reporting period.

In compliance with Article 16 of the Labor Standards Act and the Act for Worker Protection of Mass Redundancy, notice is required prior to redundancy when upcoming major

operational alterations or changes in labor conditions may cause damage to the rights and interests of workers. At least 10 days' notice is required if a person is employed between 3 months and 1 year; 20 days' notice if employed between 1 and 3 years; and 30 days' notice if employed for 3 years or more. After receiving notice, a worker may ask for a leave of absence during the hours of work for the purpose of finding a new job. Such a leave of absence may not exceed two workdays per week and wages shall be paid during such a leave. For each terminated employee, TTY shall submit a report with arrangements for career guidance or vocational training needs. Severance pay will be issued in compliance with Article 11 of the Labor Standards Act.

I Labor-employer Relationship Management

Employee Benefits

Besides Labor Insurance and National Health Insurance coverage, our employees enjoy special leave, maternity leave, and parental leave as stipulated by current government regulations. Our benefits also comprise group accident insurance, travel leave, paid sick leave, year-end bonuses, regular health examinations, birthday, wedding and maternity cash-gifts, festive (Dragon Boat Festival/Mid-autumn Festival) cash or gifts, compassionate pay for hospitalization, funeral cash-assistance, disaster relief funds, subsidies for education (tuition subsidies and scholarships for employees' children), and travel subsidies. Our Guidelines for the TTY Biopharm Pension Plan follow local employment regulations and specify the retirement criteria and pension formula standards for calculations. Please refer to the company's annual report for employee retirement eligibility and pension benefits.

In addition, to cope with changes in weather in the cold winter every year, plus the dual threat of influenza in autumn and winter and Covid-19, TTY has, once again, introduced influenza vaccine distribution in coordination with the national epidemic prevention mechanism. To ensure the health and safety of all employees and their relatives within first degree of kinship, up to 4 people including the employee her/himself, we provided free influenza vaccines from October 7. In 2021, a total of 690 employees received an influenza vaccine. As a corporate that takes its corporate social responsibility seriously, TTY does not waiver in its efforts to maintain public health and support epidemic prevention, and build a safe and secure social protection network for employees and their families, and to create a prosperous society.

Ratio of the Average Salary of the Entry-level Personnel of TTY for Recent 3 years to the Local Minimum Salary (unit: NTD)

Year	Average Standard Salary of Entry-level Personnel/ Month		Average Standard Salary of Entry-level Personnel/ Minimum Local Salary	
	Male	Female	Male	Female
2019	37,179	35,644	1.61	1.54
2020	36,913	35,645	1.55	1.50
2021	37,807	36,262	1.58	1.51

Note:

- The local minimum salary in 2019 was NTD\$23,100/month. The local minimum salary in 2020 was NTD\$23,800/month. The local minimum salary in 2021 was NTD\$24,000/month.
- The difference in the average salary between male and female entry-level personnel is mainly due to the difference in work content and work attributes.

In response to the epidemic last year, TTY initiated an "emergency assistance application" this year, following the launch of the industry's first "employee shuttle" in 2020, to provide more comprehensive care for employees. To show our appreciation to colleagues for sticking to their posts during the Covid-19 epidemic, which enabled the stable operation and growth of the company and protected the basic needs of colleagues after they unfortunately contracted the disease, the company provided a special, comprehensive insurance for the protection of legal infectious diseases and vaccinations so they had another layer of security benefits. In addition, to ensure the health of colleagues, the company distributed an antigen self-test nasal of Covid-19 to all employees, so if anyone suspected they might have Covid-19, they could conduct rapid screening to confirm before risking returning to the office and help maintain a safe and healthy working environment for colleagues and their families. During the epidemic, we hope to provide high-quality care for employees and contribute to the society through our rigorous approach to the health and safety of our employees.

Salary Structure

Employees' contribution is closely related to the company's growth. Therefore, TTY strives to create a competitive salary based on the local basic wage, and sets the minimum internal monthly approved salary of NTD\$24,000 to meet current basic wage requirements. After considering the standard salary of TTY's entry-level personnel depending on job category, education, experience and other conditions, the ratio of the average salary of entry-level personnel to the basic salary is 1.51 times for women and 1.58 times for men. In addition, to eliminate gender discrimination and promote gender equality in the workplace, there is no gender gap in TTY employees' salaries. The average male to female salary ratio is 1.033:1. However, due to the large number of male occupying managerial positions than females, the basic salary plus compensation ratio of male and female in management and administration positions in 2021 was 1.93:1.

Salary plus Compensation Ratio of Male and Female Across Job Categories

Job Category	Management and Administration	Sales and Marketing	R&D	Factory
Salary + Compensation Ratio of Male and Female	Male/Female 1.93 : 1	Male/Female 1.15 : 1	Male/Female 1.39 : 1	Male/Female 1.17 : 1

Average and Median Annual Salaries of Full-time Employees not Holding Supervisory Positions for Recent 3 years in TTY

Year	Full-time Employees not Holding Supervisory Positions	
	Average Annual Salary	Median Annual Salary
2019	1,116	976
2020	1,126	936
2021	1,169	992

Note: Supervisory positions include directors, employees in managerial positions, consultants and some other roles

Maternity Health Protection

The Act of Gender Equality in Employment clearly states the right to apply for unpaid parental leave (UPL). Employees may apply for unpaid parental leave before any of their

children reach the age of 3 years old, but the period of leave may not exceed 2 years. During the period of unpaid parental leave, employees may continue to participate in their original social insurance program.

TTY 2021 No. Applied for UPL

	Male	Female	Subtotal
(a) The no. of employees who qualified in 2021	31	26	57
(b) The no. of employees who applied in 2021	1	9	10
(b/a) UPL Application rate	3.23%	34.62%	17.54%
(c) The no. of reinstatement estimates in 2021	0	7	7
(d) The no. of employees reinstated in 2021	0	5	5
(d/c) Reinstatement rate	-	71.43%	71.43%
(e) The no. of reinstatements in 2020	1	1	2
(f) The no. of employees remaining at least one year after reinstatement in 2020	0	0	0
(f/e) UPL retention rate	0%	0%	0%

Note:

- Based on employees that applied for maternity or paternity leave in the past 3 years (2019-2021)
- UPL/UML that took place in 2021
- Expected reinstatement date in 2021

(d) Expected and actual reinstatement date in 2021

- Actual reinstatement date in 2020
- Reinstatement date in 2020 and remaining at least 1 year

I Talent Cultivation

Expanding Employee Competence

TTY University

"Acquiring knowledge quickly, transferring knowledge effectively, and transforming knowledge into consensus and organizational ability as soon as possible" is a critical path for corporates to build their core competitiveness. Therefore, TTY has continued to innovate and cultivate a great education, training and development system. TTY University, to provide educational training for all employee since 2012. Depending on the depth of content, courses are divided into initial courses, advanced courses and high-level courses to meet the needs of all colleagues in the company, regardless of expertise.

TTY University combines the 6 programs of R&D, Technical Operations, Quality, Marketing, Sales, Leadership and Management, and Soft Skill programs. In 2021, there were 24

in-person and online courses, not only helping colleagues engage in continuous professional development in their own professional field, but also with understanding the roles of other functional areas in the industrial chain to provide them with holistic industrial and organizational operations knowledge to create the best organizational performance.

In addition to integrating internal and external resources, senior employees are also trained as lecturers. Colleagues from all departments can volunteer to attain lecturer qualifications. After being reviewed by the Human Resources Department, they become candidate lecturers and participate in the lecturer training process. After passing a strict evaluation, they are qualified to serve as internal lecturers. We expect our lecturers to engage in their own development, self-position so they attain the best results and expand their talents through learning. In 2021, a total of 15 colleagues from TTY University participated in the internal lecturer training and 2 colleagues had official classes and became qualified lecturers. Another three are expected to add on in 2022 to continuously transform their knowledge into the organizational capacity of TTY to implement sustainable operations.

2021 Employee Training Program Results



New Employee Training

Orientations are carried out over several days, both in-person and online, to familiarize new employees with the Company regulations quickly and effectively to mitigate business risk. This includes the following training sessions: Introduction to the Confidentiality Management Regulations, Introduction to GMP Management, Introduction to Regulations Governing Pharmaceutical Patents, Introduction to TIPS (Taiwan Intellectual Property Management System), Basics of Intellectual Property, Drug Safety Supervision, Information Security Education, Introduction to GDP Management, Introduction to Trade Secrets, and Environmental, Health and Safety. There were 48 attendees participating in orientations in 2021.

Employee Training

For constant awareness of business risks and to retain the company's ethical management, TTY provides online and in-person courses on Drug Safety Supervision, SDGs and Good Life Goals, Information Security, Trade Secrets, Insider Trading Prevention and Material Business Events Handling Principles, Corporate Ethical management and more. All colleagues have completed 100% of online courses. In addition, an in-person course on Drug Patent Protection was held in 2021, with 20 participants totaling 80 hours of training. According to the participation statistics in internal training, in-person courses and external training in 2021, each employee participated in an average of 6.74 hours of training. Female colleagues in sales and marketing had the highest rate of training at 21.33 hours, followed by female employees in R&D at 7.09 hours on average. In the future, colleagues will continue to be encouraged to apply for internal and external training courses to continuously improve their skills and help them reach their personal career goals.

Average Training Hours of Each Employee Based on Gender and Job Category in 2021

Job Category		Male	Female	Total
Management and Administration	(a1) The actual number of people during the reporting period	26	46	72
	(b1) Training hours during the reporting period	96	311	407
	(b1/a1) The average number of training hours during the reporting period	3.69	6.76	5.65
Sales and Marketing	(a2) The actual number of people during the reporting period	64	72	136
	(b2) Training hours during the reporting period	386	1536	1922
	(b2/a2) The average number of training hours during the reporting period	6.03	21.33	14.13
R&D	(a3) The actual number of people during the reporting period	46	53	99
	(b3) Training hours during the reporting period	107.3	375.6	482.9
	(b3/a3) The average number of training hours during the reporting period	2.33	7.09	4.88
Factory	(a4) The actual number of people during the reporting period	113	122	235
	(b4) Training hours during the reporting period	404.5	435.67	840.17
	(b4/a4) The average number of training hours during the reporting period	3.58	3.57	3.58
Total	(Q) Hours	993.8	2658.27	3652.07
Total number of employees at the end of the reporting period	(R) Number	249	293	542
The average number of training hours per employee	(Q/R) Hours	3.99	9.07	6.74

Successor Projects

Talent Development and Assessment

In TTY, we promote an environment of constant learning and this is what motivates our workforce. In real terms, employees seek to advance their careers through management programs, and internal and cross-subsiary/

affiliate job rotations. In 2021, 97.42% of our employees underwent regular performance reviews, of which 241 employees were male (45.64%), and 287 female (54.36%). The remaining 2.58% were new employees in their probation period. Prior to the end of the new hiring period, supervisors provide performance evaluations by filling out the "New Employee Probation Performance" form.

TTY 2021 Regular Performance Review Rate

Gender	Male			Female			Total		
	Total employees at the end of the reporting period	No. of employees who received regular performance & career development reviews	Proportion	Total employees at the end of the reporting period	No. of employees who received regular performance & career development reviews	Proportion	Total employees at the end of the reporting period	No. of employees who received regular performance & career development reviews	Proportion
Formula	A	B	C=B/A	D	E	F=E/D	G	H	I=H/G
Management and Administration		25	10.04%		46	15.70%		71	13.10%
Sales & Marketing	249	59	23.69%	293	70	23.89%	542	129	23.80%
R&D		46	18.47%		52	17.75%		98	18.08%
Factory		111	44.58%		119	40.61%		230	42.44%
Subtotal		241	96.79%		287	97.95%		528	97.42%

Talent Assessment and Development

Apart from various software and hardware training programs and other such resources, further learning and

development plans suitable for each level and role were developed under the Successor Project in 2019. The results of the 2021 plan were as follows:

Year	2020	2021
Rotation	12 employees	10 employees
Promotion	24 employees	22 employees

In mid-May, the talent review meeting for all key positions of the company was completed, the list of high potential employees and successors of each position was continuously updated, and the annual development and learning plan of each person was confirmed.

In May, due to the epidemic (COVID-19), the company began the mode of work-from-home. It also simultaneously quoted the online management function learning platform of professional financial review, provided management function articles and lectures through the digital platform, and pushed the popular and latest management articles every week, so as to enable high potential employees and successors to keep study during this period, and to carry out piecemeal learning during busy work.

"Master lectures" has been, or planned to be held in March, April, November and December respectively. Experts, scholars and enterprise leaders are invited to elaborate and share on the new trends of biotechnology pharmaceutical M&A and intellectual property evaluation, enterprise internationalization experience, CDMO deployment and global M&A

strategy of the biomedical industry, so as to strengthen the management performance and global strategy layout ability of senior executives.

From December, according to the company's strategy and the needs of all levels, the 2022 themed reading club will be arranged. For the relevant business topics such as performance management, talent cultivation, coaching leadership, etc., we have planned to invite external professional tutors to conduct concept situation guidance and discussion on various management issues, so as to improve the leadership awareness and effectiveness of high potential and successor personnel.

In 2020-2021, with the growth of the organization and the short-, medium- and long-term individual development plans, the high potential successors selected by each department will not only be transferred internally by the department head or promoted according to their abilities, but also be transferred or promoted across functional departments through the internal recruitment mechanism. In 2021, a total of 10 employees went on rotation and 22 were promoted.

Succession Planning and Operation



Note: BU refers to business unit or center

As part of TTY's succession planning, the core values of successors must be consistent with the company's, and they must demonstrate integrity, commitment, and innovation and have earned customers' trust.

In accordance with the Provisions of Corporate Governance formulated by TTY, the directors selected by TTY fully consider diversity and formulated appropriate policies based on the company's operation, operation type and development needs, including the following two criteria:

1. Basic conditions and values: gender (at least two female directors), age, nationality, culture, etc.
2. Professional knowledge and skills: professional background (such as law, accounting and taxation, biotechnology and medical industry, finance, marketing or technology), professional skills and industrial experience, etc. In 2021, TTY re-elected directors considering their skills and characters holistically, and all candidates met the qualification review and relevant specifications.

Since December 29, 2016, TTY has implemented Performance Evaluation Measures for the Board of Directors and Functional Committees to evaluate the performance of directors and ensure the effectiveness of the operation of the Board of Directors through performance evaluation. Items under assessment include control of the company's objectives and tasks, responsibility cognition, operation participation, internal relationship operation and communication, professional functions and further advanced training, internal control and specific opinions, as a reference for the selection of directors in the future.

Moreover, employees with leadership qualities and outstanding performance are offered the opportunity to transfer to other positions within the company. We continue to expand the future workforce from external sources as well. To ensure sustainable growth, 2 business management programs were held in 2021 and an average of 20 employees were trained each session with a 4.59/5 satisfaction rate. 36 employees were transferred within the company.

I Occupational Safety and Health

Material Topic
Occupational Health and Safety

Corresponding GRI index

GRI 403-9 Occupational Injuries

Policies and Commitment

To ensure employees' occupational safety, TTY applies reasonable and necessary equipment and measures to prevent occupational injuries.

Goals and Targets

Short-term Goals

Organize activities to promote employee health continuously.

Med- to long-term Goals

Create a safe and healthy workplace with zero occupational hazards.

Responsibilities and Resources

Establish an Occupational Safety and Health Management Committee and a Safety and Health Management System Promotion Team to ensure that overall operations comply with occupational safety and health laws and regulations, plan matters related to occupational safety and health, and supervise implementation.

In 2021, an ISO 45001 occupational safety and health management system was established to comprehensively identify hazards, formulate risk control measures, and improve the occupational safety and health management structure of TTY.

Lists of hazardous chemicals, labeling, manufacturing list and safety data sheet disclosure have been completed, and the necessary communication measures have been taken. Dangerous machinery or equipment has passed an inspection by the labor inspection institution or an agency designated by the central competent authority.

Assessment Mechanism and Results

For workplaces designated by the central competent authority, a work environment monitoring plan has been formulated, and a work environment monitoring organization recognized by the central competent authority has been set up or entrusted for continuous monitoring. The results have been publicly disclosed and reported to the central competent authority.

Factories provide personal protective equipment used by field operators, such as glove boxes, sealing and isolation facilities, chemical leakage treatment vehicles, etc. An annual health examination is carried out for all employees, and health education tracking is conducted by a nurse and physician.

All colleagues have labor insurance, health insurance, group insurance and accident insurance, etc. All workplaces have been insured with public accident liability insurance. Nurses and doctors have also been employed to provide professional medical assistance.

Emergency response drills are conducted for chemicals, departments, fires and external support. The Chungli factory conducts 2 fire safety drills and 1 chemical leakage drill annually. The Lioudu factory conducts 2 alert-free drills annually, including fire safety and chemical leakage drills.

Occupational Safety and Health Management

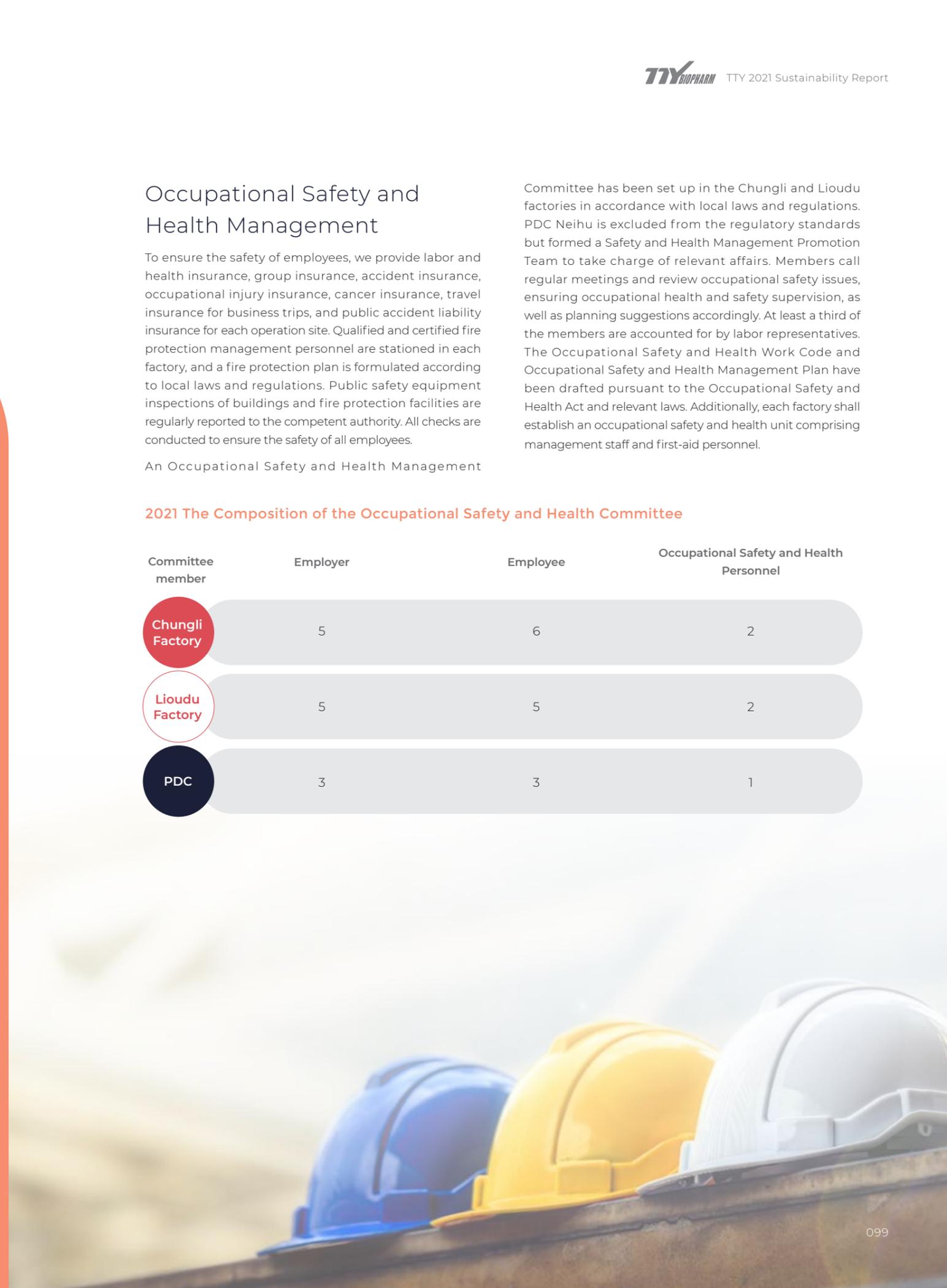
To ensure the safety of employees, we provide labor and health insurance, group insurance, accident insurance, occupational injury insurance, cancer insurance, travel insurance for business trips, and public accident liability insurance for each operation site. Qualified and certified fire protection management personnel are stationed in each factory, and a fire protection plan is formulated according to local laws and regulations. Public safety equipment inspections of buildings and fire protection facilities are regularly reported to the competent authority. All checks are conducted to ensure the safety of all employees.

An Occupational Safety and Health Management

Committee has been set up in the Chungli and Lioudu factories in accordance with local laws and regulations. PDC Neihu is excluded from the regulatory standards but formed a Safety and Health Management Promotion Team to take charge of relevant affairs. Members call regular meetings and review occupational safety issues, ensuring occupational health and safety supervision, as well as planning suggestions accordingly. At least a third of the members are accounted for by labor representatives. The Occupational Safety and Health Work Code and Occupational Safety and Health Management Plan have been drafted pursuant to the Occupational Safety and Health Act and relevant laws. Additionally, each factory shall establish an occupational safety and health unit comprising management staff and first-aid personnel.

2021 The Composition of the Occupational Safety and Health Committee

Committee member	Employer	Employee	Occupational Safety and Health Personnel
Chungli Factory	5	6	2
Lioudu Factory	5	5	2
PDC	3	3	1



Health Promotion

In addition to explaining health services, medical assistance and occupational disease prevention during orientations, TTY also set up a temporary occupational nursing and physician service in accordance with the regulations, so

colleagues can easily obtain professional medical assistance. This service is offered 3 times per month. A physician service is provided 3 times a year. In 2021, a total of 4 physician and occupational nursing lectures were held to promote health and covered topics such as hypertension, healthy eating and smart exercise, sleep troubles and stroke prevention.



In 2021, TTY held four physician and occupational nursing lectures.

Hazard Identification and Risk Assessment

According to the Occupational Safety and Health Act, a corporate that has reached a certain scale or consists of a specified workplace must establish an occupational safety and health management system. TTY started building an ISO 45001 occupational safety and health management system in August, 2021, which will be completed in December, 2022.

The ISO 45001 occupational safety and health management system is promoted by TTY senior executives and heads of departments and units to carry out hazard identification and risk assessment in accordance with the provisions of the ISO 45001 occupational safety and health management system, so hazards and risks caused by changes in the company, or the occupational safety and health management system or its activities can be mitigated, and to propose management plans and track risk opportunities and control measures.

Accident Investigation Process

TTY has standardized the accident notification and accident investigation process in accordance with the relevant provisions of the Occupational Safety and Health Act. By investigating accidents, the causes and potential consequences of accidents can be understood and preventive and improvement measures can be taken in the future. In addition, to effectively manage and track accident investigation reports, the accident unit must provide the accident investigation report and improvement countermeasures to be closed only after approval by the top supervisor of the factory.

Occupational Injury Statistics

Occupational Injury Statistics of TTY Employees for Recent 5 Years

Year	Working Hours	Number of Recordable Occupational Injuries	Frequency Rate of Recordable Occupational Injuries	Number of Severe Occupational Injuries	Frequency Rate of Severe Occupational Injuries
2017	1,086,996	1	0.18	0	0.00
2018	1,121,623	2	0.36	1	0.18
2019	1,155,097	0	0.00	0	0.00
2020	1,183,759	2	0.34	0	0.00
2021	1,147,336	2	0.35	0	0.00

Notes:

- The statistical range includes the headquarter, Chungli Factory, Liudu Factory, Translation Research Center and PDC (including the Neihu Factory and preparation R&D Office Pharmaceutical Development Division).
- The statistical standard of occupational injury does not include commuting accidents.
- Recordable occupational injuries: workers who cannot continue their normal work due to an occupational injury and must leave the workplace for more than 1 day, including deaths caused by occupational injury.
- Total recordable injury frequency rate (TRIFR) = number of recordable occupational injuries × 200,000/total working hours (calculated to 2 decimal places, not rounded).
- Severe occupational injury: an occupational injury that results in death or the worker is unable to recover from within 6 months.
- Severe occupational injury frequency rate = number of severe occupational injuries × 200,000/total working hours (calculated to 2 decimal places, not rounded).
- The number of occupational injuries in 2021 is 0.
- No occupational disease has occurred to a TTY contractor for recent 5 years.
- To adapt to the revision of GRI specific topic standard "GRI 403 Occupational Safety and Health" and changes in measurement, the statistical information on occupational injuries in previous report is restated.

Disability Frequency and Severity Rate Statistics of TTY Employees for Recent 5 Years

Year	Number of Working Days Lost Due to Disability	Disabling Frequency Rate (FR)	Disabling Severity Rate (SR)	Frequency-Severity Indicator (FSI)	Injury Type
2017	4	0.92	3.68	0.06	Being clamped and rolled
2018	220	1.78	196.14	0.59	Being clamped and rolled, and fall
2019	0	0.00	0.00	0.00	-
2020	24	1.69	20.27	0.19	Object collapse, crumble, fall
2021	6	1.74	5.23	0.10	Being cut, slashed, abraded

Notes:

- Number of lost working days: number of days unable to work (rest days). The calculation basis includes occupational accident injury leave, excluding sick leave and menstrual leave.
- Disabling frequency rate (FR) = times of disabling injury × 1,000,000/total working hours (calculated to 2 decimal places, not rounded).
- Disabling severity rate (SR) = (days of disability damage loss × 1,000,000)/total experienced working hours (rounded to an integer, not rounded).
- Frequency-severity indicator, FSI = √ [(FR×SR)÷1000]

Occupational Safety Risk Control

Employee Safety Measures

Disease Prevention

Covid-19 has posed many challenges to corporates. Whether in daily operations or employee wellbeing, corporates must respond effectively to reduce the impact of the epidemic, assist employees in managing difficulties and show organizational resilience. To effectively manage epidemic prevention, TTY rigorously implements daily health monitoring and management policies for employees, from working from home to managing shifts, to minimize the risk of infection of all staff. TTY also actively appeals to employees to pay attention to personal hygiene and ensure they wash their hands frequently. It prepares sanitizers in many offices and provides free masks for employees.

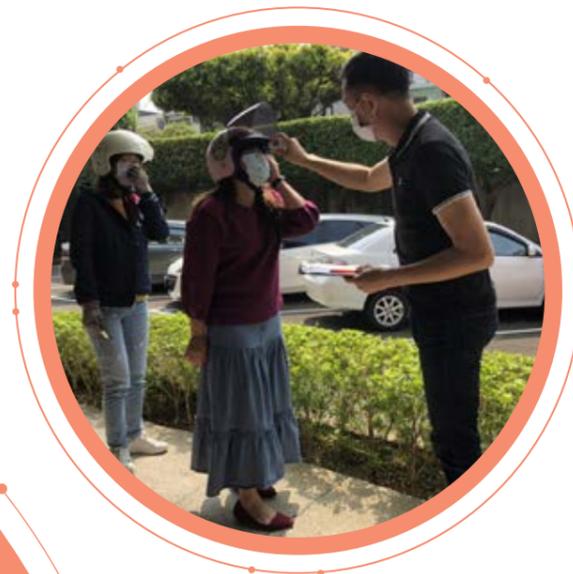
TTY establishes an emergency response team to regulate visitors and personnel in the headquarter, elevators, meeting rooms, factory offices, restaurants and other confined spaces prone to cross-infection. Video conference and online meetings are preferred to face-to-face meetings with business visitors. Face masks must be worn throughout the office space. All employees' travel plans should be suspended, and lunch should be prepared by the employee themselves or ordered in groups to avoid unnecessary entering and leaving of crowded places. Employee travel was also canceled in 2021 due to the pandemic. Therefore, the Employee Welfare Committee decided to offer electronic gifts instead of employee travel subsidy benefits equal to the travel subsidy so employees still received their benefits.

Working from home

In May 2021, the epidemic situation in Taiwan became severe due to the gathering of China Airlines pilots and Wan-Hua tea houses. As the situation escalated, TTY, in coordination with government policy, provided colleagues with family care leave, started a working from home and remote working plan during the most severe period of the epidemic, regularly reviewed the work from home system, and required colleagues to fill in a daily self-management health form according to the regulations. We also cooperated with the government's public policy of avoiding crowded areas. After 10 weeks (5/19~7/30) of working from home, the situation eased and employees returned to their normal work and patterns in September 2021. The company still strictly abides by company policies, cooperates with the government in handling epidemic prevention measures and actively implements epidemic prevention, including self-measure temperatures, implement independent health monitoring, maintain social distance, and continuing to avoid face-to-face meetings with external customers. Our marketing colleagues, sales and office staff have also suspended visits to medical institutions. If necessary to enter or visit a medical institution, the visit must be approved by the department supervisor.

Epidemic Prevention Insurance for All Employees

To provide more comprehensive care for employees, following the launch of the industry's first "employee shuttle" last year, TTY further initiated emergency assistance applications and provided welfare measures such as epidemic prevention insurance and vaccine insurance for all employees in 2021. Lin Chuan, the Chairman of the Board, said that as one of the important pharmaceutical companies in Taiwan, TTY is not only committed to improving the health and wellbeing of people, but also ensuring the health of its employees. Every sustainable action is a force to promoting social stability. Therefore, it is the eternal mission of TTY to implement sustainable actions, respond to ESG international trends and contribute to the sustainable development of Taiwan. TTY's various epidemic prevention measures show that, in addition to pursuing corporate governance and environmental protection, TTY is also committed to undertaking corporate social responsibility and integrating it into daily operations and decision-making to provide high-quality care for its employees and contribute to wider society.



Initiative Improvement Plan

Personal Protective Equipment

We value and protect the safety of each product we make. In the area of personnel safety, PPE (personal protective equipment) is used to keep our operators safe from certain occupational hazards.

In accordance with relevant occupational safety and health laws and regulations, TTY carries out environmental harmful component inspections for different processes/production lines to assess the necessity and effectiveness of protective equipment and determine the working environment.

For example, glove boxes effectively allows factory workers to avoid contact with chemicals, and spill kits are provided for an immediate response to chemical spillages or leakages. This ensures that injuries can be contained and the disaster rate moderated.

In addition, PPE is updated depending on the process requirements and use conditions so that production line employees receive maximum protection. For example, masks and protective clothing are all disposable and respiratory protective equipment is replaced according to the degree of dust adsorption.

Different Occupational Safety and Health Protection Equipment for Different Processes

Unit	Process	Hazard Identification	Corresponding Protective Equipment
Oral Section	Weighing process	Organic solvent and dust	PAPR
	Crushing process	Noisy workplace	Earmuffs
	Ingot shaping process	Noisy workplace	Earmuffs
	Coating process	Organic solvent	Respiratory protective equipment
Injection Section	Weighing process	Organic solvent	Glove boxes, chemical-resistant gloves
Physical and Chemical Section	Chemical experiment	Organic solvent	Respiratory protective equipment, chemical-resistant gloves, chemical fume hood
Microbiology Section	Microbiological experiment	Microbial contamination	Biosafety cabinet

Employee Health Examination

TTY conducts regular health examination for all employees every year, including general health examination and special ones for colleagues with higher risk of occupational health problems. In 2021, a total of 98 employees in Lioudu, Chungli and Neihu factories accepted special physical examination, and health management classification was implemented according to the regulations. If the health examination

results are about personnel above level 2 management, nurses and professional medical specialists will perform health education and health follow-up examination for them, and if necessary, on-site assessment of suspected work-related injuries may be performed. In this year, there were no personnel above level 3 management and no abnormal items of physical examination caused by special operations.

Classification Results of Special Health Examination for Each Factory in TTY in 2021

Level	Health Examination Item	Lioudu Factory	Chungli Factory	PDC
1 st Level	Specific chemical substance	5	20	5
	Dust	16	14	0
	Physical	23	0	0
2 nd Level	Specific chemical substance	15	10	2
	Dust	3	4	0
	Physical	10	0	0

Contractor Occupational Safety Management

To ensure the safety and health of employees and contractors, TTY complies with Article 26 of the Occupational Safety and Health Act which states that when all or part of the business is delivered to a contractor, the contractor must be informed in advance about the working environment and all known hazardous factors. Safety and health regulation measures are to be adhered to per TTY's Contractor Safety, Health and Environmental Management Standards. Before outsourcing certain work, the two parties must sign a joint contract. During the contract period, in addition to observing the provisions of the contract, both parties should also abide by relevant laws and regulations, such as the government's occupational safety and health regulations, environmental protection, and fire hazard-related regulations.

In addition to providing complete occupational safety and health education and training for TTY employees, the company also carries out occupational safety and health education and training for dispatched employees and contractors. In 2021, the Chungli factory held 4 training sessions for dispatched personnel, with a total of 19 participants, and 6 sessions for contractors, with a total of

46 participants. The Lioudu factory also held 10 education and training sessions for new dispatched personnel, with a total of 27 participants, and 5 sessions for contractors, with a total of 20 participants. In addition, the company also provides health consultation services for dispatched personnel. If dispatched or contracted personnel encounter an emergency, the company will provide simple emergency medical assistance and assist in sending them to the nearest hospital for a consultation.

For major engineering contracts or construction work, TTY also requires the contractor to designate a person in-charge of the contracted project during the design stage and prior to the start of each project phase as the commander, supervisor, and coordinator of large-scale construction. Reports covering hazard identification, risk assessment, and measures to control such risk according to the assessment results should be presented based on the design, construction, and execution methods. The contractor should receive confirmation and approval from TTY before any formal construction work begins. In 2021, TTY did not record any occupational hazards with contractors in the Chungli and Lioudu factories.

I Social Participation

Material Topic
Corporate Image

Corresponding GRI index

Self-established Topic

Policies and Commitment

TTY is committed to sustainable operations and drives inclusive and sustainable economic growth. It has established a sustainable development strategy covering the 3 aspects of the environment (E), social (S) and governance (G) to deepen corporate governance, improve the quality of human life, responsible production, environmental protection, employee care, social welfare and other issues. TTY actively establishes a good corporate image, complies with government regulations, and responds to the expectations of society and the public to build its branding that customers can trust.

Short-term Goals

Continue to integrate positive messages into corporate operations and development, public welfare actions and environmental sustainability, and plan news and events that drive the brand spirit and concept.

Goals and Targets

Med-term Goals

Through rigorous and pragmatic corporate governance operations and full communication with all stakeholders, the company has demonstrated substantial business results.

Long-term Goals

In addition to optimizing the brand management system, introducing the corporate identification system will deepen branding recognition among stakeholders, which helps maintain image consistency and convey the brand value.

Responsibilities and Resources

The department of Public Affairs has set up a news notification system to timely follow public opinion, and regularly compiles public opinion reports of the company to adjust communication strategies on a rolling basis.

Organize training courses to assist colleagues realize the importance and operation process of the corporate identification system.

Assessment Mechanism and Results

Recognized in the Top 5% of TPEX companies in the TWSE corporate governance assessment for 6 consecutive years.

TTY received the 13th TCSA silver award in 2020.

TTY received the 14th TCSA platinum award in healthcare category in 2021.

TTY Sustainability Report Received the TCSA Platinum Award



2021 TTY sustainability report received the TCSA Platinum Award

Since 2018, TTY's corporate social responsibility report has led the way in responding to sustainability report trends of Europe and the United States. It has been prepared with the 3 main ESG axes of environmental protection, social care and corporate governance, and aligns with current international norms. TTY has continuously adjusted and improved the report so that stakeholders can further understand the organization's sustainable business strategy and effective communication channels can be established, resulting in the 2020 sustainability report winning the 14th TCSA Platinum Award in the healthcare category in 2021.

The core ESG values of TTY are not just a slogan, but a standard of conduct that is implemented in daily operations and internalized in TTY members. It is hoped that all colleagues of TTY be civilized people and work with the company to realize the vision of improving the quality of human life with scientific innovation.

The Starting Point of TTY's Core Value and Culture of Public Welfare: Boshiyuan

In response to our corporate culture of be a civilized person, advocated by Chairman Lin Chuan, and in combination with the 17 SDGs of the United Nations, TTY colleagues established a charity club, Boshiyuan, to promote social services and environmental protection and bring the DNA of public welfare into daily life, imperceptibly mirroring TTY's culture so we can all work together for the world.

“

Boshi's idea is to give generously; while Shiyuan is the homophonic sound of "si yuan", which means being grateful for the origins of things. It represents the heart of thinking of nature, helping those that are disadvantaged, and repaying to society what we take from it.

”



SDGs 1 No Poverty

" Yu-Cheng Social Welfare Foundation" Charity Purchase

Since 2019, TTY has cooperated with the Yu-Cheng Social Welfare Foundation, a legal entity to provide assistance to mentally disordered children through practical actions. TTY gathered volunteers to spend the Mid-autumn Festival with mentally disordered children at the foundation to create an atmosphere of "home" for many children who lack care. In 2021, as the global Covid-19 epidemic was still severe, the shared meal activity was cancelled to avoid unnecessary risk to the health of everyone involved.

The epidemic has also put the foundation to the test in terms of human costs and operating expenses. Therefore, TTY has adopted a charity purchase to actively respond to the Yu Cheng Mid-autumn group purchase of moon cake to indirectly help cultivate work skills, encourage independently living and integrate mentally disordered children in society, improving their employability and increasing job opportunities so they have more possibilities in life.

Planting the Seeds of Hope: Providing Scholarship and Financial Aid to Children of Cancer Patients

According to statistics from the Ministry of Health and Welfare, patients suffering from certain cancers tend to be younger. The younger cancer population in Taiwan also means that most cancer patients are the economic pillar of their families, so the expenses of treatment is a particularly heavy burden on families, and also effects on children's lives and studies. To reduce the economic burden on cancer families, TTY has sponsored the Hope Foundation for Cancer Care since 2010 and offers a scholarship of NTD\$20,000 for each student. In 2021, the Hope Foundation for Cancer Care received a total of 166 applications from students. TTY supported 75 college students and funded a total NTD\$1 million per year to ensure the college students of cancer

families receive a fair and high-quality education.

"Seeing the smiling faces of children is a great encouragement to us." In addition to providing scholarships to enable the children of patients with cancer to get some support in their studies and to reduce the economic burden of patients, TTY also supported the Hope Foundation for Cancer Care in launching the Planting a Seed of Hope project with practical action, and provided care and companionship to children of cancer patients to help them through difficult times. Students exploring who they are can still find their own position in life and expand their abilities. Through listening and sharing, we can assist the students who participate the project express their emotions, learn how to adjust, and provide substantive support to children of cancer patients.

"A Place Full of Warmth and Friendship" Project

Implementing the concept of "taking from society and giving back to society", TTY has long focused on groups in need in various parts of the country. It has responded to public welfare fund-raising activities since 2016. Over the years, raised funds have been donated to social welfare institutions and groups, including children with physical and mental disabilities, rural students, vulnerable elder, and many more. TTY strives to help vulnerable groups and give back to society so people live in this country enjoy common prosperity.

Covid-19 affected many social welfare institutions in 2021. In combination with the "a place full of warmth and friendship" project in 2021, TTY supported donations to the Federation for the Welfare of the Elderly, the Jieh Huey Foundation, and the Child Welfare League Foundation to contribute resources to the care and services of elders and children and hope they feel our love.



SDGs 3 Good Health and Wellbeing

Vaccine Donations to Protect Human Being's Health

Covid-19 continues, and autumn and winter are typically the seasons when respiratory diseases are more prevalent. Covid-19 and influenza are therefore a double threat. In addition, physical classes have resumed on campus, which may increase the risk of cluster infections. To show our support for Taipei Medical University, which has long been engaged in medical research and public welfare activities, TTY donated more than 1,000 vials of influenza vaccines to the Taipei Medical University Hospital in 2021 to vaccinate the faculty and staff, helping the university widen its social influence as well.

Taipei Medical University is not only an important cradle of medical talent in Taiwan, but also an important force in Taiwan's social welfare. Therefore, TTY hopes to strengthen the health of staff, who have no access to public expenses, with vaccinations so the university is capable to continue teaching, research and public welfare activities. Public welfare actions such as cancer prevention education and promotion, and cultivating medical industry talent through summer internships, which TTY has promoted for a long time, and leverage with Taipei Medical University's goal of "being brave and assuming social responsibility". We

expect to continue our cooperation with Taipei Medical University in epidemic prevention, education and research in the future, and jointly fulfill social responsibilities while engaging in our core businesses. We also encourage other corporates to work together and contribute to overall epidemic prevention.

With You Until The End: TTY and Hospice Care

To help promote hospice care in Taiwan, TTY has taken the initiative to launch hospice care services in cooperation with the China Medical University Hospital in the form of a daytime hospice care program to provide hospice care and palliative medical services for patients in the China Medical University Hospital once they return home. Hospice specialists and nurses visit patients at home and give palliative care to help alleviate the burden on families and other caregivers.

Adhering to the concept of caring for and giving back to people, TTY has carried out a total of 523 visits to hospice homes and patient care services in 2021 and borne the expenses of patient families. It is hoped that through relieving some of the burden on patients and families, easing patients' symptoms, providing emotional support, economic assistance and other services, patients and their families can focus on spending time together and find some comfort in physical and mental peace.





Educational Quality

Industry-University Cooperation: Committed to Training Domestic Medical Talents

TTY has spared no effort in cultivating domestic biotech talents. Since 2008, TTY has provided a Summer Internship Program (SIP), 14 consecutive years, and hosted many seminars, group interviews, course content planning and project management workshops for undergraduate and graduate students from universities related to pharmacy and bioscience across Taiwan. From the perspective of a professional and forward-looking international pharmaceutical company, TTY brings industry experience and offers insights into aspects of the industry they cannot learn in class. Over the past 14 years, 363 students have benefited from our program.

In 2021, even when faced with the outbreak of the epidemic,

students were still expected to have the opportunity to put their skills into practice and engage in a remote internship. TTY planned a new "group entrepreneurship competition" to motivate and encourage students in their learning. Students simulated establishing a new biotech company, and effort that goes into compiling the vision, mission and strategy of a company, understand market operation modes and the demand of the biotech industry, cultivating the skills of high-level talent in the future.

A total of 24 students from National Taiwan University, Taipei Medical University, National Yang-Ming Chiao Tung University, National Tsing Hua University, China Medical University, National Cheng Kung University, Chia Nan University of Pharmacy and Science, Kao Hsiung Medical University, Tajen University, National Taiwan Ocean University, as well as students from the United Kingdom, the United States, Japan, Hong Kong and other countries, participated in the summer internship program. In 2021, high-performing students were selected as campus ambassadors to encourage more students to participate in the Summer Internship Program in the future.



TTY SIP Profile in the Recent 3 Years

Year	Participant	Internship Unit	Internship Content	Results
2021	24	Sales Marketing R&D	Lecture Study Internship	3 served as the 2 nd session campus ambassadors 1 served as the short-term intern after SIP
2020	26	Manufacturing Clinical Regulatory Affairs	Group Entrepreneurship Competition	1 served as the 1 st session campus ambassador
2019	27	Intellectual Property	Result Publication	1 worked in TTY after graduation 1 worked in the affiliated corporate of TTY



Feedback from interns:

My internship in TTY was very substantial and it enabled me to quickly gain relevant knowledge of pharmaceutical companies in a short time. TTY senior employees are very generous with their time in sharing their career experience, and are very willing to help us solve problems. They encourage us to express opinions and learn the ability of reverse thinking. I am very grateful to TTY for this opportunity.

TTY Campus Ambassador

With the increase in online communities and digital media, TTY held the first Campus Ambassador program in 2021. Through campus activities, students' creativity and unlimited potential were stimulated, and students were given the opportunity to take practical action. They served as "TTY's little helpers" on campus, and implemented their ideas through online publicity so more students could

get to know TTY and even have the opportunity to work in TTY in the future. In 2021, TTY attracted hundreds of students to join the TTY digital platform through 3 campus ambassadors from Taipei Medical University, China Medical University and National Cheng Kung University, allowing more students to further their understanding of TTY, close the gap between the company and domestic students, and enhance TTY's branding recognition.

Experience of TTY's 1st session of campus ambassadors:

As well as undertaking an internship, it is a good idea to make contact with the industry in advance. It help myself to step away from how a student thinks to how professionals in the industry think when performing tasks and learning about pharmaceutical factory operations. I never thought I could gain so much from being a campus ambassador! From every thought and task execution, I find my own shortcomings in every little thing, and then internalize them and grow so much from the experience. I also learned a lot about soft power and workplace etiquette!



Three Cancer Prevention Education Courses

As a major cancer pharmaceuticals manufacturer in Taiwan, TTY has been engaged in cancer prevention education for years, hoping to help the people of Taiwan understand more about cancer and related illnesses. Cancer education at TTY is carried out across three key areas: "Regional care for the cancer-affected", "Education support expanded to remote areas" and "Health education". Beneficiaries of our sessions are all over Taiwan, so the general public, cancer friends and their families no longer afraid of cancer and can show more tolerance and understanding to patients.

Three cancer prevention education courses: (I) Regional care for the cancer-affected

Since 2005, TOT Oncology Business Unit of TTY has cooperated with cancer-related non-profit organizations to hold a series of cancer prevention health education activities in rural areas, and has invited medical specialists from major medical centers as lecturers to promote cancer prevention on campus and contribute to cancer prevention initiatives. In the first half of 2021, implementation was suspended due to Covid-19. However, after the epidemic eased in the second half of 2021, TTY scheduled cancer education lectures in 49 junior high schools in Yunlin-Chiayi-Tainan, Miaoli, Hualien-Taitung and outlying islands. It is hoped that through the transfer of knowledge, junior high school students can play a key role in assisting with the daily lives of their families and gain an in-depth awareness of cancer prevention for the whole family.

TTY continues to promote cancer prevention education on campus. In 2021, a total of 49 "Regional care for the cancer-affected" activities were held on campus in remote places.



TTY holds health promotion activities on campus in remote areas every year to help children learn about cancer through interesting competitions.

Three cancer prevention courses: (II) Education support expanded to remote areas

To improve the capacity of domestic cancer prevention education and help cancer prevention activities take root, as independently initiated by TOT colleagues, TTY has held health promotion lectures every year since 2012 at Lyudao and Gunguan elementary school in Taitung, and combined cancer prevention knowledge with a health competition as suggested by colleagues. Through more diversified and relaxed teaching methods, children in Taiwan can also understand health information and cancer prevention knowledge. The health promotion activities conducted by TOT colleagues were not only welcomed by the students, but also strongly supported by the principals and teachers. Although activities were suspended in 2021 due to Covid-19, TTY shall continue to hold lectures in elementary schools around the country to create a high-quality and equal learning environment.

Three cancer prevention courses: (III) Health education

TTY regularly holds disease treatment trend and cancer pain nutrition education and guidance for patients and families affected by cancer to help alleviate some of the burden caused by the disease. Patients' families can also learn accurate knowledge and actively fight against cancer alongside patients. In 2021, due to Covid-19 and in coordination with the government and hospital epidemic prevention measures, two in-person lectures and one live broadcast were held with 89 participants attending the in-person lectures. Since 2009, 6,621 cancer patients have participated in these lectures. In addition, TTY also held health education lectures on osteoporosis and bone healthcare and provided people with tests to prevent the causes of calcium and vitamin D deficiency. 205 doctors served as health education lecturers and gave guidance and suggestions on how to ensure adequate nutrition. In 2021, 47 sessions (including those in general hospital and community health education, patient associations, etc.) were held, with a total of 2,589 participants.



TTY regularly organizes health education for the patients' association to help patients and their families actively fight cancer.



SDGs 14 Life Below Water

Dajia Riverside Park Clean Activity

To effectively protect water resources and implement the first sub-goal of the United Nations SDG 14 "Life Below Water" - reducing all kinds of marine pollution, TTY independently contacted the Department of Environmental Protection Taipei City Government and cooperated with the Taipei water environment patrol team to hold the Dajia Riverside Park Clean Activity in October 2021, and invited a subsidiary, TSH BIOPHARM, to join. Nearly 60 volunteers participated in the event. It not only enabled employees to participate in public governance and become a responsible corporate citizen, but also helped everyone better understand hydrological knowledge. It also served as a response to the water resources protection action initiative of CommonWealth magazine, "Do One Thing for Tamsui River", an initiative aimed at reducing environmental and water quality pollution in daily life to improve Taiwan's water resources.

At the site of the Dajia Riverside Park Clean activity, specialists from the Department of Environmental Protection were invited to explain the harm of herbicides to the environment and to human being's health, and to promote the selection

TTY cooperated with the Taipei water environment patrol team to hold the Dajia Riverside Park Clean activity

of appropriate environmental drugs for effective pest control while reducing the risk of doing more harm than good. To enable participants to deepen their understanding of environmental protection in the process of river purification, they implemented in a simple water quality measurement practical test to understand general analysis of water quality in the river area of Dajia Riverside Park, including temperature, dissolved oxygen, pH level and turbidity, and realized the extent of the impact of people's daily lives on the land, river and air, with the goal of changing bad habits and caring more for the earth, starting with encourage all to participate in the public governance of the Tamsui river system.

According to the data analysis of 38 river water quality monitoring stations of the Environmental Protection Administration in the Tamsui River Basin, in 2020, the seriously polluted river section in the Tamsui River Basin (the RPI value of the river pollution index exceeded 6) was 18.6 km long, accounting for 5.7% of the basin; the worst pollution that has been recorded since 2015. The Dajia Riverside Park is on the Keelung River course, which is one of the three branches of the Tamsui River Basin, so the poor water quality also affected further. TTY carried out a stream cleaning activity in Dajia Riverside Park by picking up and cleaning garbage by the stream. It also called on the public to cherish water resources and the environment, coexist with nature and create a better future. TTY hopes that corporate participation and influence will motivate all colleagues to fulfill their obligations as corporate citizens, implement the following five environmental protection commitments, protect the Tamsui river environment, and jointly achieve our sustainable development goals for Taiwan's environment.

5 environmental protection commitments to protect the Tamsui River:

- no. 1 No discharge of wastewater from factories that does not meet discharge standards.
- no. 2 Supervise waste clearance contractors to ensure they do not dump waste arbitrarily.
- no. 3 Enforce green procurement.
- no. 4 Encourage employees to participate in the public governance of the Tamsui River System.
- no. 5 TTY's environmental protection creative action.



Appendix

Index Table of
GRI Sustainability
Report Standards

SASB Chart

UNGC Chart

Statement of
Independent
Assurance Opinion

I Index Table of GRI Sustainability Report Standards

General Disclosure

Disclosure No.	Disclosure Item	Page
GRI 102: Organizational profile 2016		
102-1	Organization name	P024 About TTY Biopharm
102-2	Events, brands, products and services	P024 About TTY Biopharm
102-3	Headquarter location	P024 About TTY Biopharm
102-4	Operating locations	P005 About TTY Sustainability Report > Basic information
102-5	Ownership and legal form	P024 About TTY Biopharm > Financial Operation Overview
102-6	Markets served	P026 About TTY Biopharm > Market Deployment
102-7	Scale of the organization	P024 About TTY Biopharm > Financial Operation Overview
102-8	Information on employees and other workers	P087 Social Inclusion > Human Resource Structure
102-9	Supply chain	P044 Supplier Management
102-10	Significant changes to the organization and its supply chain	P044 Supplier Management
102-11	Precautionary principles or guidelines	P062 Risk Management > Important Risks Items and Countermeasures
102-12	External initiative	P028 External Engagement > External Initiative
102-13	Membership of associations	P029 External Engagement > Participation in External Associations and Memberships
102-14	Statement from decision-maker	P002 Letter from the Chairman
102-16	Values, principles, standards, and norms of behavior	P058 Principles of Governance > Promote Corporate Social Responsibilities P059 Principles of Governance > Ethical Management

102-18	Governance structure	P051 Governance Structure > Diversity and Professionalism of the Board of Directors
102-40	List of stakeholder groups	P015 Identification of Stakeholders
102-41	Group agreements	* No union. No group agreements
102-42	Identifying and selecting stakeholders	P015 Identification of Stakeholders
102-43	Guidelines on communications with stakeholders	P015 Communications with Stakeholders
102-44	Key topics and concerns raised	P015 Communications with Stakeholders
102-45	Entities included in the consolidated financial statements	P004 About TTY Sustainability Report > Reporting Boundaries and Coverage P024 About TTY Biopharm > Financial Operation Overview
102-46	Defining report content and topic boundaries	P019 Material Topics Identification
102-47	List of material topics	P019 Material Topics Identification
102-48	Restatements of information	P082 Waste Management P101 Occupational Safety and Health > Occupational Injury Statistics
102-49	Changes in reporting	P019 Material Topics Identification
102-50	Reporting period	P004 About TTY Sustainability Report > Reporting Boundaries and Coverage
102-51	Date of last report	P004 About TTY Sustainability Report > Issuance Frequency
102-52	Reporting period	P004 About TTY Sustainability Report > Issuance Frequency
102-53	Contact for questions regarding the report	P004 About TTY Sustainability Report
102-54	Claim of reporting in accordance with GRI Standards	P004 About TTY Sustainability Report > Compilation Guidelines
102-55	GRI content index	P116 Index Table of GRI Sustainability Report Standards
102-56	External assurance and confirmation	P005 About TTY Sustainability Report > External Guarantee P128 Statement of Independent Assurance Opinion

Major Topic Disclosure

Disclosure No.	Disclosure Item	Page
Safe Products		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P039 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Safe Products"
103-3	Evaluation of the management approach	P039 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Safe Products"
★ 416-1	Assessing the health and safety of product and service categories	P039 Drug Safety
416-2	Violation of health and safety regulations related to products and services	P123 SASB Chart > Drug Safety

Regulatory Compliance		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P040 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Regulatory Compliance"
103-3	Evaluation of the management approach	P040 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Regulatory Compliance"
417-1	Product and service information and labeling requirements	P039 Drug safety
★ 417-2	Failure to comply with laws and regulations regarding information and labeling of products and services	P039 Drug safety
417-3	Failure to comply with marketing communications regulations	P039 Drug safety
Occupational Health and Safety		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P098 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Occupational Health and Safety"
103-3	Evaluation of the management approach	P098 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Occupational Health and Safety"
403-1	Occupational safety and health management system	P098 Occupational Safety and Health
403-2	Hazard identification, risk assessment, and incident investigation	P100 Occupational Safety and Health Management > Hazard Identification and Risk Assessment P100 Occupational Safety and Health Management > Accident Investigation Process
403-3	Occupational health services	P104 Initiative Improvement Plan
403-4	Worker involvement, consultation and communication regarding occupational safety and health	P099 Occupational Safety and Health Management
403-5	Worker training on occupational safety and health	P100 Occupational Safety and Health Management > Health Promotion
403-6	Worker Health Promotion	P100 Occupational Safety and Health Management > Health Promotion
403-7	Preventing and mitigating occupational safety and health impacts directly related to business relationships	P102 Occupational Safety Risk Control > Employee Safety Measures
★ 403-9	Occupational injuries	P101 Occupational Safety and Health Management > Occupational Injury Statistics
403-10	Occupational diseases	P101 Occupational Safety and Health Management > Occupational Injury Statistics

Ethics and Integrity		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P059 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Ethics and Integrity"
103-3	Evaluation of the management approach	P059 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Ethics and Integrity"
★ 205-2	Communication and training on anti-corruption policies and procedures	P061 Ethical Management > Education and Training on Ethical Management
205-3	Confirmed corruption incidents and actions taken	P060 Ethical Management > Principles of Procedures for Ethical Management
Corporate Image		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P106 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Corporate Image"
103-3	Evaluation of the management approach	P106 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Corporate Image"
Operation Performance		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P023 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Operation Performance"
103-3	Evaluation of the management approach	P023 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Operation Performance"
★ 201-1	Direct economic value generated and distributed by the organization	P024 About TTY Biopharm > Financial Operation Overview
201-3	Defined benefit plan obligations and other retirement plans	P090 Labor-employer Relationship Management > Employee Benefits
Sustainable Development Strategy		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P006 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Sustainable Development Strategies"
103-3	Evaluation of the management approach	P006 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Sustainable Development Strategies"
Sewage and Waste Management		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P080 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Sewage and Waste Management"

103-3	Evaluation of the management approach	P080 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Sewage and Waste Management"
303-1	Interactions with water as a shared resource	P080 Water Management
303-2	Management of water discharge-related impact	P080 Water Management
★ 303-4	Water discharge	P081 Statistics on Water Consumption
306-1	Waste generation and significant waste-related impact	P082 Waste Management
306-2	Management of significant waste-related impact	P082 Waste Management
306-3	Waste generated	P082 Waste Management
★ 306-5	Waste directed to disposal	P082 Waste Management
Information Security		
103-1	Explanation of the material topic and its scope	P020 TTY 2021 Material Topics and Boundaries
103-2	The management approach and its components	P069 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Information Security"
103-3	Evaluation of the management approach	P069 TTY Biopharm management guidelines elements and assessment regarding 2021 material topic of "Information Security"
★ 418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	P070 Information Security Risks

Note:

- ★ Indicates a material topic.
- GRI 403: Occupational safety and health refers to the new 2018 version of the provision.
- GRI 306: Waste refers to the new version of the 2020 provision.

Other Topics Disclosure

Disclosure No.	Disclosure Item	Page
GRI 202: Market presence 2016		
202-1	Ratio of standard entry level wage by gender compared to local minimum wage	P090 Labor-employer Relationship Management > Salary Structure
GRI 203: Indirect economic impacts 2016		
203-1	Development and impact of infrastructure investments and services supported	P106 Social Participation
GRI 302: Energy 2016		
302-1	Energy consumption within the organization	P074 Statistics of Energy Consumption
302-3	Energy intensity	P074 Statistics of Energy Consumption
302-4	Reduction of energy consumption	P076 Results of Electricity Reduction

GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	P075 Statistics on GHG Emission
305-2	Energy indirect (Scope 2) GHG emissions	P075 Statistics on GHG Emission
305-4	GHG emissions intensity	P075 Statistics on GHG Emission
305-5	Reduction of GHG emissions	P076 Results of Electricity Reduction
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	P078 Air Pollution Control
GRI 307: Environmental compliance 2016		
307-1	Non-compliance with environmental laws and regulations	P073 Environmental Symbiosis > Management Guidelines
GRI 308: Supplier environmental assessment 2016		
308-1	New suppliers that were screened by environmental criteria	P044 Supplier Management

Disclosure No.	Disclosure Item	Page
GRI 401: Employment 2016		
401-1	New and Departed Employees	P087 Human Resource Structure > More job Opportunities
401-2	Benefits provided to full-time employees (Excluding temporary or part-time employees)	P090 Labor-employer Relationship Management > Employee Benefits
401-3	Parental leave	P091 Labor-employer Relationship Management > Maternity Health Protection
GRI 402: Labor/ Management relations 2016		
402-1	Minimum notice periods regarding operational changes	P089 Employment Protection Rights > Harmonizing Labor-employer Relations
GRI 404: Training and education 2016		
404-1	Average hours of training per year per employee	P093 Expanding Employee Competence > Employee Training
404-3	Percentage of employees receiving regular performance and career development reviews	P095 Successor Projects > Talent Development and Assessment
GRI 405: Diversity and equal opportunity 2016		
405-1	Diversity of governance units and employees	P051 Governance Structure > Diversity and Professionalism of the Board of Directors P088 Human Resource Structure > Diversity and Equality in the Workplace
405-2	Ratio of basic salary and remuneration of women to men	P090 Labor-employer Relationship Management > Salary Structure
GRI 406: Non-discrimination 2016		
406-1	Incidents of discrimination and the corrective actions taken	P089 Employment Protection Rights > Protecting Employment Rights
GRI 408: Child labor 2016		
408-1	Operations and suppliers at significant risk for incidents of child labor	P089 Employment Protection Rights > Protecting Employment Rights
GRI 409: Forced or compulsory labor 2016		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	P089 Employment Protection Rights > Protecting Employment Rights
GRI 414: Supplier social assessment 2016		
414-1	New suppliers that were screened using social criteria	P044 Supplier Management

I SASB Chart

(Sustainability Accounting Standards Board)

SASB Biotechnology and Pharmaceutical Industry Disclosure Guidelines				
No.	Accounting Standards	Category	Disclosure Item	Relevant chapters
Topic: Safety of participants in clinical trials				
HC-BP-210a.1	To study the management process to ensure the quality of care and patient safety according to different regions of the world	Discussion and Analysis	TTY adopts the highest standards of management for ensuring medical quality and patient safety, and each business unit conducts clinical trials in accordance with domestic regulations such as the Good Clinical Trial Practice Guidelines for Pharmaceuticals. In human research and clinical trials of cancer drugs, in addition to complying with relevant domestic and foreign laws and regulations (such as ICH E6, human research law, etc.), they are approved by the ethics committee of the testing institution and the local health authority and implemented in accordance with the standard operating procedures of the medical academic division.	Ch 2 Quality and Assurance > Drug Safety
HC-BP-210a.2	For clinical trial management and drug active surveillance related FDA audit items and quantities, the following approaches can be taken: (1) Voluntary Active Initiative (VAI) (2) Official Active Initiative (OAI)	Quantitative	The management and active monitoring of research drugs are carried out in accordance with PIC/S GMP (Part I, Attachment 13 of the Good Manufacturing Practice for Pharmaceuticals in Taiwan), ICH E6 (Good Clinical Trial Practice Guidelines for Pharmaceuticals in Taiwan) and the standard operating procedures of the pharmaceutical research institute, and are recorded in written documents and data records to ensure effective management.	Ch 2 Quality and Assurance > Drug Safety
HC-BP-210a.3	Total financial losses from legal proceedings related to clinical trials of drugs in developing countries	Quantitative	There are no relevant losses to report in TTY in 2021. In human research and clinical trials, TTY provides insurances to the subjects depending on the case. In addition, potential risks, damage compensation and insurance information in studies are clearly stated in the subjects' consent form so subjects carefully consider whether to participate in the clinical trial.	Ch 2 Quality and Assurance > Drug Safety
Topic: Drug licensing				
HC-BP-240a.1	The measures and initiatives to promote the use of healthcare products for diseases requiring priority prevention and treatment and countries with relatively backward medical and health conditions (as defined in the drug licensing index) is described in detail	Discussion and Analysis	TTY introduced and obtained the trivalent and tetravalent influenza vaccine certificate issued by the competent authority. Note: The drug license was obtained on April 6 th , 2017 and March 20 th , 2020.	Ch 1 About TTY Biopharm > TTY Strategy Deployment
HC-BP-240a.2	As a product on the PQP list of pre-qualified medicines	Discussion and Analysis	Taiwan is not a member of the World Health Organization (WHO), and TTY does not hold products related to the WHO PQP.	-

Topic: Reasonable pricing for the masses				
HC-BP-240b.1	Number of lawsuits related to ANDA procedures related to disbursements or the specified period of delay in the listing of generic drugs	Quantitative	No related lawsuits.	-
HC-BP-240b.2	Percentage change in (1) average pricing and (2) average net price of the U.S. drug portfolio compared to the same period last year	Quantitative	TTY drugs are mostly regulated by Taiwan's health insurance laws and regulations, and only 1 cancer drug and 1 anti-infection drug are at the patients' own expense. For drugs covered by national health insurance, most prices were reduced compared to the same period last year, and only a few drugs maintained the same prices. In addition, the price of self-pay drugs is the same as the same period last year.	CH 3 Governance > Important Risk Items and Counter-measures
HC-BP-240b.3	Percentage change: (1) pricing and (2) net price of products with the largest increase compared with the same period of the previous year	Quantitative	The current pricing of drugs sold by TTY's BUs is the same as that in the same period of the previous year.	CH 3 Governance > Important Risk Items and Counter-measures
Topic: Drug safety				
HC-BP-250a.1	List of products listed in the U.S. Food and Drug Administration's (FDA) MedWatch Notification System's Human Medical Product Safety Alert Database	Discussion and Analysis	Adverse drug reactions of TTY shall be reported by the drug safety window of each BU. In 2021, the cases reported to the adverse drug reaction notification system of the Taiwan Food and Drug Administration (TFDA) included Tynen, Lipo-Dox, UFUR, TS-1, Lonsurf and Yondelis of the Oncology Business Unit (TOT); Brosym, Cubicin, Colimycin and Flucelvax of the Intensive Care Team (TIT) are included in active drug safety monitoring. All the cases reported above do not involve any change in product safety information, and are reported in accordance with TFDA regulations.	Ch 2 Quality and Assurance > Drug Safety
HC-BP-250a.2	Number of deaths related to products in the FDA adverse drug reaction notification system	Quantitative	In Taiwan's TFDA adverse drug reaction notification system, the number of deaths suspected to be caused by products related to the Intensive Care Team (TIT) is 3.	Ch 2 Quality and Assurance > Drug Safety
HC-BP-250a.3	The number of recalls issued in accordance with FDA regulations and the total number of units recalled	Quantitative	TTY has recalled 334 units of Gemmis (Lot No. LTW2015), a product of the TOT, in accordance with TFDA regulations.	-
HC-BP-250a.4	Total amount of products accepted for recycling, reuse or disposal	Quantitative	TTY accepted 334 TOT products Gemmis (Lot No. LTW2015) for recycling, reuse or disposal in accordance with TFDA regulations.	-
HC-BP-250a.5	Number of cases by types that FDA-enforced measures for violations of current Good Manufacturing Practices (cGMP)	Quantitative	No related matters.	-

Topic: Counterfeit drugs				
HC-BP-260a.1	Details the methods and techniques to maintain product traceability and prevent counterfeiting throughout the supply chain	Discussion and Analysis	TTY purchases raw materials from qualified suppliers on the list of raw material suppliers and has transportation and sales records so customers in the drug supply chain can be consulted and traced. To maintain product traceability and prevent counterfeiting, the logistics providers of the company are all qualified manufacturers with GDP, which are regularly evaluated by TTY and implemented in accordance with the contents of the quality contract signed by both parties to ensure that after the drugs leave the factory, the product quality and packaging integrity is maintained during storage and transportation, and drugs are correctly delivered to customers within a reasonable time to prevent counterfeit drugs from entering the drug supply chain. In addition, to strengthen the internal control management of logistics companies, the vehicles of logistics companies are also equipped with GPS, and logistics companies follow the instructions of the company to deliver the drugs to designated medical institutions. The medical institutions report to the company if not receive the stocks.	Ch 2 Quality and Assurance > Drug Safety, Ch 3 Governance > Important Risks Items and Counter-measures
HC-BP-260a.2	Explore procedures for remind customers and business partners of potential or known risks associated with counterfeit generic drugs	Discussion and Analysis	The manufacturing side avoids direct contact with customers, so there is no relevant information to provide.	-
HC-BP-260a.3	Number of searches, seizures, arrests, or criminal proceedings related to counterfeit drugs	Quantitative	No related matters.	-
Topic: Marketing ethics				
HC-BP-270a.1	Total financial loss due to legal proceedings related to forged sales statements	Quantitative	No related matters.	CH 3 Governance > Important Risk Items and Counter-measures
HC-BP-270a.2	Ethical guidelines for off-label use of pharmaceutical products	Discussion and Analysis	The products sold by each BU of TTY follow the indications approved by the Taiwan Food and Drug Administration, and use advertising content approved by the health authorities for public communication. When so requested, TTY provides further clinical literature for doctors to decide whether to use the product.	Ch 2 Quality and Assurance > Drug Safety
Topic: Employee recruitment, development and retention				
HC-BP-330a.1	Explore the recruitment and retention of scientists and R&D personnel	Discussion and Analysis	In talent recruitment through the SIP program or industry-university cooperation R&D projects, TTY enables students in chemical-related departments to further understand and experience specialties and the future development of pharmaceutical R&D to attract talent. In addition, TTY contacts and interacts with R&D personnel of overseas pharmaceutical companies through LinkedIn and other related platforms, and provides job vacancy information to motivate exceptional talent to return to Taiwan to work in the industry. TTY provides a friendly and flexible working environment to meet the needs of R&D projects so R&D personnel can focus on their work which helps retain talent. In addition, TTY gives colleagues with integration and leadership abilities the opportunity to serve as project leaders in R&D projects so they can engage in continuous professional development abilities.	Ch 5 Social > Talent Cultivation, Social Participation (industry-University cooperation: Committed to Training Domestic Medical Talents)

HC-BP-330a.2	(1) Voluntary departed rate (2) involuntary departed rate: (a) senior managers, (b) middle-level managers, (c) professionals (d) others	Quantitative	By the end of year 2021, the total number of departed employees of TTY was 542, including 55 new employees, accounting for 10.15% of all employees; 54 employees resigned, accounting for 9.96% of all employees.	Ch 5 Social > Social Inclusion												
<table border="1"> <thead> <tr> <th>2021</th> <th>Voluntary resignation</th> <th>Involuntary resignation</th> </tr> </thead> <tbody> <tr> <td>Senior managers</td> <td>0</td> <td>0</td> </tr> <tr> <td>Middle level managers</td> <td>1</td> <td>0</td> </tr> <tr> <td>Professionals</td> <td>36</td> <td>1</td> </tr> </tbody> </table>					2021	Voluntary resignation	Involuntary resignation	Senior managers	0	0	Middle level managers	1	0	Professionals	36	1
2021	Voluntary resignation	Involuntary resignation														
Senior managers	0	0														
Middle level managers	1	0														
Professionals	36	1														
Topic: Supplier management																
HC-BP-430a.1	Confirm the (1) physical facilities and (2) percentage of primary supplier facilities for those who participating in Rx-360 international pharmaceutical supply chain alliance review plan or equivalent third-party review plan to ensure supply chain quality and drug ingredient integrity	Quantitative	TTY does not participate in the Rx-360 organization but will conduct a written or on-site supplier review plan every year or every 3 years according to the in-plant SOP. (1) Physical facilities: no relevant event to report. (2) The factory has established an appropriate continuous monitoring and assessment system for qualified raw material suppliers to ensure the integrity of supply chain quality and pharmaceutical ingredients.	CH 2 Quality and Assurance > Supplier Management												
Topic: Business ethics																
HC-BP-510a.1	Total financial losses caused by legal proceedings related to corruption and bribery	Quantitative	No related matters.	-												
HC-BP-510a.2	Detail ethics when interacting with healthcare professionals	Discussion and Analysis	All marketing activities and product promotion of TTY focus on "prolonging patients' life and improving their quality of life" as the core value. Instead of directly contacting patients, TTY leverages its academic and professional advantage to sell products at disease treatment and clinical sites, and conveys product information to customers through academic seminars, medical associations and one-on-one visits, etc. All product messages communicated to medical professionals have clinical evidence such as guidelines and related literature. To promote the development of academic research and disease treatment, TTY provides sponsorship, such as medical associations and clinical research funds, assists doctors in holding professional academic seminars, and provides doctors' speech fees and conference host fees. No BUs accept bribes to further product sales, and all follow the code of business integrity to enforce ethical principles of interaction between colleagues and professionals.	Ch 2 Quality and Assurance > Drug Safety												

Topic: Activity indicators			
HC-BP-000.A	Number of patients treated	Quantitative	Oncology BU provides relevant drugs for about 500,000 patients. About 300,000 patients are in the Intensive Care BU's GNB empirical treatment market, about 50,000 patients in the MRSA and VRE (BSI, IE, BJI) treatment market, and about 100,000 patients in the MDR-GNB treatment market. About 80,000 patients use stomach medicine products, about 30,000 patients take calcium tablets and about 5,000 patients take gout drugs in the healthcare BU.
HC-BP-000.B	(1) Number of drugs in the product portfolio (2) Number of drugs in research and development (stages 1-3)	Quantitative	Oncology BU currently has 29 drugs in its product portfolio, including 21 solid tumors and 8 blood tumor products. No drugs are under development at this stage. There are 8 kinds of drugs in the product portfolio of the Intensive Care BU, including 5 antibiotic products, 2 antimycotic products, 1 influenza vaccine, and another anesthetic product is under certification. The Healthcare BU has 4 products in its product portfolio, including 3 gastrointestinal health products, 1 osteoporosis prevention product, 1 product under R&D and certification, and 1 product under API improvement.

I UNGC Chart

Principles	TTY practice	Relevant chapters
Human rights	Principle 1: Enterprises should support and respect internationally recognized human rights	TTY adheres to internationally recognized human rights standards, such as the International Labor Organization's Declaration of Fundamental Principles and Rights at Work, the Universal Declaration of Human Rights, the 10 Principles of the United Nations Global Compact, and the United Nations Guiding Principles on Business and Human Rights, and also complies with local government labor laws and regulations to establish corporate human rights policies to protect the rights of employees.
	Principle 2: Enterprises should ensure that they are not involved in human rights violations	On December 24, 2021, the company received one employee complaint, and the investigation was completed in January 2022. In the future, the company will strengthen the communication and management capabilities of supervisors to prevent this situation from recurring.
Labor	Principle 3: Enterprises should support the freedom of labor association and recognize the right to collective bargaining	The representatives of TTY Labor and Employer Conference are composed of senior executives and colleagues from various departments. Meetings are held every 3 months to discuss issues such as the revision of labor conditions.
	Principle 4: Elimination of all forms of compulsory labor	TTY prohibits all forced labor practices, and there are no cases of forced labor at the company.
	Principle 5: The definitive abolition of child labor	TTY prohibits child labor that does not meet the legal minimum age and does not use child labor within the company.
	Principle 6: Elimination of Discrimination in Employment and Occupation	TTY actively strives for workplace diversity. In the recent 5 years, the proportion of female employees has remained stable at more than 50%, and 39.68% of women hold key leadership positions above manager level, ensuring that employees are not discriminated against or treated unfairly due to gender, race, age, marital status, religion, political position, etc.

Environment	Principle 7: Enterprises should support the adoption of preventive measures to cope with environmental challenges	To mitigate the impact of climate change and cope with increasingly stringent temperature management regulations, TTY currently participates in the TCFD specification, preliminarily completing the identification of climate change related risks and opportunities, is planning specific response strategies according to the risk identification results, and is strengthening information disclosure of climate related risks and opportunities. To improve disaster response capabilities, TTY has actively developed new suppliers to ensure the second or even third source of raw materials, and has implemented a supplier sustainability management mechanism.	CH 3 Governance > Task Force on Climate-related Financial Disclosure
	Principle 8: Take initiative to promote and strengthen corporate environmental responsibility	TTY is committed to improving the utilization efficiency of water resources, creating a water resources circulation system, recycling water resources of the cooling tower, improving the cooling process and increasing the heat recovery rate to reduce demand for water resources and subsequent impact on the environment.	CH 4 Environmental > Water Management
	Principle 9: Encourage the development and promotion of environmentally friendly technologies	TTY adopts source classification and multi-sections effective treatment technology in the 2 manufacturing sites of Lioudu and Chungli factories to reduce air pollution caused by operating processes. The pollutant content discharged by the company into the atmosphere is far lower than the local regulation requirements.	CH 4 Environmental > Air Pollution Control
Anti-corruption	Principle 10: Enterprises should strive against all forms of corruption, including extortion and bribery	To establish a corporate culture of ethical management, TTY in accordance with the Principles of Procedures for Ethical Management and Procedures for Ethical Management and Guidelines for Conduct, specifically regulates matters that employees should pay attention to when performing their roles, and clearly prescribes preventive measures to various dishonest behaviors. It is strictly prohibited for directors, managers and employees to engage in any bribery and illegal behavior, and TTY is committed to minimizing the risk of violating honest practices. Ethical Management Promotion Center under the Board of Directors to publicize ethical management policy through internal announcements, regularly provide relevant education and training for all colleagues, and at least once a year to publicize relevant laws and regulations on preventing insider trading for directors, managers and employees. In 2021, due to the misconducts of a few employees of TTY, an incident of suspected insider trading was investigated by the judicial authorities which impacted the company's reputation. The case is still at trial. To prevent similar incidents from happening again, the company reported to the Board of Directors on December 3 rd , 2021 of the improvement measures for preventing insider trading, and proposed to revise the measures and add relevant provisions on the management of preventing insider trading. To implement improvement measures to prevent insider trading, on December 9, 2021, TTY held a lecture on preventing insider trading. In addition, on December 24, the Board of Directors revised the Operating Procedures for Handling Internal Material Information and renamed it the Operating Procedures for Handling Internal Material Information and Insider Trading Prevention, adding clear and strict regulations on preventing insider trading.	CH 3 Governance > Ethical Management

I Statement of Independent Assurance Opinion

The 2021 Sustainability Report is Verified by BSI

TTY's 2021 sustainability report passed the third-party independent verification institution BSI according to AA1000AS V3 first application type (type 1) and moderate assurance verification standards. External assurance is provided for the information disclosed in the report, the independent assurance opinion statement issued by BSI confirms that this report correctly presents and conveys TTY's 2021 economic, social and environmental performance information.



INDEPENDENT ASSURANCE OPINION STATEMENT

TTY Biopharm Company Limited 2021 Sustainability Report

The British Standards Institution is independent to TTY Biopharm Company Limited (hereafter referred to as TTY Biopharm in this statement) and has no financial interest in the operation of TTY Biopharm other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of TTY Biopharm only for the purposes of assuring its statements relating to its sustainability, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by TTY Biopharm. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to TTY Biopharm only.

Scope

The scope of engagement agreed upon with TTY Biopharm includes the followings:

1. The assurance scope is consistent with the description of TTY Biopharm Company Limited 2021 Sustainability Report.
2. The evaluation of the nature and extent of the TTY Biopharm's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the TTY Biopharm Company Limited 2021 Sustainability Report provides a fair view of the TTY Biopharm sustainability programmes and performances during 2021. The sustainability report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the TTY Biopharm and the sample taken. We believe that the performance information of Environment, Social and Governance (ESG) are fairly represented. The sustainability performance information disclosed in the report demonstrate TTY Biopharm's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurers in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that TTY Biopharm's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards: Core option were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to TTY Biopharm's policies to provide a check on the appropriateness of statements made in the report.
- discussion with managers on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 14 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence for claims made in the reports.
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018).

Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and GRI Standards is set out below:

Inclusivity

This report has reflected a fact that TTY Biopharm has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the TTY Biopharm's inclusivity issues.

Materiality

TTY Biopharm publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of TTY Biopharm and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the TTY Biopharm's management and performance. In our professional opinion the report covers the TTY Biopharm's material issues.

Responsiveness

TTY Biopharm has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for TTY Biopharm is developed and continually provides the opportunity to further enhance TTY Biopharm's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the TTY Biopharm's responsiveness issues.

Impact

TTY Biopharm has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. TTY Biopharm has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within the organization. In our professional opinion the report covers the TTY Biopharm's impact issues.

GRI Sustainability Reporting Standards (GRI Standards)

TTY Biopharm provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the TTY Biopharm's sustainability topics.

Assurance level

The moderate level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

Responsibility

The sustainability report is the responsibility of the TTY Biopharm's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.



For and on behalf of BSI: _____
Peter Pu, Managing Director BSI Taiwan



Statement No: SRA-TW-2021077
2022-05-25

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