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CORPORATE SOCIAL RESPONSIBILITY





### CORPORATE SOCIAL RESPONSIBILITY

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#### Environmental

Our Earth deserves our attention. TTY is committed to protecting our planet, which is our corporate mission as a citizen of the Earth.





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#### Social

Everything we do focuses on the people. We deeply care for all the people who are involved in the manufacture of our products to ensure that everyone has dignity and is respected.



#### Appendix

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#### Governance

To exercise corporate governance, we have adopted the high standards of the OECD Principles of Corporate Governance.

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## Letter from the Chairman Be a civilized person

Civilized people form a civilized society. A civilized person is well respected, contributes to society, and makes the society more civilized through continuous learnings. A civilized enterprise naturally has its own responsibilities and obligations.

Fulfilling corporate social responsibility (CSR) is the trend of the moment. TTY Biopharm must practice CSR while moving toward internationalization. Therefore, we hope that the CSR DNA is embedded into TTY Biopharm's corporate culture and becomes the faith instinctively kept by all of employees. We must pay serious attention to this issue, and ensure that the practice of CSR becomes more influential through endless learnings.

A good enterprise should fulfill its corporate social responsibility in order to achieve sustainable development. Spending on CSR is worthwhile because such an effort will definitely bear fruit. Although it may impact profits in the short term, it will assist in the company's sustainable management over the long run without question. For instance, TTY Biopharm is a pharmaceutical R&D and manufacturing company. We inevitably produce waste during the product manufacturing process. In the future, we hope to recycle and reuse these wastes to protect the environment and create an economy with positive footprint.

Apart from contributions to environmental sustainability, corporate governance is also vital. An enterprise needs to have a positive social image. Without fulfilling its corporate social responsibility, an enterprise is difficult to establish a highly recognized corporate image, where image is closely related to industry characteristics. TTY Biopharm is a pharmaceutical company, which is involved in an industry that enhances the quality of human life. Our pharmaceutical products must gain patients' trust, as the safety and quality of our products are highly concerned with patients' health.

TTY Biopharm Chairman Lin Chuan

\_in Chuan

### Letter from the Chairman





Lin Chuan, the Chairman of TTY Biopharm, attended the CSR kickoff meeting in person, and gave a speech on the theme of "Be a Civilized Person" to the CSR promotion team. This touching talk not only raised the confidence of all attended colleagues, but also strengthened the firm belief in sustainable development. °

Therefore, we must be cautious and careful as what's said and done by every colleague represents the Company. Hence, we have to keep our word, act properly and observe the rules so that we can gain respect from others and prevent malicious distortions or misunderstanding from outside of the Company. With regard to the business dealings of the Company, we must choose ethical and honest counterparties and must not have dealings with unethical ones. Only then can each operation be performed towards perfection.

In addition, each colleague must have their own specialization, and do their utmost be it internally or externally. To err is human; however, colleagues must remind each other and be alerted at all times to reduce errors, and strive as much as possible to develop high-quality and civilized behaviors. If we can always be self-disciplined, each of us can be a truly civilized person and make TTY Biopharm a good civilized company. This is very important, and a pressing matter to TTY Biopharm. Today's investors mostly focus their investment on companies that fulfill corporate social responsibility because such companies are ethical and honest, serious and earnest. Hence, investing in such companies must bear fruits.

Every manager and supervisor is required to share the concept of CSR with all our colleagues, and implement this concept into daily life, in hopes that one day, we can demonstrate the value of CSR at key moments due to such efforts, and can create a turnaround when facing crises due to TTY Biopharm's efforts to fulfill CSR. Hence, everyone is encouraged to work together in this respect.

In my opinion, our implementation of CSR needs to be inspected by means of integrating it into the key performance indicators (KPIs) of each unit. Everyone's opinions are welcomed and collected to plans which implementation goals can be included in this year's KPIs. In the future, more plannings can be done to improve such KPIs step by step and make progress from year to year so as to identify the differences over the years. Comparison with other companies is also made to identify the relevant differences. We should never be complacent by complying with the law alone. Instead, we must strive for excellence and perfection.

We hope that TTY Biopharm can be a century–lasting company or even a centuries–standing company. What we've done at TTY Biopharm will leave a mark in history and will have a substantial impact on the future of TTY Biopharm. Hence, I am self–disciplined with the aforementioned standard at all times, and will also use such standard to review our colleagues. Let's encourage each other to achieve this target.

### About TTY Biopharm

# Improving the quality of human life through scientific innovation

TTY Biopharm Co., Ltd. (hereinafter referred to as TTY Biopharm or TTY) was founded on July 22, 1960. It is currently headquartered at 3F, No. 3–1, Park Street, Nangang District, Taipei City, and has a total of 530 employees.

TTY Biopharm is a pharmaceutical company that specializes in the development of specialty dosage forms and new drugs. Our main business activities include manufacturing, processing and trading of various medical supplies and chemicals. Our main products include oncology (cancer) drugs, anti– infective drugs, and medications for chronic diseases. The Company was listed on Taipei Exchange in September 2001 with a share capital of NT\$2.486 billion.

The Company's competitive niche lies in liposome and microsphere technology platforms. We are one of the few companies in Taiwan that possess the technology to provide one-stop pharmaceutical services from research, development, manufacturing to sales. In addition to our world-leading R&D capabilities, we have also been able to deliver good value and stability in the products we make, which provides the basis for the Company's revenue growth.

TTY Biopharm provides services mainly in Taiwan, while Europe constitutes 11.17% of our overall export sales. Other export destinations include Thailand, Philippines, Vietnam, and Malaysia. In terms of distribution, products are mostly sold directly to medical centers and regional hospitals, and through distributors to local hospitals, clinics and pharmacies. People who benefit from the Company's products are mostly cancer/tumor patients, hospitalized patients with infection, and patients with conditions such as gastroesophageal reflux, osteoporosis, high uric acid, and bacterial infection.

TTY Biopharm has a total of six operating sites, including (1) our headquarter in Taipei City, (2) Chungli Factory in Chungli District, Taoyuan City, (3) Lioudu Factory in Qidu District, Keelung, (4) Translational Research Center in Xizhi District, New Taipei City, (5) Pharmaceutical Development Center in Neihu District, Taipei City, and (6) Neihu Factory in Neihu District, Taipei City.



### About TTY Biopharm

# Liposome as a new solution to breast cancer chemotherapy

# Asia's leading manufacturer in the commercial mass production of liposomes



TTY Biopharm uses its remarkable manufacturing process to reduce the diameter of liposome to 1/500 times the diameter of a strand of hair, and even "insert" active drugs into such tiny spheres which are finer than strands of hair. TTY Biopharm's production cycle and efficiency for liposomes have increased from year to year, while delivery time for foreign pharmaceutical customers become increasingly tighter with improved yield, price, and delivery time. TTY Biopharm is currently Asia's leading manufacturer in the commercial mass production of liposomes.

Breast cancer is the number one killer of women in Taiwan, with tens of thousands of new cases recorded every year. When sharing about breast cancer chemotherapy, Dr. Shyr–Ming Sheen–Chen, former President of the Breast Cancer Society of Taiwan, told the story of a 75–year–old lady who was diagnosed with breast cancer. As it is not easy to treat breast cancer at such age, the lady's family was worried that she would not be able to bear the side effects of frequent chemotherapy. After interacting with the doctor numerous times, the doctor recommended treatment with liposome. After undergoing the treatment four times, her conditions stabilized with less discomfort, and her family felt at ease with the treatment. Moreover, the quality of treatment for the patient greatly improved too.

#### Traditional breast cancer chemotherapy leads lots side effects

Dr. Sheen–Chen explained that among all kinds of treatments, chemotherapy is most often performed with doxorubicin, with the mechanism to produce anti– cancer free radicals, and inhibit tumor DNA to kill cancer cells. However, during treatment it easily causes various side effects, such as nausea and vomiting, poor appetite, hair loss, etc.

#### Liposome as a new solution to breast cancer chemotherapy

Dr. Sheen-Chen said that a new technique called "liposomal doxorubicin" is already available at the moment. Compared to traditional doxorubicin, it can effectively reduce side effects by slowly releasing drug concentration, while minimizing damage to body tissues, especially cardiovascular damage, at the same time. After being coated by liposome, doxorubicin turns into a guided missile which attacks cancer cells at fixed point, decreases damage to normal tissues of the body by drugs, and reduces side effects. Elder patients, patients with heart failure, hypertension, hyperglycemia, hyperlipidemia, obesity, or patients who worry about nausea, vomiting, and hair loss due to side effects, do not have to worry about any discomfort resulted from treatment as side effects are significantly reduced during treatment.

### How difficult is it to do commercial mass production of liposomes?

How formidable is the production and manufacturing of liposomes? First of all, we have to establish a general idea of the manufacturing process for liposomes. To put it briefly, TTY Biopharm's job is to insert active drugs entrusted by customers, including doctors or foreign pharmaceutical companies, into spheres smaller than rice kernels. TTY Biopharm uses its amazing manufacturing process to reduce the diameter of liposome to 1/500 times the diameter of a strand of hair, and even "insert" active drugs into such tiny spheres which are finer than strands of hair.

Besides, TTY Biopharm's production cycle and efficiency for liposomes have improved from year to year, while delivery time for foreign pharmaceutical customers become increasingly tighter with improved yield, price, and delivery time. At present, TTY Biopharm is already Asia's leading manufacturer in the commercial mass production of liposomes.



## The leader of **special drug** delivery systems

Liposomes and microsphere have the advantage of dosage form design, and are successfully applied in commercial mass production. These technologies have reached world–leading status, and are highly thought of by international partners.



Integrating international platforms and marketing strategies for **new drugs development** Providing treatment programs with **the best economic value of medicines** 

### About TTY Biopharm

## Responsible Products and Manufacturing



Focus on developing **special** formulations and new drugs



As a professional and international pharmaceutical enterprise, we were awarded certificates from Europe, US, Japan and multinational countries and in compliance with **PIC/S GMP standards** 

## About TTY Biopharm

## Chungli Factory in Chungli District, Taoyuan City

# Successfully passed 24 international inspections conducted by 16 countries



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



The features of professional manufacturing at Chungli factory are listed as follows :

- The only liposome manufacturing equipment for automated mass production in Taiwan.
- Oncology facilities and exclusive equipment comply with PIC/S GMP international requirements.
- Successfully passed international pharmaceutical standards and various inspections conducted by countries of USA, Europe, Japan, etc., and exported products globally.
- The best collaboration partner of contract manufacturing organizations (CMO) 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/yea

Passed plant inspections by countries and by year Successfully passed 24 international inspections





Lioudu Factory was founded in 2011 and 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 and lyophilized liposomes. G-P-

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### About TTY Biopharm

## Lioudu Factory in Keelung A manufacturing Site

## Successfully passed 6 international inspections conducted by 2 countries

#### Features of Lioudu Factory

- Oral and liquid injection manufacturing plants that comply with PIC/S GMP international requirements.
- Equipped with Italy Automatic Tunnel–Styled Filling Machine (vial washing machine, depyrogenating tunnel, filling machine, lyophilizer and capping machine), along with sterile manufacturing plant and advanced equipment to ensure the safety of manufacturing operators.
- Liposome production center.
- Passed international pharmaceutical standards and inspections by Taiwan TFDA and Japan PMDA. Application for international inspections by USA and Europe will be proceeded gradually.
- The best collaboration partner of contract manufacturing organizations (CMO) for international pharmaceutical manufacturers.
- Capacity to develop new drugs microbiology analysis methods consistent with USP, EP and JP Pharmacopoeia; PIC/S GMP and standards of world advanced countries.

#### Passed inspections in various countries by year

Successfully passed 6 international inspections conducted by 2 countries Official GMP certifications



Taiwan Production lines for orally administered and liquid injection products

Taiwan Production lines for orally administered and liquid injection products



Production lines for orally administered products

Taiwan Production lines for orally administered products

### About TTY Biopharm

## Neihu Factory in Taipei Specializing in clinical trial drugs



Over 70% of employees at the Pharmaceutical Development Center obtained a 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, from analytical method development to product manufacturing. We are able to handle diverse projects in a flexible manner, including high technical barrier products such as liposomes, 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.

Neihu Factory in Taipei specializes in the manufacture of clinical trial supplies, pilot batches, and submission batch production. The 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).



#### Production lines of Neihu Parenteral Factory

Since 2007, we have complied with inspection standards for 11 years.

- 2018 : TFDA routine inspection passed
- 2010 : EMA certification approved
- 2009 : TFDA certification approved
- 2007 : Production line of Parenteral Factory complied with PIC/S GMP
- In addition to inspections by official drug administration authorities, we also accept on-site audit by international partners and QP (from countries such as the Netherlands, Germany, China, and USA)

#### GMP production capacity of Neihu 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 production batch: 50LL

### Production line at Neihu excipient Factory

The excipient plant in Neihu Factory, Taipei City was established in 2013, and complies with the Joint IPEC – PQG Good Manufacturing Practice Guide.

#### GMP production capacity of Neihu Excipient Factory

PIC/S Grade D clean rooms

• Synthesis and purification of lipid ligands, such as short peptides

- Polymerization system
- Pulverizer
- Production batch: 5 kg

# Chapter Environmental



Building a highly adaptable infrastructure to promote sustainable industrial development and drive innovation





Take emergency actions to address climate change and its impact

# Key Performance

According to TTY Biopharm's environmental protection management approach, all operational activities must give priority to environmental sustainability. As a leading manufacturer in the pharmaceutical industry, we realize that good health relies heavily on a healthy environment, including clean air and water, as well as proper waste disposal. In this manner, the impact of climate change on human health is bound to decline gradually. After years of hard work, we have obtained the exciting results below. For detailed disclosure of environmental information, please refer to the following sections.

3.09%

With 2015 as the base year, greenhouse gas emission intensity decreased by 12.9%



The volume of water intake in 2018 decreased by 3.09% compared to the previous year

The volume of wastewater discharged in 2018 decreased by 3.12% compared **3.12%** to the previous year

The actual chemical oxygen demand (COD) emission in the water quality of Lioudu Factory, Keelung in 2018 88.62% below the sewer connection standards

The actual quantity of suspended solids (SS) discharged in the water quality of Lioudu Factory, Keelung in 2018 was 97.88% below the sewer connection standards

**97.88**%

The actual chemical oxygen demand (COD) emission in the water quality of Chungli Factory, Taoyuan in 2018 was 81.69% below the sewer connection standards

81.69%

The actual quantity of SS discharged in the water quality of Chungli Factory, Taoyuan in 2018 was 98.23% below the sewer connection standards



## Raw Material Management

When purchasing and using raw materials, we strive to save resources in order to prevent damage to the environment, and protect the health of employees and the public. According to the Company's commitment to sustainable development, and based on the precautionary principle, TTY Biopharm's responsibility is to do our utmost to eliminate environmental risks, which include any actual or potential unacceptable risks arising.

At the same time, we also invite our suppliers to work with us in order to improve the sustainability of the supply chain. Through active engagement, our goal is to promote innovation, manage performance and risks, and ensure business continuity. TTY Biopharm's suppliers are required to comply with TTY Biopharm's Supplier Code of Conduct.



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Constructed energy-saving buildings, such as Lioudu Factory in Keelung. Modify heating, cooling, and air-conditioning units: For instance, replaced with new natural gas boilers at Chungli Factory in Taoyuan.

Adjust the range of acceptable temperatures at offices and other workplaces: For instance, set the airconditioner temperature at 25 degrees Celsius, and install LED lights.



Improve work processes.

Lower travel needs of employees: Use longdistance video conferencing to reduce carbon footprint arising

from traveling.

## **Energy Management**

As the most professional pharmaceutical company in Taiwan, we are fully aware that climate change may lead to an increase in public health risks, such as becoming a hotbed of diseases arising from unclean air and water. At the same time, we have also gradually discovered more supporting data showing that certain disease patterns are related to changes in climate conditions.

For TTY Biopharm, energy consumption has always been one of the major topics. As part of our commitment to sustainable development and responsible use of resources, we continuously strive to reduce energy consumption, while pondering upon increasing the proportion of green energy in the future. Our strategy is to first reduce the use of resources, and then search for methods to replace fossil fuels.

In fact, TTY Biopharm's energy-related measures echo seven UN Sustainable Development Goals (SDGs), including SDGs 6, 7, 9, 11, 12, 13, and 15.

At the same time, we also comply with Bureau of Energy's "Energy Conservation Goals and Implementation Plans Set for Energy Users": Beginning May 2015, industrial power heavy users with a contracted capacity of more than 800 kW must achieve an average energy conservation rate of 1% within five years. Based on this systematic method, we are committed to improving energy efficiency at all operating sites, whereas specific measures are taken in accordance with international environmental standards, including ISO 14001, ISO 50001, and ISO 14064–1 as our management approach and compliance specifications for various energy conservation and carbon reduction measures.



TTY Biopharm's energy-related measures echo seven UN Sustainable Development Goals (SDGs), including SDGs 6, 7, 9, 11, 12, 13, and 15

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We proactively disclose transparent information on air emissions. These emissions are substances emitted from sources of pollution to the atmosphere, and the main type of emissions are greenhouse gases (GHG). GHG, the main culprit to climate change, is bound by the UN Framework Convention on Climate Change and the Paris Agreement. With 2015 as the base year, TTY Biopharm has achieved amazing results, where GHG emission intensity was reduced by 12.9%.

Based on the metric used by TTY Biopharm to calculate this intensity ratio, the numerator is the total amount of GHG emissions from Lioudu Factory in Keelung and Chungli Factory in Taoyuan. The types of GHG emissions involved are Scope 1 and Scope 2 emissions, and exclude Scope 3 emissions. On the other hand, the denominator is revenue.

TTY Biopharm does not discharge water with high concentration of chemical substances. Lowconcentration wastewater first goes through primary treatment in the factory before being channeled to the sewage treatment plant in the industrial park for final treatment. After meeting the national effluent standards, the treated wastewater is discharged into receiving waters, thereby reducing environmental degradation.



# Water consumption decreased by 3.09% compared to the previous year

We heavily rely on clean water in the manufacture of pharmaceutical products. Despite the continuous growth of company revenue and the number of employees, our long-term commitment to water conservation has successfully led to declining water consumption. Our water consumption in 2018 decreased by 3.09% compared to the previous year.

We formulate water conservation policies and plans in accordance with local government regulations and inspection standards in various countries. For details on the results of inspections in various countries, refer to the section titled "Responsible Products" in this report. Systematic measures related to water resource management are as follow:

- Collect and recycle water from cooling towers, and build a circulation system
- Reuse clean water
- Lower cooling requirements and improve the cooling process
- Improve heat recovery rate and reduce demand for cooling water



# The amount of wastewater discharged decreased by 3.12% compared to the previous year

TTY Biopharm is committed to the transparency of environmental information. Wastewater and waste– related topics are topics of great concern to us. These topics include water discharge, waste generation, treatment and disposal, as well as leaks of chemicals, oils, fuels, and other substances.

The impact of water discharge is related to the volume of water discharged, whereas water quality is linked to water discharge destinations. TTY Biopharm does not discharge water with high concentration of chemical substances. Low–concentration wastewater first goes through primary treatment in the factory before being channeled to the sewage treatment plant in the industrial park for final treatment. After meeting the national effluent standards, the treated wastewater is discharged into receiving waters, thereby reducing environmental degradation.

Waste generation, treatment, and disposal, including improper transportation, can also cause harm to human health and the environment. Special attention is required if waste is transported to countries in lack of waste disposal infrastructure and regulations.

We also pay serious attention to leaks of chemicals, oils, fuels, and other substances that may affect soil, water, air, biodiversity, and human health.

Statistics on the volume of wastewater discharged at Lioudu Factory in Keelung, Chungli Factory in Taoyuan, and Neihu factory (Unit: metric tons)





#### Comparison between the volume of wastewater discharged at Lioudu Factory in Keelung, and Chungli Factory in Taoyuan, with the local regulatory sewer connection standards (Unit: metric tons)

The COD and SS contents in wastewater discharged at TTY Biopharm's two major factories, namely Lioudu Factory in Keelung and Chungli Factory in Taoyuan, were far below the local regulatory sewer connection standards. TTY Biopharm demonstrated good waste treatment performance.





Chapter

Social



Ensure healthy lives and promote well–being for all at all ages



Achieve gender equality



Promote sustainability, inclusion and sustainable economic growth, and promote adequate employment opportunities and work with dignity

• ISO 26000 6.3 Human Rights

- ISO 26000 6.4 Labor Practices
- ISO 26000 6.7 Consumer Issues
- ISO 26000 6.8 Community Involvement and Development



## Key Performance

TTY Biopharm proactively initiates international ESG sustainability principles. Among the contributions to social responsibility, the Company has provided 530 employment opportunities. Moreover, developing and manufacturing high–quality drugs is our major contribution to the society. This initiative also echoes Sustainable Development Goal 3. Ensure healthy lives and promote well–being for all at all ages, out of 17 sustainable development goals (SDGs). For more details on sustainable development information disclosure within the scope of social responsibility, please refer to the following chapter. After years of dedication, we have obtained the exciting results as shown below.





# 530 employment opportunities have been created

TTY Biopharm aims to provide a friendly work environment, in order to encourage employees to develop their talents and ensure that they continue to feel passionate on their career. We believe that employees are one of our most valuable investments. Their growth over the years has maintained the cornerstone for sustainable development at TTY Biopharm. In 2018, the total number of full-time employees was 530 people. In 2018, there were a total of **86** new employees, constituted **16%** of all employees.

Salary and Benefits Diverse and inclusive workplace as the Company's motivation of continuous innovation

TTY Biopharm implements a diverse and inclusive talent recruitment policy as our motivation of continuous innovation.

Diversity refers to a wide range of tangible and intangible differences among people, including but not limited to values, beliefs, physical differences, race, age, gender, experiences, thoughts, background, preferences, and behaviors. At TTY Biopharm, we believe that a diverse employment approach can ultimately bring the best results to patients. We have created unique career development opportunities for employees, so that everyone can bring their unique talents to TTY Biopharm, and contribute their capabilities to patients.

Inclusiveness means that proactive behavior creates a sentiment in which everyone can actively participate. Employees receive equal and respectful treatment, share equal opportunities to similar resources, and are able to make full contributions and demonstrate their up-side potential in the Company.

In 2018, the total number of permanent employees was 530 people. By gender, there were 252 males, which accounted for 47.55% of all employees, and 278 females, which constituted 52.45%. By age, 16.4% of all our employees were 30 years old and below, 70.2% were between 31 and 50 years old, and 13.4% were 51 years old and above. The Company is committed to hiring local talents; therefore, 100% of our employees are local residents. The Company also has contracted workers which are hired on regular contracts, as well as temporary workers who are hired in response to production needs. Permanent employees do not include contract and temporary workers.

#### Friendly workplace for female

We strive to create an inclusive workplace that includes full respect for female employees. Inclusiveness in human resources enables employees to fully perform their skills, experiences, and perspectives. By embracing diversity and inclusiveness, every discussion and decision at TTY Biopharm will bring great results with unparalleled innovation.





# Salary and Benefits Continuous growth of employee compensation and benefit expenses for five consecutive years

## Equal pay

Employees' contributions are closely related to a company's growth, which is why TTY Biopharm is committed to introducing a competitive compensation policy. Based on basic salary, the ratio of standard salaries for entry level employees to local minimum salaries was 1.5 times for females and 1.55 times for males.

We also strive to provide equal pay for equal work, and ensure that there is no gender difference in employees' salaries. In 2018, the ratio of basic salary of females to males was 90.1%.

## Plenty of benefits

Group accident insurance, Labor Insurance and National Health Insurance coverage, special leave of absence, maternity leave, parental leave, travel leave and paid sick leave, year–end bonus, regular health examination, subsidies, birthday cash gift, wedding cash gift, maternity cash gift, festive (Dragon Boat Festival/Mid–autumn Festival) cash or gift, compassionate cash for hospitalization, funeral cash, disaster relief fund, education subsidy (tuition subsidy and scholarship for employees' children), and travel subsidy.

## Pension contribution

Since July 1, 2005, pension contribution has been implemented in response to the provisions of "Labor Pension Act". The Company has fully complied with local employment regulations with respect to the calculation of employees' pension using the above mentioned standards. For further details about pension standards, refer to the Annual Report.

Continuous growth of employee compensation and benefits for five consecutive years (Unit: NT\$ millions)



Note: The information was sourced from TTY Biopharm's annual reports. These expenses are recognized in accordance with International Accounting Standards (IAS) 19 – Employee Benefits.

# Adequate labor-management communication

For the transparency of information on the minimum notice periods regarding operational changes, advance notices are issued in accordance with Article 16 of the Labor Standards Act. In order for TTY Biopharm to provide clear explanations to our stakeholders, we have established a legally compliant labor-management communication system.

Worker representatives in labor-management meetings are composed of senior managers and colleagues from all departments. A routine quarterly meeting is convened periodically in order to discuss various issues, such as amendments to labor conditions. Hence, TTY Biopharm complies with labor regulations of the local government, and exercises the minimum notice periods for terminating labor contracts in accordance with the law. However, no major operational changes that may severely affect the rights and interests of employees in recent years; therefore, the abovementioned has not been implemented. Beginning from July 2018, we have implemented the new employee orientation program, which included new employee satisfaction survey.





# **Educational Training TTY University Employee Training Program** 40 enrichment courses are launched every year

Since 2012, TTY Biopharm has been implementing the TTY University Employee Training Program, in which short-, medium-, and long-term learning courses and goals are set, while integrating internal and external resources, and nurturing senior employees as lecturers. This program promotes sharing of personal experiences, so that students can quickly acquire skills through the learning process, and identify their own positions and demonstrate their strengths.

In addition to offering freshman training, general education, leadership and management courses, TTY University is also divided into various colleges by specialization, including R&D, manufacture, marketing, sales, and culture, offering professional courses related to the respective specializations.

Our team of lecturers hails from external R&D and academic institutions, and also includes lecturers appointed from among internal employees. For lecturers appointed from among internal employees, our colleagues at all departments can take the initiative to apply for this position. The volunteer will become a lecturer candidate upon review by the Human Resource Department, and is then required to undergo lecturer training. Next, the candidate has to attend and pass rigorous tests before becoming a qualified internal lecturer.

In addition, since 2016, certain professional courses have been offered to the public for free of charge. Professionals from the industry and students are invited to participate in learning and exchanges, with a view to jointly improving the professionalism of the pharmaceutical industry. In 2017, these courses were extended to university campuses, where various campuses learning camps were organized so that students can learn about the professional knowledge required in the pharmaceutical industry in advance, in order to attract outstanding talents to join the big family of TTY Biopharm.



includes lecturers appointed from among internal employees.

#### 2018 Employee Training Program Results



Course satisfaction: 4.51 points out of 5 points

Average annual training hours per person



**40** Halls qualified lecturers Expected to add 3 new lecturers in 2019

enrichment professional courses





Career Development 91% of employees received regular performance evaluation

We hope that every employee at TTY Biopharm can demonstrate their abilities to further develop their potential and deliver excellent performance results. Continuous learning and career development are part of the key tasks in our human resource strategy. In 2018, 91% of all employees took regular performance evaluation.

TTY Biopharm is committed to shaping a workplace which promotes continuous learning and stimulates employees' passion on career. We also provide everyone with career development opportunities. Employees are one of our most valuable investment. Hence, we actively ensure the continuous growth of all our colleagues, thereby achieving success for TTY Biopharm.

We are committed to providing employees with suitable resources, including a wide range of activities that promote learning and growth opportunities. Apart from various hardware and software training courses and resources, TTY Biopharm also formulates learning and development programs for employees of different ranks or positions.

At the same time, we also encourage our colleagues to recommend existing employees with excellent leadership and outstanding performance to the Company, thus giving them promotion opportunities. On the other hand, we have also established external talent channels to continuously expand our talent pool. For instance, we regularly organize summer internships to attract high-quality external candidates, such as students, so that they can consider TTY Biopharm as an employer of choice in the future.



TTY Biopharm implements occupational safety management by procuring valuable glove boxes which are provided to on-site operators via a closed system in the manufacturing process, with a view to preventing toxic hazards that may be caused during the manufacturing process to operators.

## Occupational Safety and

# Health

TTY Biopharm has established an occupational safety and health management committee in accordance with local regulations in order to review the relevant occupation safety issues. It serves as TTY Biopharm's formal committee for monitoring and advising on occupational health and safety programs. The workforce represents at least one-third of committee members.

For the protection of employees' safety, TTY Biopharm not only purchases Labor Insurance and National Health Insurance for all employees, but also provides group insurance, accident insurance, occupational hazard insurance, cancer insurance, and business travel insurance coverage for all employees. In addition, employee health examination is organized on a yearly basis to monitor employees' health.

All workplace and factory areas within the Company are covered by public liability insurance. For factories, structural safety and availability of fire safety equipment are subject to inspect and are reported to the competent authority on a regular basis. Certified Fire Safety Officers and fire safety plans have been deployed and implemented on site to enforce fire safety within the workplace. For the prevention of occupational hazard and protection of employees' health and safety, the Company has followed Occupational Safety and Health Act and related regulations by establishing the "Occupational Safety and Health Code of Conduct" and "Occupational Safety and Health Management Program," and deploying occupational safety and health unit, officers and first aid personnel at factory sites. Furthermore, safety and health training is conducted on a yearly basis.

In addition to paying serious attention to and protecting product safety, personal protective equipment (PPE) for on-site operators is also one of the key items in our occupational safety hazard control. For example, we purchase valuable glove boxes, which are provided to on-site operators via a closed system in the manufacturing process, with a view to preventing toxic hazards that may be caused during the manufacturing process to operators.

> Off-site injury rate Only 1 minor traffic accident occurred in 2018.

On-site injury rate Male: 1 case Female: 1 case

# Respect Labor and Human Rights

With regard to recruitment, hiring, and retention in employment, TTY has always complied with the ILO Declaration of Fundamental Principles and Rights at Work, in order to provide a work environment without discrimination where both men and women are equal.

At the same time, we do not tolerate any form of discrimination based on gender, race, age, skin color, nationality, religion, marital status, sexual orientation, background, physical or mental disabilities or any other reasons. Furthermore, TTY Biopharm also never hires child labor, and also never forced or compulsory labor or violate the rights and interests of disabled people and indigenous people.

# Declaration of Fundamental Principles and Rights at Work

# Community Involvement and Development Our Summer Internship Program has benefited nearly 300 young students cumulatively in the past 10 years

Since 2008, TTY Biopharm has continuously organized the Summer Internship Program (SIP) for 10 consecutive years, and has held numerous briefings, group interviews, courses covering planning, and project management learning sessions for students from pharmacy and bioscience– related departments at universities or research institutes. From the perspective of a professional and forward–looking international pharmaceutical company, TTY Biopharm brings industry experience that cannot be acquired in classroom to students, which have benefited 287 people cumulatively for last 10 years.

In 2018, a total of 29 students from local and overseas universities, including National Taiwan University, Taipei Medical University, National Defense Medical Center, Chang Gung University, National Tsing Hua University, National Chiao Tung University, Chung Shan Medical University, China Medical University, National Cheng Kung University, Chia Nan University of Pharmacy and Science, Kaohsiung Medical University, University of Tokyo, and University of Washington participated in our SIP. We also hope to have more local and overseas students participating in TTY Biopharm's SIP. TTY Biopharm has organized SIP for 10 consecutive years

Many participants are arranged to join in group discussions and are graded by a number of observers; the best candidates are decided in the end

Benefited nearly 300 young students in the past 10 years
## Community Involvement and Development Maintain Patients' Health and Safety

All the drugs produced by TTY Biopharm not only focus on efficacy, but also concentrate on users' health and safety. Products are classified by source into "agent and authorized drugs" and "branded generics", where different safety measures are taken.

With regard to the import of agent and authorized drugs, TTY Biopharm will first assess the approval status of these drugs in countries around the world, such as whether these drugs have obtained the approval of the US Food and Drug Administration (FDA), the European Medicines Agency (EMA) or top 10 developed countries with advanced pharmaceutical industries. If these drugs need to submit clinical trials in Taiwan before market launch, in order to support their efficacy and safety, TTY Biopharm will conduct clinical trials to evaluate their efficacy and side effects in accordance with Taiwanese regulations, and specialists will be responsible for monitoring the safety of products and drugs. We also conduct assessments on the adverse reactions of drugs aftermarket launch. Besides, we have established a real-time reporting system, and set up adverse drug reaction reporting mailbox: drugsafety@tty.com.tw.

Branded generics include two major areas, namely oncology and anti-severe infective drugs. Before human clinical trials, TTY Biopharm will first implement the necessary animal trials in accordance with the requirements of non-clinical and toxicity tests in the "Safety Specifications for Non-Clinical Drug Testing" set forth by Taiwan Food and Drug Administration (TFDA), in order to confirm the safety of drugs.

## Products sold by TTY Biopharm are licensed by the health authorities

Pharmaceutical products are mainly used for treating human diseases, and are closely connected to users' lives and health. Therefore, particular attention is given to the safety and effectiveness of these products. TTY Biopharm is committed to creating a safety production system of high specifications through the production of high–quality drugs, thereby engaging in good drug safety management. In order to improve their effectiveness on health and safety, the Company conducts assessments on 100% of all major products. There were no violations of health and safety regulations concerning products and services.

TTY Biopharm has invested a large amount of resources in various processes, ranging from R&D, production, and storage of drugs to the use of labels, to conduct strict inspection of product safety. TTY Biopharm has also developed featured products with liposome or microsphere–coated, long–acting and gradual–release injection technologies, in order to reduce the burden of drugs on the body, thereby achieving our mission of "improving the quality of human life with scientific innovation."

TTY Biopharm, excluding its subsidiaries, has a total of 36 products. All the products sold are licensed by the health authorities, where a total of 109 drug licenses granted to the Company.

The marketing label for drugs sold by TTY Biopharm are named using package insert. Taking the Company's Lipo–Dox product as an example, its package insert is provided on our official website for reviewing purposes.

## Number of drug licenses

	Oncology drugs	Anti– infective drugs	Healthcare	Total
Number of domestic licenses	33	20	7	60
Number of overseas licenses	43	2	4	49
Total	76	22	11	109

## Marketing and Labeling: Package Insert

All the labels for products manufactured by the Company comply with local regulations regarding drug information and labeling. During the reporting period, there were no cases of non–compliance with regulations regarding product and service information and labeling. Neither to the marketing communication.



## Community Involvement and Development Purchase soaps from an NGO with love as souvenirs granted in Annual General Meeting

According to statistics provided by the Ministry of Health and Welfare, as of the end of 2018, there were more than 1.12 million people with physical and mental disabilities in Taiwan, constituted approximately 5% of the total population of Taiwan.

The Company purchased 15,000 handmade soap products with love from local NGO Syin–Lu Social Welfare Foundation as souvenirs for the 2018 Annual General Meeting, thus combining CSR and annual fixed procurement expenses to create a win–win situation.

## 15,000 handmade soaps

The Company purchased handmade soaps with love from local NGO Syin– Lu Social Welfare Foundation



## Community Involvement and Development TTY Biopharm's Social Welfare Events Local care for cancer in rural areas

In view of the growing number of people with cancer from year to year, TTY Biopharm, as a member of the pharmaceutical industry, not only continuously invests resources in this industry and establishes collaboration with international pharmaceutical companies, imports new drugs so that cancer treatment for the people of Taiwan is on par with global levels, and develops branded generics so that the people of Taiwan can purchase oncology drugs of similar quality at affordable prices, but also makes donations to families with cancer and shares cancer information to the public via the Internet. In addition, TTY Biopharm also works with the relevant organizations to conduct free health education promotion activities to educate young people and kids about the right concept and knowledge of cancer, thus contributing to cancer prevention. The social health promotion program initiated by TTY Biopharm's colleagues is committed to bringing a positive influence on national health issues in Taiwan.



### Cancer prevention seminars at rural schools

Since 2005, TTY Biopharm's TOT business group has been working with cancer-related non-profit organizations to organize a series of seminars on cancer prevention diet for junior high school students. Each year, speakers would travel to remote locations in Taiwan to promote cancer prevention diet at junior high schools.

In 2018, we invited professional medical specialists from major medical centers to be the speakers, and hosted our seminars at remote areas in Yunlin, Chiayi, Tainan, Miaoli, Hualien, Taitung, Kinmen and Penghu. A total of 26 seminars on cancer prevention diet for junior high school students were held.

The purpose of this seminar series is to convey the correct knowledge and methods of preventing cancer and living a healthy life to junior high school students. Through knowledge transfer, we hope that these students may help their family members develop a correct understanding and cognition of preventing cancer, starting from the tiny things in daily life.

This program invites volunteers from the medical industry, regardless of physicians or nurses, to contribute knowledge and share concept about cancer prevention and healthy living starting from the fundamentals.



A total of 26 cancer prevention seminars were held at rural schools in 2018



## Health development programs have been conducted at Ludao Gongguan Elementary School and Ludao Elementary School for seven consecutive years since 2012



Since 2012, employees of TTY Biopharm have taken turns volunteering to conduct anti-cancer and health promotion events at elementary schools in Ludao, Taitung. By introducing fun competitions, the volunteers gave their full-hearted attempt at teaching children to stay away from cancer risk factors at a young age.

Now into its seventh year, the program has been favored and supported by students, teachers and principals of Ludao Gongguan Elementary School and Ludao Elementary School. These efforts may not seem grand by any measure, they are things that the volunteers feel able, willing and satisfied in doing. By sharing our knowledge with those in need, we hope to constantly direct people's attention towards preventing cancer.



## NT\$ million

Year

201

In 2018, TTY Biopharm sponsored a total of 75 college students and contributed a sum of NT\$1 million to the program

## Children's scholarship for cancer-struck families

Age of cancer incidence in Taiwan has lowered continuously over time, and it is increasingly popular for a family's main financial support to be diagnosed of with cancer at a time before the children reach adulthood. As a family becomes burdened with additional spending from disease and treatment, it eventually affects children's lifestyle or willingness to study. In an attempt to relieve the financial burden of cancer–struck families so that their children may study and grow without disruption, TTY Biopharm has been sponsoring HOPE Foundation for Cancer Care since 2010 by offering study sponsorship at NT\$20,000 per student from cancer–struck families. In 2018, TTY Biopharm sponsored a total of 75 college students and contributed a sum of NT\$1 million to the program.

## Health seminars for cancer patients and family members

For patients who are currently undergoing or have just completed cancer treatment, TTY Biopharm organizes health promotion seminars on various topics to help patients overcome the discomfort caused by such diseases and treatment, and bring their family members with the correct knowledge to accompany the patients in fighting cancer. A total of 10 seminars were held in 2018. Since 2009, a total of 5,379 people with cancer have participated in these seminars.

## 5,379 participants

Since 2009, a total of 5,379 people with cancer have participated in these seminars

## Community Involvement and Development Music creation by young amateurs Social welfare song to convey the value of health

Beginning since 2019, TTY Biopharm has sponsored young amateur singers aged 25 years old and below to create one social welfare song which is related to health issues and closely linked to the Company's core value, i.e. "improving the quality of human life with scientific innovation", every year.

As music sees no borders, TTY Biopharm encourages the young generation by providing young artists who follow musical dreams with an opportunity to showcase their talents and perform beautiful values through singing to the world. This kind of CSR activity design also combines TTY Biopharm's proactive efforts to inspire the young generation and practice youth empowerment.

### Why is music creation by young amateurs chosen as the social welfare program for social engagement?

First of all, the interpretation of social issues through social welfare songs has long been a meaning of communication with stakeholders for international organizations. For example, on September 23, 2016, the United Nations International Children's Emergency Fund (UNICEF) launched the UNICEF world version of John Lennon's classic song, "Imagine", with the support of people from over 140 countries around the world. With this song, safety issues revolving around 28 million children who have been driven out of their homeland due to conflicts suddenly became the main focus all over the world. The world version of "Imagine" planned and launched by UNICEF sounds touching and mind–blowing.

TTY Biopharm sponsors young amateur singers aged 25 years old and below to create one social welfare song per year related to human health promotion. This group of musicians has seized this hard–earned corporate sponsorship opportunity to create a social welfare song, which will blow your audio sense away on World Health Day on April 7, 2020.



Second, as music sees no borders, TTY Biopharm believes that Taiwan has always been the cradle of Chinese pop music around the world. We can convey Taiwan's most beautiful and good values to the world through music.

Third, we have also observed that the millennials' ambitions are no longer to become an astronaut or president, but to become a Youtuber or an internet celebrity instead.

As a famous American artist Andy Warhol's words in 1979 goes, "In the future, everyone will be world– famous for 15 minutes." Today, these words have come true, thanks to the era of new media. One of the major considerations for organizing social welfare activities is to deepen communication with the millennials, and provide opportunities to young artists with musical dreams to showcase their talents.

Fourth, we also attach great importance to one of our stakeholders, namely CSR experts, including judges for the CommonWealth Corporate Citizen Awards, the Global View Monthly Magazine Corporate Social Responsibility Awards, and the Taiwan Corporate Sustainability Awards. These experts have long been calling on enterprises to continuously think of how brands can participate in social issues to exert their influence when planning social welfare activities.



Fifth, we have witnessed the international influence of the Korea Creative Content Agency (KOCCA) on cultural technology policy planning. We hope that this program can also influence government departments to actively boost policies for the pop music industry.

## Convey TTY's sustainable values through songs in line with the annual theme of World Health Organization (WHO)

The first social welfare song sponsored by TTY Biopharm is expected to be released on World Health Day on April 7, 2020. During that time, the song will be simultaneously launched on major social platforms, including YouTube, Facebook, and TikTok, with the aim of reaching out to the audience and promoting the social welfare idea of human health in line with the theme of World Health Day through singing.

TTY Biopharm sets the style of the social welfare song to be a love song which is the most widely accepted genre. The difference is that the true meaning of this love song, which is to be released every year, is an appeal for human health to the audience. Besides, this song echoes the annual theme of World Health Organization (WHO). This social welfare song will spread TTY Biopharm's sustainable values, and establish links to the annual theme of WHO.

## Inspire the next generation Unleash outstanding talents and become stars of the future

It is noteworthy that this CSR activity held by TTY Biopharm is planned and executed by "Red Advertising", a local advertising company, with a view to promoting the growth of local microenterprises with concrete actions. We stimulate the cultural creative capabilities of the young generation at home through procurement. At the same time, we can also elevate the level of local CSR activities to be on par with international levels by becoming the first to call on the world to care for human health issues around the world in line with the theme of WHO, which perfectly combines both CSR and our operating activities, so that the young generation can unleash their outstanding talents and become stars of the future. We believe that more TWSE or TPEx-listed companies would respond to TTY Biopharm's social welfare activities, and exert a positive influence on the Earth and the next generation.

Human health issues around the world have become the focus of the society through the music performance of young musicians with creative capabilities. A touching performance of this social welfare song, which is planned and to be released by TTY Biopharm, will blow everyone away.





Enable everyone to resort to judicial proceedings, and establish effective, accountable and inclusive institutions at all levels.



Revitalize global partnerships for sustainable development • ISO 26000 6.2 Organizational Governance

ISO 26000 6.6 Fair Operating Practices

## Key Performance

TTY Biopharm proactively advocates the ESG sustainable principles as one of our corporate governance guidelines. ESG stands for environment, social responsibility, and corporate governance. We observe the trend and evolution of the capital market over the long run. Investors will measure a company deserved being invested in the long term via expanding single pack of financial indicators in the past into non–financial ESG indicators. In addition, the OECD Principles of Corporate Governance are the international initiatives which are applied to when exercising corporate governance. Therefore, all the members of the Board of Directors at TTY Biopharm shares a common belief, in which the Board of Directors not only creates value for TTY Biopharm's stakeholders, but also contributes to global sustainability goals. After years of delegence, we have obtained the exciting results below. For detailed disclosure of environmental information, please refer to this chapter.

Try Biopharm has been **ranked in the first interval** of all overthe-counter companies in the Taiwan Stock Exchange Corporate Governance Evaluation for **3** consecutive years. **Two** female directors have been elected to implement gender diversity at top management level. A total of **14** meetings have been convened by the Board of Directors, with an average attendance of **92.06%** (excluding attendance by proxy). There are **three** independent directors, constituting **33.33%** of all directors. A total of **6** domestic and overseas investor conferences and investment forums were attended in 2018.

An ethical management promotion team has been set up in **2018**.

## Board of Directors with diversity Implement well–rounded corporate governance

List the protection of shareholders' equity as the primary criterion

Proactively advocate the best corporate governance practices issued by OECD

### Diversity among members of the Board of Directors

The highest governance authority of the Company is the Board of Directors, which consists of 9 directors, including 3 independent directors. Independent directors account for 33.33% of all directors. The Board of Directors effectively supervises the Company to exercise relevant risk management, fraud detection and prevention, trade secret protection, and information security protection.

All the directors fully assist the Company in making profits, and proactively advocate the best corporate governance practices issued by OECD. Moreover, members of the Board of Directors specialize in multiple areas, including biotechnology, finance, banking, etc., and possess professional experience in areas such as business, law, financial management, and accounting. The Board of Directors is able to formulate management strategies and make material decisions, in order to supervise the management team and manage risks. At the same time, the Board of Directors also emphasizes gender equality as it consists of two female directors.

## The Board of Directors undergoes continuing professional training to align with international health issues

A total of 14 meetings were convened by the Board of Directors in 2018, where the average attendance of all directors was 92.06% (excluding attendance by proxy). The Board of Directors pay attention to new knowledge such as international developments related to corporate governance, and attend continuing professional training courses every year. In 2018, the Board of Directors attended 10.66 hours of continuing courses on average. At the same time, members of the Board of Directors also widely refer to international trend reports to implement the best risk management for the Company. For instance, the Global Risks Report published by the World Economic Forum (WEF) is regularly referred to every year. According to the report, global climate change, data theft, and cyberattacks have become three major risk issues. The Board of Directors at TTY Biopharm keeps being informed global risk trends, and implements response measures to create maximum operational value for all stakeholders.

### Withdrawal due to conflict of interests

Directors and independent directors will withdraw themselves during discussion and voting when the proposals raised in Board of Directors' meetings pose a conflict of interest for themselves or the legal entities they represent. They also do not exercise voting rights on behalf of other directors. There was no proposal regarding independent directors' individual compensations made to the Remuneration Committee in 2018. Hence, there is no need for withdrawal due to conflict of interests.

Details regarding the withdrawal of directors due to conflict of interests posed by Board of Directors' proposals have been disclosed in the shareholders' annual report. Information regarding the results of performance evaluation for directors in 2018 has been disclosed on the website of the Company.

### Functional organizations

The Board of Directors has set up the "Remuneration Committee", "Audit Committee", "Ethical Management Promotion Team", and "Corporate Social Responsibility Promotion Team", which assist the Board of Directors in performing its supervisory duties.

### **Remuneration Committee**

The Remuneration Committee is composed of three independent directors and two external experts. A total of five meetings were convened by the Remuneration Committee in 2018, where the attendance of all committee members was 96%. The Remuneration Committee assists the Board of Directors in assessing the connection between the compensation level of directors and managers and the Company's operating performance, and determines the percentage of reward allocation.

### Audit Committee

The Audit Committee is composed of three independent directors. A total of 9 meetings were convened by the Audit Committee in 2018, where the attendance of all committee members was 100%. This committee is responsible for reviewing financial statements; internal control and internal audit; the acquisition or disposal of major assets or derivative transactions; lending funds; acting endorsements or guarantees; launch or issuance of securities; legal compliance; determining whether there are related party transactions and possible conflicts of interests involving managers and directors; fraud investigation reports; risk management for the Company; the appointment, dismissal or remuneration of certified public accountants (CPAs), as well as the appointment and dismissal of finance, accounting or internal audit managers.

# Establishment of the Corporate Social Responsibility Promotion Team

## Corporate Social Responsibility Promotion Team

- 1. Corporate governance and economy
- 2. Sustainable environment
- 3. Employee care
- 4. Social care
- 5. Product and services

Since 2016, the "Corporate Social Responsibility Promotion Team" has been set up to jointly discuss non–financial performance issues. This team proactively advocates 17 sustainable development goals (SDGs), and verifies specific measures that can be taken by TTY Biopharm to establish management guide for sustainable development.

## Expected to set up the position of Officer of Corporate Governance in 2019

The Company's Chief Financial Officer (CFO) is responsible for corporate governance matters at the Company before an Officer of Corporate Governance is appointed by the Board of Directors. CFO possesses at least three years of complete qualifications in accounting issues, financial operations, stock and related affairs management in public companies. The main responsibilities of Officer of Corporate Governance include providing information required for directors to perform business affairs; handling matters related to the Board of Directors, Audit Committee and Shareholders'

Meeting in accordance with the law; assisting the directors in legal compliance, and handling matters related to change registration for the Company.

## Anti– corruption

TTY Biopharm has set up the "Ethical Management Promotion Team" to create a corporate culture with ethical management and ensure development of ethical management. The "Ethical Corporate Management Best Practice Principles", "Procedures for Ethical Management and Guidelines for Conduct", and "Procedures for Handling Material Inside Information" have been established to implement anti– corruption.

On March 29, 2018, the "Procedures for Ethical Management and Guidelines for Conduct" were established to specify knowledge to be noted for personnel at the Company when executing the relevant businesses, and clearly stipulate disciplinary and grievance policies for violations. The guidelines specify measures to prevent unethical behavior to strictly prohibit directors, managers and employees from giving and collecting bribes and engaging in illegal conduct. Employees who engage in activities which violate the regulations will be punished, suspended or dismissed based on the actual situation. It was confirmed no corruption incident during the reporting period.



The "Ethical Management Promotion Team" is established and placed under the Board of Directors. The President serves as the convener of this team, whereas the team members consist of the Head of Administration Center, the Head of Finance Division, the Head of Audit, the Head of Organization Development and Human Resource Department, and the Head of Legal Affairs Department. Independent directors are responsible for supervising this team.

## Whistleblowing System

The whistleblowing system is clearly stipulated as follows:

- ① Set up whistleblowing and reward systems, and establish whistleblowing channels on the corporate website and internal employee website, where whistleblower cases are accepted by dedicated personnel in the "Ethical Management Promotion Team".
- ② Establish the standard operating procedures for investigating whistleblower cases and related confidentiality system.
- ③ Measures for protecting whistleblowers from improper actions due to whistleblowing.
- ④ Impose heavy punishments on personnel who leaks the identity of whistleblowers and whistleblowing contents.

The "Ethical Management Promotion Team" regularly reports operational results to the Board of Directors every year:

مرج Operational

- ① Promotion of ethical management policy: The Company notifies all employees of the establishment of the "Procedures for Ethical Management and Guidelines for Conduct" via email notification, and discloses these procedures and guidelines on the internal employee website.
- ② Educational training: The Company conducts ethics-related training on drug safety, business secrets, intellectual property rights, information safety, and company regulations. A total of 12 training sessions were conducted in 2018, involving 191 employees trained and 807 manhours of training.
- ③ Ethical management promotion for new employees: Since May 14, 2018, each new employee is required to attend ethical management promotion sessions on the day when on board for duty.
- ④ Reporting of whistleblowing status: The "Ethical Management Promotion Team" reports whistleblowing status for whistleblower cases filed via the whistleblowing mailbox to independent directors every quarter. In 2018, no whistleblower mail was received, and no unethical behavior, such as corruption, was recorded.

## Gearing Risk Management Assessment to International Standards

TTY Biopharm has long been paying attention to risk reports issued by international benchmark companies as the highest management guide for corporate governance and risk management. These risk reports include but are not limited to the "Global Risks Report" issued by the World Economic Forum (WEF) and the "Ten Threats to Global Health in 2019" regularly published by World Health Organization (WHO) every vear.

### Risk reports published by WHO

TTY Biopharm has long been paying attention to the "Ten Threats to Global Health in 2019" regularly published by WHO every year as a major management principle for risk control.

As a great domestic pharmaceutical company, we pay particular attention to health-related international issues. In the latest report of WHO titled "Ten Threats to Global Health in 2019", 10 threats to global health have been specified, including "Air pollution and climate change," "Non communicable disease," "Global influenza pandemic," "Fragile and vulnerable settings," "Antimicrobial resistance," "Ebola and other high-threat pathogens," "Weak primary health care," "Vaccine hesitancy," "Dengue," and "HIV".

In the "Air pollution and climate change" section, WHO pointed out that 90% of people around the world breathe polluted air everyday. WHO has classified air pollution as the environmental risk which has the greatest influence to health. At the same time, air pollution is also one of the drivers of global climate change.

TTY Biopharm keeps abreast of international health trends, and implements international inspection of manufacturing sites in combination with operational goals to lower various types of risks for the Company through effective cross-departmental integration, as well as to improve the health and well-being of all human beings.

### Risk report published by WEF

Based on the "Global Risks Report" published by WEF in 2019, data fraud or theft and cyber-attacks have been added alongside climate change to become three of the top issues of concern. In particular, tensions in international relations and the accompanying risks may further assault the global economy this year, thereby hindering joint responses and collaboration in these major issues.

According to the WEF report, "climate change" has become the most anxious issues for global experts and decision-makers for three consecutive years, while "cyber-attacks" has been listed as one of the top 10 risks in terms of "likelihood" and "impact". 82% of the respondents anticipated that cyber risks which cause theft of money and data might increase this year, whereas 80% of the respondents believed that cyber risks lead to disruption of operations, thereby reflecting "how new instabilities are being caused by the deepening integration of digital technologies into every aspect of life."

TTY Biopharm keeps abreast of international risk trends as an important risk management principle for corporate governance in the future. For details on risk management during the reporting period, please refer to the annual report.



Every year, TTY Biopharms follows the "Global Risks Report" published by WEF. Based on the latest report in 2019, data fraud or theft and cyber–attacks have been added alongside climate change to become three of the top issues of concern. TTY Biopharm keeps abreast of international risk trends as an important risk management principle for corporate governance in the future.

# This report has passed the SGS Guarantee Statement

## In compliance with AA1000 Assurance Standard / GRI Standards / ISO 26000

Our efforts in sustainable development has been rewarded with a guarantee statement issued by Switzerland-based SGS, which guarantees that this report has complied with AA1000 Assurance Standard, and meet GRI Standards and ISO 26000 Guidance on Social Responsibility. SGS is the global leader in inspection, assurance, testing, and verification services, and serves as a globally recognized benchmark institution for third-party inspections.



TTY Biopharm CFO Chang Kuo– Chiang (right) received the guarantee statement from SGS Senior Director Stephen Pao (left)

# Appendix

## SGS Assurance Statement

## SGS

## ASSURANCE STATEMENT

## SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TTY Biopharm Company Limited.'s CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2018

NATURE AND SCOPE OF THE ASSURANCE/VERFICATION SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by TTY Biopharm Company Limited. (hereinafter referred to as TTY) to conduct an independent assurance of the Corporate Social Responsibility Report to 2015 (hereinafter referred to as CSR Report). This score of the assurance, based on the SGS Sustainability Report Assurance methodology, included the sampled text, and data in accompanying tables. contained in this report

The information in the TTY's CSR Report of 2018 and its presentation are the responsibility of the management of TTY. SGS has not been involved in the preparation of any of the material included in TTY's CSR Report of 2018.

Our responsibility is to express an opinion on the report content within the scope of verification with the intention to inform all TTY's stakeholders.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the Gickal Reporting Initiative Sustainability Reporting Standards (GRI Standards) 101: Foundation 2016 for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Provides.

- port has been assured using our protocols for; AA1000 Assurance Standard (2008) Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2008) at a moderate level of scrutiny; and
- · evaluation of the report against the requirements of Clobal Reporting Initiative Sustainability Re Standards (100, 200, 300 and 400 series) claimed in the GRI content index as material and in accordance with.

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR committee members and the senior management in Taiwan, documentation and record review and validation with eidemail bodies and/or stateholders where relevant. Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

#### STATEMENT OF INDEPENDENCE AND COMPETENCE

3 AT Back of or Buck-Ruberko, and Coard Coard (Env.).
The SOS Group of companies in the world leader in impection, testing and verification, operating in more than 140 counties and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training, environmental, social and ethical auditing and savarance.
SOS attime our independence from TTY, being free from bias and conflicts of interest with the organisation, its substitutions and stakeholders.

The assurance learn was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with 180 26000, 150 20121, 150 50001, 5A8000, RBA, CMS, EMS, MAS, GMS, CFP, WFP, GHD Verification and GHO Validation Lead Auditors and experience on the SRA Assurance of the comprised auditors and the comprised auditors and experimence on the SRA Assurance and and an anti-section and CHO Validation Lead Auditors and experimence on the SRA Assurance and an antipart of the comprised auditors and the comprised auditors and experimence on the SRA Assurance and the comprised and the comprised auditors and experimence on the SRA Assurance and the comprised and t service provisions.

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#### VERIFICATION/ ASSURANCE OPINION

VEDFICATION ASSUBACE OFFICIAL On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within TTY's CSR Report of 2018 verified is accurate, reliable and provides a fair and balanced representation of TTY sustainability activities in 01/01/2018 to 12/01/2018.

The assurance learn is of the opinion that the Report can be used by the Reporting Organisation's Stakeholders. We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting. In our opinion, the contents of the report meet the requirements of GRI standards in accordance with Core Option and AA1000 Assurance Standard (2008) Type 1, Moderate Ivent assurance.

## AA1000 ACCOUNTABILITY PRINCIPLES (2008) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Industryity TTY has demonstrated a commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, CSR experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, TTY may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

#### Materiality

meanancy TTY has established process through benchmark international trends and its daily operation and communication with each group of stakeholders for determining issues that are material to the business. Formal review to identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

tesponsiveness the report includes cover ge given to stakeholder engage int and channels for stakeholder fi

#### GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECO ATIO

The report, TTY's CSR Report of 2018, is adequately in line with the ORI Standards in accordance with Core The report, TTY's GSR Report of 2016, is a dequatity in the with the GRI Standards in accordance with Core Option. The material lippics and their boundaries within the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material topics and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are consetly located in content index and report. For Anare reporting, it is recommended to have more descriptions of ITTY's process of how to determine for each material topics and the involvement with the impacts for each material topic, 1(03-1), and more description on each material topics management approach (103-2) as well as the evaluation of the effectiveness management approach (103-3). When reporting on goals and targets for each material topic, the expected results are suggested to be set, if applicable, with quantitative objectives

For and on behalf of SGS Talwan Ltd.



Taipei, Taiwan 23 July 2019

## About this Report

In response to the trend of corporate social responsibility in recent years, TTY Biopharm Co., Ltd. has issued a corporate social responsibility report for three consecutive years. Through this report, we demonstrate, under the goal of sustainable management, the 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.

### Report Boundaries and Coverage

This report discloses data with the period from January 1, 2018 to December 31, 2018. The scope of this report includes the Company's Nangang Headquarter and Chungli Factory in Taoyuan, Lioudu Factory in Keelung, Pharmaceutical Development Center in Neihu, and Translational Research Center, excluding information on the Company's representative office in Vietnam and subsidiaries, except for financial performance. Any changes in information across multiple years or within the scope of disclosure will be explained separately in this report. Environmental and social data are collected and compiled by various responsible departments, and are presented the calculation method used for internationally adopted indicators.

## Compilation guidelines: GRI Standards and ISO 26000

This report is prepared and compiled according to the GRI Sustainability Reporting Standards (GRI Standards). At the same time, this report follows the core option of GRI Standards, and contains the GRI Content Index. This report follows the ISO 26000 Guidance on Social Responsibility published by the International Organization for Standardization, and contains the ISO 26000 Content Index.

### AA1000 Assurance Standard

We have sought external assurance to enhance the credibility of this report, and have appointed SGS to perform external assurance for the information disclosed in this report. SGS cites Type 1 – Moderate Level of Assurance in the AA1000 Assurance Standard 2008 formulated by global non–profit organization Accountability as the assurance standard.

The financial data disclosed by TTY Biopharm are taken from the consolidated financial statements audited and attested by KPMG Taiwan according to the International Financial Reporting Standards (IFRSs), and are denominated in New Taiwan dollar.

#### Frequency of Issuance

The Company promises to continuously issue a corporate social responsibility report every year, and expects to issue the report once a year in the future. The last report was published in August 2018. This report is published on the Stakeholder section on the Company's website for stakeholders to download and review. This report is published in July 2019. It is estimated that the next report will be published in July 2020.

### Contact Method

If you have any questions or recommendations regarding the content of this report, feel free to contact us. TTY Biopharm Co., Ltd. Address: 3rd Floor, No. 3–1, Park Street, Nangang District, Taipei City

Contact Person: Finance Department Phone: 02–2652–5999 ext. 2317 E-mail : csr@tty.com.tw Company website: http://www.tty.com.tw/

## Stakeholder Engagement

### Identification of Stakeholder

We reference the five principles of Stakeholder Engagement Standard, AA1000 SES 2011 to identify the 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, and manufacturers), non–profit organizations (NPOs), and suppliers.

## Guidelines on Communications with Stakeholders

Each department communicates with stakeholders through normal business dealings, routine investigations, interview analysis and other methods. The topics of concern to stakeholders differ according to the nature of business. Therefore, we truly understand the needs and expectations of stakeholders through a diverse range of communication channels, and take into consideration of their perspectives to adjust our operations management. Moreover, we also provide appropriate responses to stakeholders' key concerns.

## Key Topics and Concerns Raised

Stakeholders	Material topics of concern	Communication channels between two parties	Frequency of communication between two parties
Government agencies	<ul> <li>Corporate governance</li> <li>Energy</li> <li>Emissions</li> <li>Ethics and integrity</li> </ul>	Visits Telephone Official letters E-mail Briefing sessions	Irregular intervals
Employees	<ul> <li>Employment</li> <li>Labor/management relations</li> <li>Training and education</li> <li>Corporate governance</li> <li>Indirect economic impacts</li> </ul>	Personnel announcement Internal employee website (Sharepoint) TTY Biopharm e-newsletters Study groups Departmental meetings Internal and external educational training through e-learning Performance interview Remuneration Committee Educational training, emergency response drills	Irregular intervals At least twice a year Twice a year
Customers	<ul> <li>Responsible products and manufacturing</li> <li>Customer health and safety</li> <li>Marketing and labeling</li> </ul>	Exhibitions / Product briefing / Organize academic events / Organize education seminars / Establish academic platforms / Clinical trials / Factory visits and inspections / Visits / Telephone / E-mail / Written letters	Irregular intervals
Investors	<ul> <li>Economic performance</li> <li>Corporate governance</li> </ul>	Annual shareholders' meeting / Annual reports Quarterly financial reports Operational highlights announcement Major information announcement / Press release / Investor conference / Corporate website / Telephone / E-mail	Every year Every quarter Every month Irregular intervals
Suppliers	<ul> <li>Responsible products and manufacturing</li> <li>Effluents and Waste</li> </ul>	Supplier management and audit E-mail / Visit / Telephone	According to contract Irregular intervals
Non–profit organizations (NPO)	<ul> <li>Indirect economic impacts</li> </ul>	E-mail / Visit / Telephone / Read annual reports and major literature published by NPOs, including but not limited to the "Global Risks Report" published by WEF and the "Ten Threats to Global Health in 2019" published by WHO.	Irregular intervals

### Focus on Materiality Analysis

After communicating with stakeholders, each department compiles a list of topics of concern to stakeholders by including major events in the industry for the year, and set the internal and external boundaries covered according to the scope of impact arising from these topics.

## Material Topics and Boundary

Ordor	Tania	Category of	GRI indicators	Frequency of communication between two parties		
Order	Торіс	GRI Standards	GRI Indicators	Within the organization	Outside the organization	
1	Customer health and safety	Social	416–1	TTY Biopharm	Customers	
2	Marketing and labeling	Social	417–1~3	TTY Biopharm	Customers	
3	Responsible products and manufacturing	Social	Customized material topic	TTY Biopharm	Customers and suppliers	
4	Corporate governance	General	102–18	TTY Biopharm and employees	Government	
5	Emissions	Environmental	305–2	TTY Biopharm	Government	
6	Economic performance	Economic	201–1	TTY Biopharm	Investors	
7	Ethics and integrity	General	102–16	TTY Biopharm	Government	
8	Employment	Social	401–1~2	TTY Biopharm and employees	Investors	
9	Training and education	Social	404–1/404–3	TTY Biopharm and employees		
10	Labor/management relations	Social	402–1	TTY Biopharm and employees		
11	Effluents and waste	Environmental	306–1~3	TTY Biopharm	Suppliers and government	
12	Energy	Environmental	302–1	TTY Biopharm	Government	
13	Indirect economic impacts	Economic	203–1	TTY Biopharm and employees	Community groups	

## Other information disclosure General information

## **Operational Locations**

Headquarter Phone: +886–2–26525999
 Address: 3rd Floor, No. 3–1, Park Street, Nangang District, Taipei City

• Chungli Factory, Taoyuan Phone: +886–3– 4522160

Address: No. 838, Section 1, Zhonghua Road, Chungli District, Taoyuan City

• Lioudu Factory, Keelung Phone: +886-2-24512466

Address: No. 5, Gongjian West Road, Qidu District, Keelung City

• Translational Research Center Phone: +886-2-26971775

Address: 32th Floor–5, No. 99, Section 1, Xintai 5th Road, Xizhi District, New Taipei City

Pharmaceutical Development Center Phone:
 +886-2-27967383

Address: 3rd Floor, No. 124, Xingshan Road, Neihu District, Taipei City

• Neihu Factory Phone: +886–2–27967383 Address: 5th Floor, No. 118, Xingshan Road, Neihu District, Taipei City

## Supply chain

The structure of the pharmaceutical manufacturing industry can be divided into upstream, midstream and downstream sectors. The upstream and midstream sectors involve the search and manufacture of raw materials (active pharmaceutical ingredients), whereas the downstream sector involves the manufacture of preparations and various sales channels. Drugs can be simply divided into three types, namely original, imported or locally produced bioequivalent generics (BE Generics), and non-bioequivalent generics (Non-BE Generics). At present, Taiwan's pharmaceutical manufacturing industry is generally located in the downstream sector, and mostly engages in the manufacture and sale of non-BE Generics. However, this industry has been gradually trying to move toward the development of new drugs. There was no material change in the supply chain during the reporting period.

## **External Initiatives**

TTY advocates the United Nations' 17 sustainable development goals (SDGs).

## Participation in External Associations

Serial No.	Trade association and organization	Position held in governing body
1	Research Center for Biotechnology and Medicine Policy (RBMP) Institute for Biotechnology and Medicine Industry (IBMI)	Director
2	Taiwan Bio Industry Organization	None
3	Taiwan Pharmaceutical Manufacture and Development Association	Director, Deputy Chairperson of Drug Administration Committee, and Deputy Chairperson of Intellectual Property and Legal Committee
4	Industrial Technology Research Institute (Small Molecule Drug Development Industry Alliance) and Biomedical Technology and Device Research Laboratories, Industrial Technology Research Institute	None
5	Taiwan Pharmaceutical Manufacturers Association	Alternate supervisor
6	Taipei Pharmaceutical Agents and Distributors Association	Supervisor
7	Importers and Exporters Association of Taipei	None
8	Taipei Pharmaceutical Business Association	None
9	Cross-Strait Medical Academic Exchange Association	None
10	Taiwan Society of Regulatory Affairs for Medical Products	None
11	T.M.U. Pharmacy Foundation for Culture and Education	None
12	Taiwan Parenteral Drug Association	None
13	Keelung Federation of Labor	None
14	Medical and Pharmaceutical Industry Technology and Development Center	None

## Other information disclosure

## Environmental

Electricity-saving measures and results at TTY Biopharm's two major manufacturing locations during the reporting period according to the "Energy Saving Targets and Implementation Plan for Energy Users" set by the Bureau of Energy, Ministry of Economic Affairs (Unit: kWh)

ltem No.	Manufacturing location	Electricity-saving measures	Amount of electricity saved
1		Replaced warehouse lighting in the basement of Block B building with 100 LED lights	7,078.33
2	Chungli Factory,	Adjusted the temperature setting of the air-conditioning system in Block B1 building to 7 degrees Celsius, which led to functional in temperature and humidity conditions of clean rooms	1,606
3	Taoyuan	Turned off the 50RT water chiller for the water chilling system in Block B building, where the work done by the chiller was taken over by 150RT and 120RT water chillers, and disabled ice water pumps / cooling water pumps / cooling fans	77,088
4		Installed automatic feeder to the 1200RT cooling tower in Block B building	59,918.40
5	Lioudu Factory, Keelung	Lowered the temperature of the 250kW electric boiler in the air–conditioning room on the 4th floor of Block B building from 80 degrees Celsius to 60 degrees Celsius.	113,925
6		Replaced three small once-through fuel-fired boilers in the boiler room in Block I building with small once-through gas-fired boilers	71,111

#### Energy Consumption Statistics

Factory	Type of energy	Unit	2015	2016	2017	2018
Lioudu Factory, Keelung	Low-sulphur heavy fuel oil	MJ	8,438,976	8,438,976	10,197,096	0
Chungli Factory, Taoyuan	Low-sulphur heavy fuel oil	MJ	6,505,044	8,017,027	7,208,292	0
Lioudu Factory, Keelung	Natural gas	MJ	0	0	0	9,587,246
Chungli Factory, Taoyuan	Natural gas	MJ	0	0	0	5,611,316
Lioudu Factory, Keelung	Purchased electricity	MJ	24,773,422	27,914,400	28,809,360	28,142,064
Chungli Factory, Taoyuan	Purchased electricity	MJ	15,885,360	18,757,800	18,743,760	19,088,640
Total		MJ	55,602,802	63,128,203	64,958,508	62,429,266

Note

1. In January 2018, natural gas-fired boilers were set up to replace the consumption of low-sulphur heavy fuel oil, thereby effectively reducing carbon dioxide emissions.

2. Formula: 1 liter of low-sulphur heavy fuel oil = 8400 kcal = 35,162,400 joules

Formula: 1 m3 of natural gas = 8000 kcal = 33,488,000 joules
 Formula: 1 kWh of purchased electricity = 3,600,000 joules

5. The conversion factors used in Items 2 and 3 were derived from the Greenhouse Gas Emission Factor Management version 6.0.3 announced by the Environmental Protection Administration on January 17, 2018.

## Greenhouse Gas Emission Statistics (Unit: ton CO2e)

Factory	Type of energy	Unit	2015	2016	2017	2018
Lioudu Factory, Keelung	Low-sulphur heavy fuel oil	ton CO <sub>2</sub>	625	625	756	0
Chungli Factory, Taoyuan	Low-sulphur heavy fuel oil	ton CO <sub>2</sub>	482	594	534	0
Lioudu Factory, Keelung	Natural gas	ton CO <sub>2</sub>	0	0	0	538
Chungli Factory, Taoyuan	Natural gas	ton CO <sub>2</sub>	0	0	0	315
Lioudu Factory, Keelung	Purchased electricity	ton CO <sub>2</sub>	3,633	4,094	4,225	4,128
Chungli Factory, Taoyuan	Purchased electricity	ton CO <sub>2</sub>	2,330	2,751	2,749	2,800
Total		ton CO <sub>2</sub>	7,071	8,065	8,264	7,780

Note

2. Emission factor was derived from the Greenhouse Gas Emission Factor Management version 6.0.3 announced by the Environmental Protection Administration on January 17, 2018.

3. GWP values were taken from:

<sup>1.</sup> The global warming potential (GWP) of  $CO_2$  is 1.

IPCC Fifth Assessment Report, 2014 values (https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\_Chapter08\_FINAL.pdf)

## Water Consumption Statistics (Unit: ton OO2e)

Order	Water source	2016	2017	2018
Lioudu Factory, Keelung	Tap water	69,693	82,056	79,518
Chungli Factory, Taoyuan	Tap water	35,522	25,151	24,165
Pharmaceutical Development Center	Tap water	2,718	1,964	2,120

## Control standards and test results of sewage treatment plants by local industrial zone management centers

Factory		Unit	Control standard	2016	2017	2018
Lioudu Factory,	Amount of emissions	metric ton	n/a	69,693	82,056	79,518
Keelung	COD	mg/L	600	46.12	59.8	68.3
	SS	mg/L	600	13.1	10.2	12.7
Chungli Factory,	Amount of emissions	metric ton	n/a	35, 522	25,151	24,165
Taoyuan	COD	mg/L	480	113.96	91.7	87.9
	SS	mg/L	320	8.54	12.2	5.65
Neihu Factory	Amount of emissions	metric ton	n/a	2,174.40	1,571.20	1,696

Note: 1. COD stands for chemical oxygen demand. 2. SS stands for suspended solids.

## Waste by category and disposal method (Unit: tons)

Factory	Waste type and name		Intermediate waste treatment method	Final waste disposal method	2016	2017	2018
Lioudu	General industrial waste	Waste drugs (human or animal users)	Physical treatment	Incineration	9.03	10.05	11.74
Factory, Keelung	Hazardous industrial waste	Waste liquid with a flash point less than 60 °C (excluding alcohol waste with ethanol concentration less than 24%)	Incineration	Landfill	6.26	No collection	6.61
Chungli	General industrial waste	Waste drugs (human or animal users)	Incineration	Landfill	0.9	0.87	0.79
Factory, Taoyuan Hazardous industrial Waste liquid with a 60 °C (excluding alc		Waste liquid with a flash point less than 60 °C (excluding alcohol waste with ethanol concentration less than 24%)	Physical treatment	Landfill	1.837	1.727	2.031
	General industrial waste	Waste drugs (human or animal users)	Physical treatment	Landfill	0.86	No collection	0.51
		Waste liquid with a flash point less than 60 °C (excluding alcohol waste with ethanol concentration less than 24%)	Incineration	Landfill	1.13	8.36	6.18
Neihu Factory	Hazardous industrial	Waste liquid with a flash point less than 60 °C (excluding alcohol waste with ethanol concentration less than 24%)	Physical treatment	Landfill	9.97	No collection	No collection
,	waste	Waste sharp tools	Incineration	Landfill	0.2	0.23	0.104
		Infectious waste (contaminated items or utensils)	Incineration	Landfill	0.22	0.26	0.126
		Infectious waste mixtures	Incineration	No final disposal method	2.26	2.06	2.562

## Other information disclosure

## Social

## Employment

TTY Biopharm is committed to creating a caring and diverse workplace. We employed 530 permanent employees in 2018. By gender, 252 or 47.55% of employees were male, while the other 278 or 52.45% were female. By age, those in the age group of 30 years old and below accounted for 16.4%, while those in the age group of 31 to 50 years old accounted for 70.2%. On the other hand, those in the age group of 51 years old and above constituted 13.4% of total employees. The Company adopts the policy of hiring local talents; therefore, 100% of our employees are local residents. Permanent employees do not include contract and temporary workers.

Pharmaceutical is a technology-intensive industry where employees are recruited primarily for their professional knowledge and technical capabilities. As a result, gender distribution is fairly equal and the employee size is unaffected by peak and low seasons. There had been no material change in total employee counts compared to the previous reporting period.

By	Age

Age	Male		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
30 years old and below	36	6.79%	51	9.62%	87	16.42%
31 to 50 years old	178	33.58%	194	36.60%	372	70.19%
51 years old and above	38	7.17%	33	6.23%	71	13.40%
Subtotal	252	47.55%	278	52.45%	530	100%

### New and Departed Employees

Gender	Ma	ale	Fen	nale	Total	
Age	Count	Percentage	Count	Percentage	Count	Percentage
30 years old and below	11	2.08%	17	3.21%	28	5.28%
31 to 50 years old	24	4.53%	31	5.85%	55	10.38%
51 years old and above	3	0.57%	0	0.00%	3	0.57%
Subtotal	38	7.17%	48	9.06%	86	16.23%

Gender	Ma	ale	Fen	nale	То	tal	
Age	Count	Percentage	Count	Percentage	Count	Percentage	
30 years old and below	13	2.45%	5	0.94%	18	3.40%	
31 to 50 years old	26	4.91%	24	4.53%	50	9.43%	
51 years old and above	2	0.38%	2	0.38%	4	0.75%	
Subtotal	41	7.74%	31	5.85%	72	13.58%	



## Employee Composition

Gender	Unit	2016	2017	2018
	Count	274 people	258 people	252 people
Male	%	48.8%	49.6%	47.5%
	Count	287 people	262 people	278 people
Female	%	51.2%	50.4%	52.5%
Total	Count	561 people	520 people	530 people

Growth of employee compensation and welfare expenses for five consecutive years (Unit NT\$ thousands)

Year	2014	2015	2016	2017	2018
Amount	791,676	764,352	862,873	881,703	938,506

## **Occupational Safety and Health**

### Statistics on occupational hazards in the last five years

	Occupatio	nal hazard	Number of		Dereentage of	Full-year total for	r male employees
Year	Number of persons injured	Number of deaths         Number of working days lost         Injury rate         Percentage of days lost	Total number of working days	Total number of working hours			
2018	1	0	200	0	73.21	66,711	546,384
2017	3	0	16	0	5.98	66,712	534,938
2016	1	0	60	0	24.29	59,060	493,998

	Occupatio	nal hazard	Number of ber of aths         Number of working days lost         Injury rate         Percentage of days lost         Total num working		Dereentage of	Full-year total for	female employees
Year	Number of persons injured	Number of deaths			Total number of working days	Total number of working hours	
2018	2	0	65	0	22.6	70,472	575,240
2017	0	0	0	0	0	68,870	552,058
2016	1	0	21	0	8.37	59,990	501,526

Note 1. Injury rate = (total injuries\*200000) / total work hours 2. Lost day rate (LDR) = (lost working days\*200000) / total work hours 3. Work days lost: means the number of days employees are rendered unable to work (rest days) 4. The statistics covered the Headquarter + Neihu Factory + Translational Research Center + Lioudu Factory + Chungli Factory.

### Statistics on regular special health examination items and number of participants in 2018

Factory	Health examination item	Number of participants
	Chemical	22
Chungli Factory, Taoyuan	Physical	18
	Chemical	14
Lioudu Factory, Keelung	Physical	32
	Chemical	1
Neihu Factory	Physical	0

## Training and education

		Formula	Male	Female	Subtotal
Management and administration	Actual number of people during the reporting period	A1	30	48	78
	Number of training hours during the reporting period	B1	437	732.5	1,169.50
	Average number of training hours during the reporting period	C1 = B1 / A1	14.57	15.26	14.99
Sales and marketing	Actual number of people during the reporting period	A2	61	65	126
	Number of training hours during the reporting period	B2	875.5	1,083.50	1,959
	Average number of training hours during the reporting period	C2 = B2 / A2	14.35	16.67	15.55
Research and development	Actual number of people during the reporting period	A3	52	46	98
	Number of training hours during the reporting period	B3	746	1,301	2,047
	Average number of training hours during the reporting period	C3 = B3 / A3	14.35	28.28	20.89
Factory	Actual number of people during the reporting period	A4	109	119	228
	Number of training hours during the reporting period	B4	1,157.50	1,218.50	2,376
	Average number of training hours during the reporting period	C4 = B4 / A4	10.62	10.24	10.42
Total	Number of hours	Q	3,216	4,335.50	7,551.50
Total number of employees at the end of the reporting period	Number of people	R	252	278	530
Average number of training hours per employee	Number of hours	S = Q / R	12.76	15.6	14.25

### Average number of training hours per year per employee by gender and category

### Regular performance evaluation in percentage

Gender	Male			Female			Subtotal		
	Total number of employees at the end of the reporting period	Number of employees receiving regular performance and career development evaluation	Percentage	Total number of employees at the end of the reporting period	Number of employees receiving regular performance and career development evaluation	Percentage	Total number of employees at the end of the reporting period	Number of employees receiving regular performance and career development evaluation	Percentage
Formula	A	В	C=B/A	D	E	F=E/D	G	Н	I=H/G
Management		21	8.33%		45	16.19%		66	12.45%
Sales and marketing		53	21.03%		54	19.42%		107	20.19%
Research and development		52	20.63%		45	16.19%		97	18.30%
Factory		102	40.48%		110	39.57%		212	40.00%
Subtotal	252	228	90.48%	278	254	91.37%	530	482	90.94%

### Assessment of the impact of product and service categories on health and safety

The percentage of major product and service categories assessed to improve their impact on health and safety is 100%. The core philosophy of TTY Biopharm is improving the quality of human health with scientific innovation. We are a pharmaceutical company that focuses on the development of special dosage forms and new drugs, thereby enhancing human health and safety through product manufacturing. For example, TTY Biopharm is Asia's leading manufacturer in the technology for the commercial mass production of liposomes. This technology has been applied to breast cancer chemotherapy, which has been proven to effectively reduce side effects, such as nausea and vomiting, poor appetite, hair loss, etc. There were no violations of health and safety regulations related to products and services during the reporting period.

## Other information disclosure

## Governance

## Supplementary information on corporate governance

- Every director receives 10.66 hours of training on average of the year.
- We have purchased liability insurance for all directors, so that they can perform their occupational competence wholeheartedly, thereby creating maximum benefits for shareholders.
- In 2011, we have established the Remuneration Committee. During the reporting period, a total of five meetings were convened by the committee, with an average attendance of 96%. Since 2016, a majority of the members of the Remuneration Committee are independent directors, with a view to continuously strengthening the independence of the Remuneration Committee.
- In 2016, we have established the Audit Committee. During the reporting period, a total of nine meetings were convened by the committee, with an average attendance of 100%.
- In 2016, we have established the Corporate Social Responsibility Promotion Team.
- In 2016, self-assessment or peer assessment of the Board of Directors and individual directors is regularly conducted every year, and the performance evaluation results are reported before the end of the first quarter in the following year.
- It is expected that the standard operating procedures for handling request made by directors will be completely
  established in 2019, so that there will be a consistent approach to assisting directors in acquiring information or
  handling their requests, in order to avoid harming investors' rights and interests due to directors' performance of
  their duties.
- It is expected that the position of Officer of Corporate Governance will be completely set up in 2019.

## TTY Biopharm establishes the "Ethical Management Promotion Team



#### Expected to completely set up the position of Officer of Corporate Governance in 2019

It is expected that the position of Officer of Corporate Governance will be completely set up in 2019. Before an Officer of Corporate Governance is officially appointed by the Board of Directors, the Company's Chief Financial Officer (CFO) is responsible for corporate governance affairs. The implementation of corporate governance affairs in 2018 is explained as follows:

- 1. Assisted independent directors and general directors in performing their duties by providing the necessary information and arranging for continuing education for directors:
- 1.1 Immediately notified all the directors after major news were announced by the Company, so that all the directors can receive the Company's major news immediately.
- 1.2 Established the Board of Directors group, which not only provides directors with information on amendments to the latest regulations related to biotechnology, macro economy, and corporate governance, but also provides industry–related information and company news for reference.
- 1.3 Reviewed the level of information confidentiality according to the regulations governing document management in the Company's system, provided directors with company information they need, and assisted to maintain smooth communication and exchanges between each level of management and directors.
- 1.4 Provided directors with continuing professional courses prepared by the training organization and assisted in course registration, and conducted three "teaching at doorstep" continuing education courses of totaling nine hours. 1.5 Arranged for internal audit supervisor and certified public accountants (CPAs) to communicate with the Audit Committee and independent directors, and assisted in contacting and communicating with all parties if independent directors have communication needs at other times.
- 2. Assisted in matters related to the procedures, resolutions and compliance of the Board of Directors, Audit Committee, and Shareholders' Meeting.
- 2.1 On May 14, 2018, the Board of Directors reported the results of the 2017 Corporate Governance Evaluation, and reviewed corporate governance items which are yet to be implemented, in hopes of further enhancement of corporate governance and reinforcement of corporate social responsibility.
- 2.2 Ensured that the Board of Directors' meetings, Audit Committee meetings and Annual Shareholders' Meetings comply with the relevant regulations and corporate governance best practice principles.
- 2.3 Assisted and reminded the directors of the regulations that should be complied with when performing duties or making formal resolutions during the Board of Directors' meetings and Audit Committee meetings, and provided constructive suggestions when there are concerns that the illegal resolutions have been made.
- 2.4 Assisted each unit in submitting proposals to the Board of Directors.
- 2.5 Formulated agendas in the Board of Directors' meetings and Audit Committee meetings, as well as notified directors of meetings to be convened, provided meeting information, and sent meeting minutes within the statutory time limit. Reminded directors in advance if they need to withdraw themselves or there are concerns over their involvement in insider trading arising from any agenda.
- 2.6 Handled registration and application before the date of Board of Directors' meeting followed by various regulations, and sent meeting notice to shareholders within the statutory time limit.
- 2.7 Assisted the Chairman to host the Board of Directors' meetings, Audit Committee meetings and Annual Shareholders' Meetings so that these meetings can be convened smoothly.
- 2.8 Announced major materials information after Board of Directors' meetings and Annual Shareholders' Meetings to ensure the legality and correctness of such materials information, so as to protect investor trading information symmetry.

#### 3. Maintained investor relations

- 3.1 Took the initiative to notify institutional investors of the relevant information after announcing the Company's financial information.
- 3.2 Maintained interactions and communications with existing and potential shareholders, including domestic and overseas institutional investors, as well as recorded recommendations and provided feedback to the management in order to protect the rights and interests of shareholders.
- 3.3 Participated in domestic and overseas investor conferences and forums, where a total of six such events were attended in 2018, to present the Company's financial status and business performance to investors, so that they have a better understanding of the Company's operations.

Main product		20	17		2018			
Main product	Domest	Domestic sales Export sales		Domest	ic sales	Export sales		
Unit: thousand pieces; NT\$ thousands	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Ointments	2,290	73,160	—	-	2,036	74,630	—	-
Oral dosage types	360,700	1,667,333	10,765	68,014	358,317	1,820,313	12,111	92,307
Injections	5,137	1,351,268	513	755,632	4,250	1,327,902	330	461,879
Others	439	71,466	47	217	727	133,938	1,551	7,167
Total	_	3,163,227	_	823,863	-	3,356,783	-	561,353

### Statistics on domestic sales in the past two years

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## ISO 26000 Index

ISO 26000 Chapter 6 (Guidance on social responsibility core subjects) Index

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		6.2	Responsible political involvement	
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		6.4	Promoting social responsibility in the value chain	
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Core sul	bjects and issues	Sub-clause		Chapter
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