Central Taiwan Science Park Bureau,
Ministry of Science and Technology

2021

Sustainability Report

Content

Summary

The Central Taiwan Science Park has been established for 18 years and has continued to uphold the mission of actively implementing social responsibilities, and the sustainable management goals of co-existence and co-prosperity, i.e. Production, Living, Ecology, and Life. At the same time, the three aspects of environmental sustainability, social integration co-prosperity and economic development have been taken into account, while building a bridge of communication with stakeholders, the sixth issue of the Sustainability Report is published.

This Report will disclose the relevant actions of the CTSP using its own core capabilities to implement 15 of the 17 United Nations Sustainable Development Goals (SDGs), and expose topics of concern to various stakeholders with open and transparent objective data, while presenting the core policies, goals and performance of the Central Taiwan Science Park Bureau.

In 2021 the structure of this Report will be framed from a broader ESG perspective as main theme:
- Green Park (Environment): Climate Action, Environmental Management.
- Social Co-prosperity (Society): Innovation Driven, Safe Workplace, Social Interaction.
- Park Operation and Maintenance (Governance): Integrity Governance.

A new blueprint for the Park through the management policies of various major themes is created, grasping the opportunity of global supply chain restructuring, and creating a new type of science park at the CTSP.

E - Green Park

Climate Action

In the face of the worsening extreme climate, everyone needs to work together in the direction of protecting the environment and cherishing resources. Having the ability to face climate change has become an important issue for the Central Taiwan Science Park Bureau. Not only with the self-requirement to save energy, but also in cooperating with government policies to promote the green policy and net-zero plan, actively guiding manufacturers to save water and electricity, process improvement, ecological conservation and other environmental protection awareness, in order to improve environmental quality and implement the concept of co-existence and co-prosperity between science park development and environmental protection.

Environmental Management

With the extreme weather phenomena caused by climate change, all industries are facing the risk of lack of energy and water resources. The Central Taiwan Science Park Bureau cooperates with government policies to actively promote green energy and the circular economy. And while operating the Park, strengthen guidance to check that manufacturers in the Park are aware of environmental protection issues such as air pollution, water pollution, waste, etc., in order to comply with relevant environmental protection regulations and master the use of energy and resources, while complying with the contents of the environmental impact assessment document and review conclusions.

S - Social Co-prosperity

Innovation Driven

Industrial transformation and upgrades can drive new investment and push industrial development to a higher level. In response to the trend, the Central Taiwan Science Park Bureau cooperates with the Ministry of Science and Technology to implement various plans, condensing the energy of production, government, academia and research, actively match domestic and foreign manufacturers to participate in international events, hold business promotion briefings to attract manufacturers to return to Taiwan for investment, and encourage manufacturers and employees in the Park to innovate and start their own businesses. Through the AI Robotics Hub, an open platform will be established, future talents will be cultivated, international links will be established, and industrial upgrades will be jointly promoted.

Safe Workplace

The CTSP has always been committed to attracting high-quality talent and building a healthy workplace in the Park. It regularly holds recruitment activities to attract all kinds of talent, actively cultivates high-quality R&D personnel, and promotes occupational safety and health seminars and other related work in the Park. Various labor inspection programs, labor complaints and disputes in the Park are actively handled, eliminating labor disputes with legitimate and reasonable solutions, combining various activities to promote the protection of labor rights and health, creating a balance of mind and body for workers, and promoting a healthy workplace environment.

Social Interaction

In order to create a friendly park that is symbiotic and prosperous with the ecology, and to encourage exchanges between park manufacturers and surrounding areas, the Central Taiwan Science Park Bureau regularly conducts environmental monitoring to minimize the impact of the Park operations on the environment. At the same time, activities are held to enhance exchanges between the Park's manufacturers and neighboring communities, and conduct development and construction to make the Park functions more complete and convenient for the public. In addition, it also continues to implement environmental education, develop educational curriculum plans, assist and guide the development of education in areas related to intelligent robots, and actively cultivate domestic students.

G - Park Operation and Maintenance

Integrity Governance

As a public government agency, the Central Taiwan Science Park Bureau strictly abides by various laws and regulations, follows The Freedom of Government Information Law to protect people's right to know, and follows the Ethics Guidelines for Civil Servants formulated by the Executive Yuan to enable civil servants to perform their duties with integrity, self-restraint, impartiality, administrate according to law, eliminate all corruption cases, implement internal control systems, and create a friendly and fresh image with honesty, law-abiding and dedicated service. With remote work and information development caused by the epidemic, many information security issues have also arisen. In order to reduce information security risks, the Bureau is committed to maintaining confidential and complete information, related data, information systems, equipment and network security, and cooperates with the Executive Yuan to promote various agencies to strengthen information security management, thereby improving overall information services.

About this Report

Welcome to the 2021 Sustainability Report of the Central Taiwan Science Park Bureau under the Ministry of Science and Technology (hereinafter referred to as this report). This report was officially renamed the Sustainability Report (formerly known as the Corporate Sustainability Report) in 2021. This report is the sixth Non-financial reporting Sustainability Report issued by the Central Taiwan Science Park Bureau under the Ministry of Science and Technology (hereinafter referred to as the Central Taiwan Science Park Bureau, the CTSP Bureau or the Bureau). This Report was compiled by referencing GRI (Global Reporting Initiative) Standards for the disclosure of relevant performance and content. The Central Taiwan Science Park (CTSP) Bureau has grasped the world's technological development trends, and hopes to continue to move towards the goal of "a smart CTSP, innovation-driven, low-carbon park, and regional co-prosperity", and to form a demonstration Park that combines park development and industrial innovation and reform in a sustainable manner, creating a sustainable ecological environment and become a model of green science parks.

In 2021, the "2020 Sustainability Report" issued by the Central Taiwan Science Park Bureau won the silver award of "Asia's Best Sustainability Report (Public Sector)" (Asia's Best Sustainability Report, Public Sector), the most representative sustainability award in Asia. Through the continuous improvement and sustainable actions of the Bureau, it has won recognition and encouragement from external units for its implementation of sustainable management, a friendly environment and a public welfare society. In the future, it will continue to assist the industry's key technology upgrades, industry-academia cooperation, talent cultivation, innovation and entrepreneurship and industrial transformation to develop innovative service models, create a new blueprint for the industry, grasp the restructuring opportunities of global supply chain, and build sustainable parks.

Reporting Scope and Calculation Basis

The scope of this Report covers CTSP Bureau and its jurisdiction (Taichung Park, Huwei Park, Houli Park, Erlin Park, and Chung Hsing Park) and the reporting period was between January 1 and December 31, 2021. Compared with the 2020 report, there were no major changes in the organization or supply chain in terms of the reporting scope of this year’ s report. All test data as required by law was tested or verified by an impartial third party, and all numbers were presented according to the standard method of numerical description, with exact figures used in the content data. All statistical data disclosed in the Report is derived from the internal statistics and survey results of colleagues from each department comprising the Sustainability Report Editorial Working Group of this Bureau. The overall operation profile, environmental management, and socio-economic performance, etc. are compiled by the Environment and Labor Affairs Division. The finalized report was issued by the Bureau director. If there is any reorganization of information in this Report compared to the previous report, it will be noted in the text of each chapter.

Reporting Principles and Guidelines

The content structure of this Report follows the core criteria of the GRI (Global Reporting Initiative) Standards and AA1000 AccountAbility Principles. The substantive analysis model was used to identify and prioritize stakeholders' concerns about sustainability considerations for those aspects needing to be disclosed, namely environmental protection issues, related strategies, goals and measures, labor behavior, social aspects, human rights, and local community impact in the Central Taiwan Science Park, etc., with listed guidelines used as a basis for compiling the Report. The report concurrently echoes the United Nations Sustainable Development Goals (SDGs), the Sustainable Development Goals of Taiwan, the ISO 26000 Guidance on Social responsibility, the United Nations Global Compact, the Task Force on Climate-related Financial Disclosures (TCFD), and other such principles.

Report Issuance

The CTSP Bureau schedules the issuance of its Sustainability Report annually with the contents of the Report simultaneously published on its official website. If a report is not released for any reason, relevant contents will be disclosed in other publications.
Previous edition : Issued in July 2021 Current edition: Issued in July 2022

Report Verification

To increase the impartiality of this Report, the Bureau entrusted the British Standards Institution (BSI) to verify this Report in accordance with GRI (Global Reporting Initiative) Standards and AA1000AS (Assurance Standard) Type 1 - Moderate Level Assurance. It was verified by BSI that this Report complied with the aforementioned framework and assurance standard level, enhancing the transparency and reliability of the organizational report. The verification statement is attached in Appendix II, and the GRI content index in Appendix III of this Report as reference.

Contact information

It is hoped that through this report, the general public and relevant stakeholders will better understand the endeavours and achievements of the CTSP Bureau in the promotion of sustainable management. Feedback from all walks of life serves as the basis for continuous improvement. For any questions or suggestions regarding the 2021 Sustainability Report of the Central Taiwan Science Park Bureau, please contact us below:

The contact information is as follows

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Message from the Director-General

In 2021, the COVID-19 pandemic continued to affect the world, further testing economic prospects. While fully cooperating with the Government's epidemic prevention measures, the CTSP manufacturers still had strong and continued revenue growth with outstanding results. With an annual turnover of NT$1.035232 trillion, CTSP had reached the trillion-dollar mark for the first time, and again setting a new record high. The number of employees has also continued to grow to a peak of 52,888. Thanks to the Park's corporate partners for their unremitting efforts and cooperation to create a new era of a "Trillion Dollar Central Taiwan Science Park" in the CTSP's 18-year history.

In addition to going all out in industrial development and economic growth, and facing the wave of global sustainable development, the CTSP also demonstrates the Park's intention to consider the sustainable development of humanities and the environment in accordance with the United Nations' 17 Sustainable Development Goals (SDGs). It has been 7 years since 2015, and has won the TCSA Corporate Sustainability Report Award - Gold Award and Platinum Award in 2018 and 2020. The CTSP's "2020 Sustainability Report" participated for the first time in The Asian Sustainability Reporting Award which was hosted by CSR Works International in Singapore and was awarded the Silver Award. Following the trend of many countries promoting net zero emissions and circular economy in recent years, the 2021 Sustainability Report includes three chapters: Green Park (Environment), Social Co-prosperity (Social) and Park Operation and Maintenance (Governance), and focuses on six themes of cross- "Climate Action" , "Environmental Management" , "Innovation Driven" , "Safe Workplace" , "Social Interaction" , "Integrity Governance" , creating outstanding performance, such as the recycling rate of waste in the park reaches 94.15%, towards a sustainable green park. We actively provide guidance on water saving, resulting in that the water recovery rate of the manufacturer's process is over 85%, which is equivalent to saving 7.87 Shigangba reservoirs every year; In addition, we actively promote green transportation and encourage and promote renewable energy and solar photovoltaic installations, etc., with outstanding achievements in energy conservation and carbon reduction of 33,700 metric tons of CO_2e; Also, the manufacturers' "overall satisfaction" score was 87.36, which was the highest among the three science parks, showing the efforts of CTSP's environment-friendly, public welfare society, and sustainable operation.

Looking forward to the future, in order to build a sustainable green park, CTSP upholds the responsibility and mission of the society and the environment, is committed to considering economic development and environmental sustainability, continues to improve the industrial investment environment, create job opportunities, promote environmental protection and enhance social health. We will make efforts in well-being, and hope to interact with the localities and achieve mutual prosperity and win-win results. In the future, CTSP will focus on the technological vision of "2030 Innovation, Inclusion, and Sustainability", and will move towards high-quality life, establish a friendly environment, strengthen the connection with the local area, create a local park that shares co-prosperity, drive the circular economy with green technology, and guide manufacturers to continue to develop energy-saving and low-carbon measures to create sustainable and innovative smart parks.

局長 許茂新

2021 Sustainability Management Performance

Environmental Performance

100% compliance	Environmental protection businesses were 100% in compliance with total volume caps and stricter environmental impact assessment commitments.
1,309cases	provided environmental protection business consulting services 1,309 times, implement Single-window service.
52,195tons	As of 2021, we provided water conservation guidance to 42 manufacturers, with a total water-saving potential of 52,195 tons, which can reduce 7.93 tons of CO_2e for the year.
94.15%	In line with the government's circular economy policy, we continued to promote the recycling rate of industrial waste in the Science Park to reach 94.15% (off-site recycling only), which is better than the national recycling rate of industrial waste. "94.39% (Including the proportion of on-site and off-site resources)"
2,792spots	Conducted 2,792 spots monitoring environmental projects to continuously understand the environmental conditions in the Park.
12sessions	A total of 12 sessions held for EIA tracking and supervision meetings or on-site inspections. The participation of citizens accounted for 60% and the environmental information was open and transparent.
87metric tons	A total of 87,944 passenger trips were made on the free shuttle bus, equivalent to a reduction of 87 metric tons in CO_2e emissions.
939participants	A Number of 38 environmental education activities held in Taichung, Huwei and Houli Park Wastewater Treatment Plants with a total of 939 people participation. The implementation of environmental education has taken root.
52.88MW	The cumulative solar power generation capacity of the Park has exceeded 52.88 MW.
85%	The water recovery rate from the production processes in the Park reached 85%.

Social Performance

87.36points	The CTSP pays attention to the needs of manufacturers and reflects issues and strives to solve them, and continues to improve customer satisfaction. The manufacturer's "overall satisfaction" score was 87.36, higher than the overall average of the three Parks.
781 sessions	A total of 12 special inspection programs and 781 labor supervision and inspection sessions were implemented under the labor supervision and inspection program.
316 sessions	As of 2021, a total of 316 health check-ups in Houli Park were held with a total of 6,660 participants in Telephone interviews and subsidized 4,918 people's health check-ups, in order to implement a good neighbor program.
38 sessions	In 2021, a total of 38 environmental education activities were held in Taichung, Huwei and Houli Park Wastewater Treatment Plants, with a total of 939 participants.
2,235 participants	Carried out epidemiological follow-up investigations in Houli Park, and cumulatively completed questionnaires and blood biochemical tests for 2,235 participants (once every 5 years), continuing to track health changes in the local residents.
17,370 participants	Set up staff clinic in CTSP, with a total of 17,370 outpatient visits in 2021.
3,119 participants	Held various industry-academia cooperation programs, talent cultivation, self-built AI Robotics Hub and training programs in the Park, and cultivated 3,119 master's and doctoral degree holders required by industries undergoing the cultivation program. (Start-up Technology Program: 20 person-time, Talent Cultivation Program: 890 person-time, Talent Training Plan: 811 person-time, self-built AI Robotics Hub and training programs in the Park: 1,333 person-time, Acceleration of Biomedical Industry Innovation Plan in the central region: 65 person-time).
45 teams	Tutored 45 teams for the 2021 From IP to IPO Program (FITI), of which 3 teams won the Outstanding Entrepreneurship Award, 5 teams won the Entrepreneurship Potential Award, and 7 teams established companies.

Social Performance

53 tasks	In order to strengthen the importance of water environmental protection, cooperated with the Yunlin County Environmental Protection Bureau to join the water environment patrol team to effectively grasp the changing trend of river water quality and water quantity. This year, 53 patrol tasks were carried out, and no abnormal situation was found.
90.75%	The progress of the first phase of the standard factory building project in Huwei Park is 90.75% (by the end of February 2022). At present, the structure has been completed, and the construction of external wall, mechanical and electrical, and landscape engineering is underway.

Managing Performance

+10.6%	Turnover reached NT$1,035.232 billion, an increase of 10.60% compared to the NT$935.979 billion in 2020
+10.19%	Export value was approximately NT$592.308 billion, an increase of 10.19% from 2020.
43 sessions	Co-organized 43 sessions of various talent recruitment activities, making available more than 1400 job vacancies.
+2.05%	The number of employees reached 52,888, an increase of 2.05% from 2020.
11 sessions	Held a total of 11 investment promotion briefing sessions at home and abroad.
233 manufacturers	Introduced a total of 233 manufacturers.
100% compliance	Procurement contracts 100% complied with model contracts provided by the Engineering Association and with human rights requirements.
6 cases	Promoted the application of emerging technologies in science parks and subsidized R&D projects with a total of 6 cases and NT$21.55 million.
7 cases	Subsidized 7manufacturers and start-up companies through the Central Taiwan Biomedical Industry Development Acceleration Program totaling NT$29,35.5 million, drove manufacturers to invest NT$47,168 million in R&D, applied for 16 domestic and foreign patents, and cultivated a total of 65 talents.

Stakeholder Interaction

Stakeholder Identification and Communication Channels

Through internal discussions with the heads of all units, and with reference to stakeholder groups identified by businesses within the same industry as well as other benchmark enterprises, the CTSP Bureau adopted the 5 principles of the AA1000 AccountAbility Stakeholder Engagement Standard to identify 9 types of stakeholders and their scoring and prioritization.

The CTSP Bureau makes use of the official CTSP website, CTSP Corporate Sustainability website, CTSP Facebook fan page, CTSP News Facebook public group, CTSP Annual Reports, CTSP Newsletter, and the CTSP Sustainability Report (originally called the Corporate Sustainability Report) etc. for formal communication and exchanges with the outside world, while other channels are also utilized to understand stakeholders' issues of concern and provide relevant responses and explanations. An English version of the Corporate Sustainability Report was issued in 2020, while the English version of the website was also published online for a more international outlook, allowing more diverse stakeholders access to the current situation and sustainable activities of the Bureau.

CTSP Official Website

CTSP Corporate Sustainability Website

CTSP Facebook Fan Page

CTSP News Facebook Public Group

CTSP Annual Reports

CTSP Newsletter

In addition to communication with various stakeholders through daily operations, the Bureau has also set up an email contact address for the Director-General, a whistle- blower hotline and email address (Tel: 04-2565-8588 ext. 6801 or discipline@ctsp.gov. tw) to facilitate convenient public communication. In 2021, the CTSP Bureau received a total of 180 petitions, among which 13 were administrative reform proposals, 7 inquiries on administrative laws, 51 reports of administrative violations, and 109 cases of administrative rights protection.

Stakeholder	Stakeholder Importance	Issues of Concern	Communication Channels	2021 Communication Effectiveness
Employees	The service capability of the Bureau is derived from having excellent employees. The CTSP Bureau attaches great importance to employee input and maintaining smooth, interactive communication channels to ensure maximum efficiency.	◦ Anti-corruption ◦ Socioeconomic Compliance ◦ Occupational safety and health	◦ Employee seminars ◦ Education and training ◦ Sexual harassment complaint hotline ◦ Director-General's mailbox ◦ Internal e-bulletin ◦ Official notification system	◦ The average time spent on employee education and training was about 51 hours per person.
Park Enterprises	The core governance goal of the Bureau is to expand the output value of the CTSP. Therefore, smooth and unimpeded communication with manufacturers is maintained at all times , and exchanges with industry associations to facilitate the economic development of the Central Taiwan region.	◦ Stable energy supply ◦ Labor Manage-ment Relations in the Park ◦ Environmental Compliance	◦ Publicity, seminars & briefings ◦ Phone contact ◦ Manufacturer visits ◦ Official website ◦ Announcements ◦ Official ◦ Documents ◦ Satisfaction ◦ surveys ◦ Trade association seminars ◦ Trade association director and supervisor meetings	◦ 9 Environmental protection regulation briefings, and 20 Park business counseling seminars. ◦ Overall satisfaction survey score of manufacturers was 87.36 points. ◦ 1 Manufacturers received water and energy conservation counseling. ◦ Co-organized a CSR lecture and experience sharing session with the Allied Association for Science Park Industries.

Stakeholder	Stakeholder Importance	Issues of Concern	Communication Channels	2021 Communication Effectiveness
Neighboring Communities (Oganiza-tions and the Public)	The Bureau adheres to the goal of co-existence and co-prosperity with neighboring communities, therefore attaches great importance to public opinion.	◎Water and Effluents ◎Emissions ◎Circular Economy	◎Borough chief seminars ◎CTSP newsletter ◎Publicity, seminars & briefings ◎In-person visits ◎Petition hotline	◎Held 42 Good Neighbors Health Care Project publicity sessions, with 897 telephone interviews and 764 health checks conducted.
Government Agencies	As a public agency, the Bureau is also responsible for the promotion of government orders by higher-level agencies and business-related authorities.	◎Stable energy supply ◎Waste ◎Emissions	◎Phone contacts ◎Official documents ◎Email ◎Publicity, seminars & briefings	◎A total of 1 anti-corruption advocacy seminars were held in 2021.
Non-governmental Organizations (NGO's)	In order to dispel external doubt regarding the environmental impact of the production activities in the Park, the Bureau actively cooperates with NGO's to ensure normal operation status through substantive review meetings and visits.	◎Emissions ◎Occupational safety and health ◎Circular Economy	◎Environmental impact assessment (EIA) briefings ◎Environmental supervision meetings ◎Park visits ◎Review meetings ◎In-person visits	◎Held a total of 12 EIA review, tracking and supervision meetings for various development plans.
Academic Research Institutes	Through links to academic research institutes, academic research is introduced into industrial entity applications, which can help promote the upgrading of park businesses. Therefore, the Bureau actively plays an intermediary communication role.	◎Circular Economy ◎Anti-corruption ◎Environmental Compliance	◎Official documents ◎Phone contacts ◎Project briefings	◎Organized 4 forum sessions ◎Held 2 technical exchange meetings

Stakeholder	Stakeholder Importance	Issues of Concern	Communication Channels	2021 Communication Effectiveness
Suppliers	The Bureau must communicate with suppliers to ensure that all services meet the needs to maintain stable daily Park operations.	◎Water and Effluents ◎Waste ◎Circular Economy	◎Phone contacts ◎On-site inspections ◎Irregular meetings	◎Conducted more than 1,500 on-site inspections for engineering projects.
Media	The bureau maintains interactive and smooth communication with the media. The Bureau can promptly release public opinion responses to issues to avoid the dissemination of misinformation.	◎Stable energy supply ◎Water and Effluents ◎Environmental Compliance	◎Press releases ◎Press conferences	◎Issued 26 press releases.
Business Services	The convenience of park business services affects workers' willingness to work in the Park. Therefore, the Bureau maintains close communication with the business services industry.	◎Circular Economy ◎Emissions ◎Water and Effluents	◎Impromptu meetings ◎Business services industry networking forums ◎Emails ◎Park satisfaction surveys	◎Established a business services platform website with 1,075 pageviews. ◎In November 2021, 56 participants went to the central offices of the Legislative Yuan and the surrounding services industry to observe and learn.

Note: The frequency of communication with various stakeholders is based on actual needs on either a real-time or irregular basis. In addition, periodic monthly or annual publications and annual satisfaction surveys are conducted.

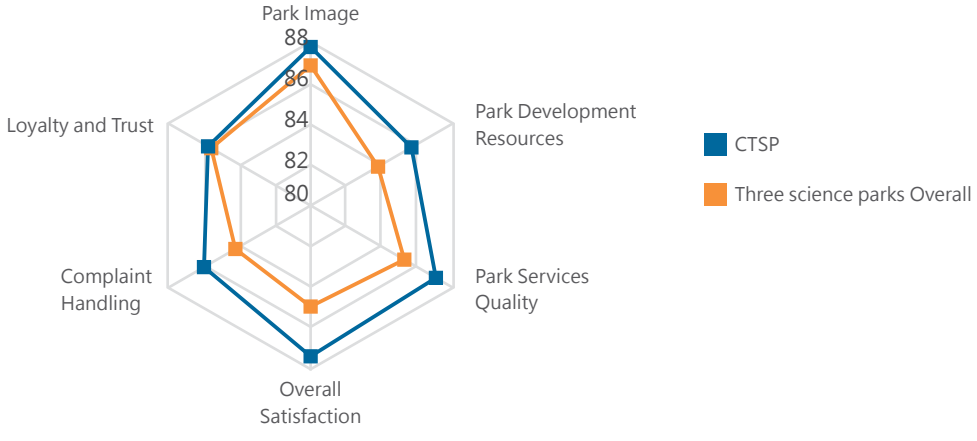
Park Manufacturer Satisfaction Survey

Opinions expressed by manufacturers are an important basis for the CTSP Bureau to improve or enhance the various services of the Park. In addition to the satisfaction survey and the tracking of the reflected opinions, the industry management team is instructed to complete the improvements as soon as possible. The bureau organizes a working group to handle manufacturer visits every year. However, in response to the impact of the COVID-19 epidemic, in 2021 the CTSP Bureau instead sent a letter to solicit opinions from manufacturers.

In order to ensure fair, objective and consistent service quality evaluation indicators, to encourage the Bureau to pay attention to the satisfaction of its service targets, and to achieve the purpose of improving service quality, the Ministry of Science and Technology commissions a professional survey company to conduct a satisfaction survey every year. The CTSP's 2021 manufacturer's "overall satisfaction" score was 87.36, and the satisfaction of the six dimensions was the highest in the three Science Parks, among which the "Park Image" score was the highest. The bureau would actively respond to and deal with the relevant feedback from manufacturers, and track and control them. It has reached the customer-oriented customer satisfaction goal, and has strived for their support and trust to the Park. In the future, we will continue to pay attention to the needs of manufacturers to get more affirmations and positive comments from manufacturers. In addition, a survey was also conducted on the surrounding residents to understand the evaluation of the surrounding residents on the Park.

2021	Park Image	Park Development Resources	Park Services Quality	Overall Satisfaction	Complaint Handling	Loyalty andTrust
CTSP	87.84	85.68	87.06	87.36	86.01	85.78
Three science parks Overall	86.84	83.80	85.28	84.93	84.24	85.60

Park Manufacturer Satisfaction Survey



Material Topics Identification

The Bureau introduced the substantive analysis model in the preparation of this Sustainability Report in the hopes of identifying the sustainability topics of concern to stakeholders, which will serve as a reference basis for the disclosure of information in this Report, facilitating effective communication with all stakeholders. The analysis of the material topics of this Report is divided into the following five major steps：

1 Stakeholder Identification

Through internal discussions with and feedback from colleagues and the heads of various departments, and by referring to stakeholder groups identified in the sustainability reports of the same industry, **9 categories** of stakeholders were identified.

2 Topic Collection & Summarizing

Taking GRI Standards and Sustainable Development Goals as the basis for topic collection in the context of sustainability, **30 topics** were summarized and a questionnaire was designed, covering corporate governance, economics, as well as environmental and social aspects.

3 Topics of Concern & Impact Surveys

The CTSP Bureau distributed questionnaires on the topic concerns to stakeholders and senior executives of the CTSP Bureau. Based on the analysis results of the returned questionnaires, it determined the weighted value of the evaluation criteria. A total of **180 questionnaires** were returned, of which 7 questionnaires concerned the level of impact (completed by CTSP senior executives).

4 Materiality Analysis & Identification

In 2021, the CTSP Bureau identified **11 material topics** after analysis. Considering the scoring and weighing of each topic under different evaluation criteria and the degree of impact on sustainable management operations the risk priority number for each topic was calculated. Discussions with senior executives were held to adjust and formulate disclosure priorities.

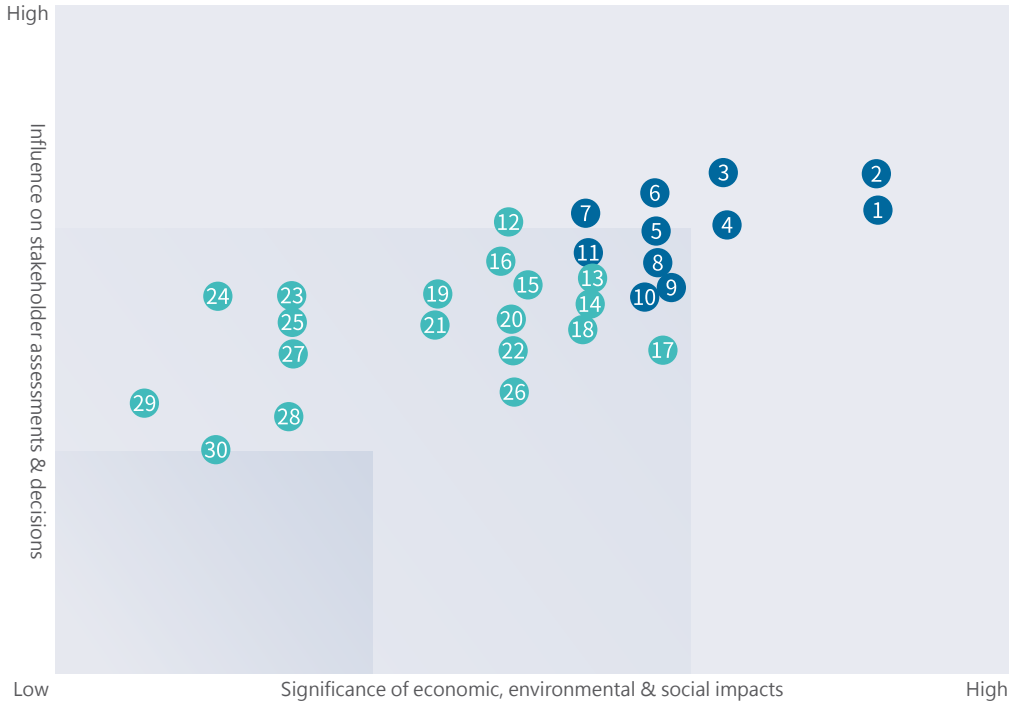
5 Review & Discussion

After analysis of the material topics, the value chain is used as the boundary analysis element, to serve as the cornerstone of the material topics of the CTSB Bureau. Effective management policies are then formulated for each major theme, and relevant information is disclosed in the Sustainability Report.

Material Topics Identification Results

The theme of this annual report is consolidated, and the original major themes and custom themes corresponding to GRI are reorganized and classified. The original 38 topics are merged into 30 to facilitate the streamlining of the report and major communication with stakeholders. Therefore, this year's significant themes was decreased. Compared to the report issued in the previous year, the consolidated themes have changed the attention of stakeholders to major themes, and the stable supply of water and electricity, compliance with environmental protection laws, socio-economic laws and regulations, climate change financial disclosure, industrial relations in the Park, and local communities will be deleted. A total of 11 major topics were identified.

Materiality Matrix



Major Themes

1 Water and Effluents	12 Stable energy supply	22 Training and education
2 Emissions	13 Compliance with laws and regulations related to environmental protection	23 Materials
3 Anti-corruption	14 Socio-Economic compliance	24 Biodiversity
4 Circular economy*	15 Net Zero program	25 Industrial AI
5 Innovation and Entrepreneurship*	16 Occupational Safety and Health	26 Non-discrimination
6 Waste	17 Local communities	27 Climate change financial disclosures
7 Energy	18 Customer health and safety	28 Anti-competitive conduct
8 Investment promotion*	19 Park green revitalization	29 Marketing and labeling
9 Indirect economic shock (infrastructure of the park)	20 Forced and compulsory labor	30 Human rights Assessment
10 Economic performance (industrial upgrading)	21 Industrial relations in the Park	
11 Safe workplace audit*		

*Customized major themes

Sustainable Development Goals

Following analysis, the Material Topics for the 2021 Sustainability Report were summarized into three chapters: Green Park (Environment), Social Co-prosperity (Social) and Park Operation and Maintenance (Governance), and focuses on six themes of cross-"climate action", "Environmental Management", "Innovation Driven", "Safe Workplace", "Social Interaction", "Integrity Governance", while taking the value chain as the element for boundary analysis. In the future, the CTSP Bureau will continue to strengthen management and disclose relevant information in the Sustainability Report.

Corresponding theme **E Green Park：Climate Action** Page：32

Corresponding GRI Standard or Custom Topic: GRI 302 : Energy (Energy Saving, Renewable Energy)

CTSP Bureau Value Chain Impact Boundary: CTSP Bureau、CTSP Manufacturers、Research Institutes

2021 Goals

Added 1.25MW solar photovoltaic device.	Goal achieved
Achieve the various water reclamation rate goals for different industrial processes in the Park (such as 85% for the semiconductor and optoelectronic industries).	Goal achieved
In response to the initial operation of the Erlin Park, the reclaimed water treatment system can treat the sewage from the initial stationed companies. The dual water supply was used for non-human contact purposes.	Goal achieved

Short-term goals (2022)

- In 2021-2022, reach a cumulative solar photovoltaic installation capacity of 4.72 MW.
- Continue to guide manufacturers in the park to save water and electricity. Achieve the various water reclamation rate goals for different industrial processes in the Park (such as 85% for the semiconductor and optoelectronic industries).
- In response to the initial operation of Erlin Park, a 200 tons/day reclaimed water treatment system has been set up (completed in September 2020) and another 400 tons of reclaimed water treatment system has been expanded to treat the sewage of the initial stationed manufacturers; Dual water supply is used for non-human contact purposes, including: cooling water in the factory area, flushing toilets, cleaning and cooling roads in the Park, and garden replenishment water or green land watering.

Medium-term goals (3 to 5 years)

- By 2025, the cumulative solar photovoltaic capacity will reach 76.77MW.
- Promote experience exchanges, technical upgrades, and pursue the optimization of water and electricity use for park manufacturers. Under the principle of rationalization of energy use efficiency, promote further increases in the water reclamation rate of various industrial processes in the Parks.

Corresponding theme **E Green Park：Climate Action** Page：32

Medium-term goals (3 to 5 years)

- In line with the Erlin Park operation, set up a water resource regeneration center and binary water supply pipelines in phases (20,000 metric tons per day in phinal phase). Reclaimed water uses：plant cooling water, toilet flushing, road cleaning, cooling, and landscape supplemental water or green space irrigation, etc. Furthermore, the supply and demand of reclaimed water in the Park is to be reviewed on a rolling basis, and a dedicated system to provide water required by manufacturers or reclaimed water business operators in neighboring areas as needed to improve efficiency. The first-phase of first-stage project of the Water Resources Center of Erlin Park has first set up building works for 5,000 tons and has purchased 2,500 tons treatment equipment, which started in December 2020 and is expected to be completed in January 2024.
- Other CTSP sites (Taichung, Houli) will work together to promote the use of water resources in line with the planning schedule of regional reclaimed water development plans (e.g. Shuinan water supply in 2024 and Fengyuan water supply in 2028).

Long-term goals (5+ years)

In order to actively achieve the policy goal of expanding the solar photovoltaic program (rooftop type), the following policies have been adopted:

- New manufacturers: When there are lease briefings, building permit pre-examinations and electricity plan applications, new manufacturers are required to evaluate the usable area of the roof to set up solar photovoltaics.
- Existing manufacturers: we will issue documents to require manufacturers to fulfill their corporate social responsibility, continue to carry out solar optoelectronic advocacy and mediating meetings, and hold relevant meetings to urge manufacturers that still have space to actively evaluate to set up solar photovoltaics.

Corresponding theme **E Green Park：Environmental Management** Page：47

Corresponding GRI Standard or Custom Topic:

GRI 303 : Water and Effluents、GRI 306 : Waste、GRI 305 : Emissions、Circular Economy

CTSP Bureau Value Chain Impact Boundary:

CTSP Bureau、CTSP Manufacturers、Suppliers & Contractors、Government Agencies、Community Residents

2021 Goals

The overall sewage treatment rate of the new Park is 100%.	Completion schedule 90.75%
Erlin Park to promote the optimization of water reclamation and reuses all reclaimed water.	Goal achieved
The rate of proper disposal of waste to reach 100%.	Goal achieved

Corresponding theme **E Green Park：Environmental Management** Page：47

Short-term goals (2022)

- The overall sewage treatment rate in the Park at 100%.
- The effluents comply with the stricter EIA standard and is superior to the effluent's standard.
- The rate of proper disposal of waste to reach 100%.
- The reuse rate of industrial waste in the Park continues to maintain above 90%.
- Taichung Industrial Park Circular Economy and Zero Waste Center Investment Promotion and Admission Application.
- Flue sampling is carried out 3 times a year, and the overall air pollution discharge of the park is lower than the EIA quantification.
- The best feasible control technology is adopted for VOCs tail gas in the optoelectronic and semiconductor industry, and the treatment efficiency of pollution control equipment is over 92%.

Medium-term goals (3 to 5 years)

- Continue to counsel and check if the manufacturers in the Park comply with the environmental protection permit documents and water quality standards under management, as well as compliance with the commitments in the EIA documents.
- The effluents are to be tested 100 times, 100% of which have to meet the stricter EIA standards and better than the effluents standards.
- The Taichung Park Circular Economy and Zero Waste Center's Investment Promotion and Admission Application processing volume reaches 384 metric tons per day, of which 319 metric tons per day are recycled and 65 metric tons per day are not recycled.
- Each year, 5 flue sampling inspections are carried out, and the overall air pollution discharge of the Park is lower than the quantification of the EIA.

Long-term goals (5+ years)

- The effluents are to be tested 200 times, 100% of which have to meet the stricter EIA standards and better than the effluent standard.
- Continue to promote sustainable resource recycling in the Park, guide manufacturers in the Park to reduce and reuse waste, and maintain the reuse rate of industrial waste in the park.
- Continue to reduce the air pollution discharge from the Park to achieve the goal of a sustainable green science park.

Corresponding theme **S Social co-prosperity：Innovation Driven Industries** Page：64

Corresponding GRI Standard or Custom Topic:

GRI 201：Economic Performance (Industrial Upgrading)、Innovation & Entrepreneurship

CTSP Bureau Value Chain Impact Boundary:

CTSP Bureau、CTSP Manufacturers、Research Institutes、Government Agencies

Corresponding theme S Social co-prosperity：Innovation Driven Industries Page：64

2021 Goals

Investment promotion target of introducing 20 new manufacturers annually.	Goal achieved
Organized a total of 7 sessions of "Innovative Technology Forum" and "Industry or Industry-Academia Matchmaking Exchange Meeting"	Goal achieved
Promote the Acceleration of Bio-medical Industry Innovation Program in the Central Region (2019 to 2020). And promote more than 8 cases of industry-university-research-medicine collaboration. It is estimated that the cumulative output value will increase, reaching more than NT$150 million.	Goal achieved
Continue counselling the innovation teams, a total of 21 startups were counselling, with 8 new startups can be established. In addition, a total of 11 accelerator link industries have been introduced.	Goal achieved

Short-term goals (2022)

- A total of 20 new manufacturers were introduced.
- Organize more than 6 sessions of "Innovative Technology or Innovation and Entrepreneurship Related Forums, Seminars, Symposiums or Industry-Academia Matchmaking Exchange Meetings".
- Promote the "Biomedical Industry Innovation Plan in the Central Region" (2019 to 2022), promote more than 5 cases of industry-academia-research-medical cooperation. It is estimated that the cumulative output value will increase, reaching more than NT$150 million.
- Continue to coach 30 innovation teams and establish more than 4 start-up companies.

Medium-term goals (3 to 5 years)

- Promote the "CTSP Precision Health Industry Cross-domain Promotion Plan" (2022 to 2025), to facilitate industry-university-research-medical investment in more than 12 cases of technology research and development in the field of precision health, and drive manufacturers to invest NT$68 million in innovative technology development.
- Drive the "Accelerating Industrial Intelligence Upgrade and Digital Optimization Plan in the Central Region" (2022 to 2025), and promote the industry-academia-research technology development and application of more than 12 cases.
- Accelerate growth for cultivating new innovative teams in an important incubation base, and more than 500 innovative and entrepreneurial talents have been cultivated.
- Expand the energy of industrial innovation, create multilateral benefits, and create the link of more than 12 industry-university-research-medical units.
- Create a high-quality entrepreneurial environment, drive the ecological chain of new start-up industries, and assist the team to raise more than NT$200 million.

Long-term goals (5+ years)

- Gradually improve the CTSP semiconductor, optoelectronic, precision machinery, and biotechnology industrial chains, and build a sustainable industrial ecosystem.

Corresponding theme **S Social co-prosperity：Safe Workplace** Page：78

Corresponding GRI Standard or Custom Topic: Safe Workplace Audits

CTSP Bureau Value Chain Impact Boundary: CTSP Bureau、CTSP Manufacturers、Research Institutes、Government Agencies、Community Residents、Employees

2021 Goals

- Continue to conduct at least 4 publicity briefings related to labor laws and regulations, and conduct a total of 88 sessions of labor condition inspections (including work gender equality inspections), and labor law compliance visits. — Goal achieved

Short-term goals (2022)

- Perform labor inspections 595 times.
- 40 sessions of on-site counseling, publicity sessions, education and training, emergency drills and sharing sessions to be held.

Medium-term goals (3 to 5 years)

- Health care penetration increases to 100%.
- The coverage rate of the safety and health self-management system is 100%.
- The coverage rate of chemical management exposure assessment and graded management system reaches 100%.

Long-term goals (5+ years)

- Construct a sustainable and disaster-free, healthy workplace environment, with zero workplace injuries and occupational accidents.

Corresponding theme **S Social co-prosperity：Social interaction** Page：88

Corresponding GRI Standard or Custom Topic:

GRI 413：Local Communities、Investment Promotion

CTSP Bureau Value Chain Impact Boundary: CTSP Bureau、CTSP Manufacturers、Suppliers & Contractors、Government Agencies、Media、Community Residents

2021 Goals

Regularly interact and communicate with community residents, while continuing Park constructio.	Goal achieved
Phase I construction of the standard factory buildings in Huwei Park is expected to be completed in November 2021.	Completion schedule 90.75%

Short-term goals (2022)

- Involve 100% of our employees in environmental education.
- Organize 30 environmental education activities for sewage treatment plants, 1,500 people participated.
- Sign a letter of intent or memorandum for cooperation with a nearby school or environmental education field.
- Manage 7 all-resident campaigns to clean up homes in neighboring communities.

Medium-term goals (3 to 5 years)

- Handle 50 environmental education activities for sewage treatment plants, 2,000 people participated.
- Sign a letter of intent or memorandum of cooperation with 3 nearby schools or environmental education fields.

Long-term goals (5+ years)

- Continue to promote environmental education, so that environmental awareness will take root, and convey the function of environmental protection and education of sewage treatment plants.

Corresponding theme G Park operation and maintenance : Integrity Governance Page : 104

Corresponding GRI Standard or Custom Topic: GRI 205 : Anti-corruption

CTSP Bureau Value Chain Impact Boundary:

CTSP Bureau、CTSP Manufacturers、Suppliers & Contractors、Government Agencies

2021 Goals

- Strengthen integrity governance, prevent conflicts of interest and implement risk control. Goal achieved

Short-term goals (2022)

- Hold more than 1 symposium on clean government promotion to strengthen the concept of legal compliance in colleagues.
- Promote various important anti-corruption policies and messages, and implement clean government promotion.

Medium-term goals (3 to 5 years)

- Strengthen the clean government management of agencies, prevent conflicts of interest and implement risk control.
- Hold 3 to 5 anti-corruption activities such as symposiums on clean government promotion and social participation, in order to establish the image of the organization with clean government.

Long-term goals (5+ years)

- Build the vision of clean governance and an honest society.

Note: The Value Chain Impact categories are classified as follows: Direct Impact includes the CTSP Bureau, CTSP Employees, CTSP Manufacturers, and Government Agencies. Suppliers & Contractors fall under Impact on Business, while Academic Research Institutes, Media, and Community Residents are included in Contributed Impact.

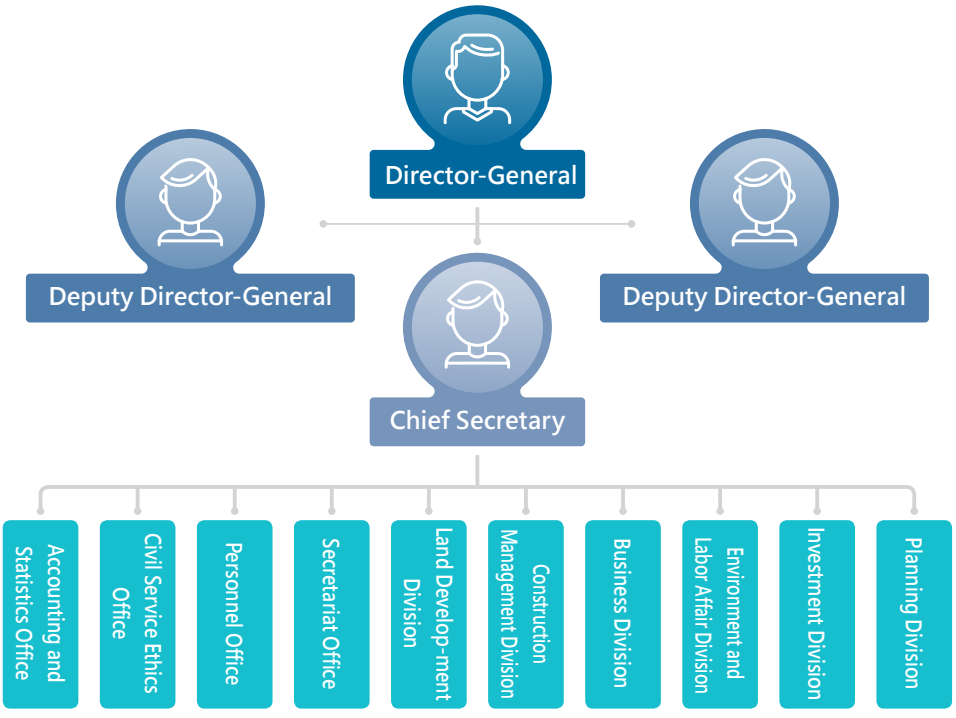
The Mission of the Central Taiwan Science Park Bureau

Introduction

Established since 2003, the CTSP Bureau has been in mature stage. Due to its advantageous location and abundant natural resources, domestic and foreign high-tech manufacturers have settled in one after another. The CTSP includes Taichung Park, Houli Park (including Houli Base and Qixing Base), Huwei Park, Erlin Park and Zhongxing Park, five sites with a total development area of about 1,485 hectares. In order to accelerate the development of smart machinery and AI in the domestic industry, CTSP promote the robot project, and links the cluster advantage of technology precision machinery industry in CTSP to promote the upgrading of industry in the central region and continue to improve the existing semiconductor, optoelectronic, precision machinery, biotechnology and other industrial clusters, develops intelligent automation system integration services, introduces intelligent medical auxiliary technology and low-carbon, lightweight, energy-saving industries, but also cultivates cross-field talents, promote industrial innovation and transformation.

Organizational Structure

The purpose of the Government's establishment of science parks is to provide an excellent environment for industrial development with the introduction of high-tech industrial development, bringing into full play the effect of industrial clusters, and promoting the rapid transformation and upgrading of the domestic industrial structure. During the process of expansion and development of the Park, the requirements and expectations of the Park manufacturers and surrounding neighborhoods are responded to in addition to coordinating with local communities. In accordance with the Organization Act of the Central Taiwan Science Park Bureau, the Ministry of Science and Technology and business needs, the Bureau has set up 6 divisions and 4 offices, and formulated and announced the service requirements following the spirit of the "Government Service Quality Improvement Program" issued by the Executive Yuan, namely having the innovative spirit of active responsibility and courage to effectively improve service quality and Park manufacturers'satisfaction, creating a good R&D environment to nurture outstanding talent, striving to create a new niche for the technology sector.



CTSP Bureau Organizational Diagram

Budget Scale

As a public agency, the CTSP Bureau is funded by the Treasury Fund in addition to self-financing. The budget includes the funds for conducting official business of the CTSP Bureau, and the Park operating fund. The final accounting for 2021 showed official revenue of NT$21million and expenditure on official business of NT$443 million (incl. personnel costs of NT$168 million). The final accounting of operating fund income (excluding that of the CTSP National Experimental High School) amounted to NT$4.407 billion, while costs and expenses accounted for NT$3.805 billion (incl. NT$118 million in personnel costs). The final accounting of the fixed asset construction improvement and expansion plan equaled NT$1.329 billion, while business tax paid totalled NT$51 million. The Central Government's forward-looking infrastructure design plan for the second phase of the special final accounts has a total annual expenditure of NT$13 million. All budgets and final reports are publicly available online and disclosed on the official website of the CTSP Bureau in an open and transparent manner.

CTSP Bureau budget, monthly final and accounting reports

Column

Developing sustainable water resources

Although Taiwan has abundant rainfall, due to the narrow terrain and dense population, as well as the uneven spatial and temporal distribution of rainfall, Taiwan is the 18th water-deficient country in the world. In order to cope with the water shortage crisis under climate change, we must find ways to have a water source that is not affected by the weather, and that is recycled water. Taiwan has been promoting the construction of reclaimed water plants since 2013. With the increasing maturity of water treatment technology, it is sufficient to become one of the sharp tools for stabilizing water supply. The reclaimed water not only brings economic benefits, but also creates an industrial circular economy and achieves the vision of environmental sustainability.

The Executive Yuan has formulated specific practices such as " Diversification ", "Reduction", "Dispatch" and "Backup", and has passed legislation and promulgated regulations on the development of reclaimed water resources, making reclaimed water a new option for industrial water use strategies. The Regulations on the Development of Renewable Water Resources and related sub-laws stipulate that CTSP and the manufacturers in the Park jointly promote the water recycling plan.

Tai-chung Park

- From 2017, it is planned to use the reclaimed water after the effluents improved and released from the Taichung Shuinan Water Resource Recycling Center.
- Promote the "Shuinan Water Resource Recycling Center Effluents Recycling and Reuse Project."
- From 2024, it is planned to supply 10,000 tons of water per day and is expected to attract investment by the end of the year.

Erlin Park

- Screen low-water-use industries to enter the Park, and plan to set up a water resources center.
- Provide various reuses in the Park, including cooling water replenishment, reclaimed water for toilet flushing, road cleaning, green land watering, provision of water-requiring units according to regulations, provision of water sources for environmentally friendly uses of dust suppression, and other non-human contact water uses, etc.
- Wastewater will be fully recycled.

Mock-up after completion

The "Shuinan Water Resource Recycling Center Effluents Recycling and Reuse Plan" is the first demonstration case of the use of reclaimed water from the out-of-Park system in the central region with an indicative meaning. On March 31, 2021, CTSP Bureau signed a water contract for reclaimed water with AUO, Lianfeng Precision and Yadong Industrial Gas Company. CTSP is also actively developing sustainable water resources to support the reclaimed water project. The water transmission and distribution pipelines in the Park will be synchronized with the reclaimed water plants outside the area to provide diversified water supply channels and retain opportunities for more water manufacturers to participate in the future. During the drought period, it can relieve the pressure of tap water supply, and achieve a win-win situation for regional water dispatch and industrial circular economy.

Jointly sign a water contract for reclaimed water

Water source is an important lifeline for the technology industry. For manufacturers, reclaimed water is not affected by the weather and has the advantage of stable water supply. It can be used as a substitute or backup water for traditional water sources. It is hoped that manufacturers are willing to stay in Taichung to increase employment opportunities and cultivate talents, moving towards a sustainable environment.

Special report by the CTSP Bureau

In the first half of 2021, Taiwan faced the worst drought in 56 years. The drought emergency response team activated the emergency response mechanism. They all regularly participated in the working meeting of the drought disaster emergency response team held by the Central Water Resources Office, the Water Resources Agency and the Ministry of Economic Affairs, with a total of more than 42 sessions.

CTSP initiated the following emergency measures in response to the drought:

- Actively prepared to accelerate drought resistance plan 2.0.
- Manufacturers in Parks cooperated to strengthen independent water conservation and improve water recycling rate.
- Disclosed real-time water level information and strengthen the promotion of water-saving measures through the drought relief site.
- Added mobile RO Water purification equipment.
- Expanded industrial water conservation to 13%.
- Dispatched wells, pond water sources and Qwater set up in different regions.
- Improved the water recycling rate and gradually started testing the water tanker carrying-water exercise.

From September 2020 to July 2021, a total of about 6 million tons of tap water consumption has been saved, equivalent to 2,400 standard swimming pools, effectively delaying the decline of the reservoir water level, and successfully assisted manufacturers to survive the drought crisis.

Drought Relief Work Conference

CTSP drought relief site

Column

In the epidemic, jointly protect competitive industries

Formulate an epidemic prevention plan to create a safe workplace

- 7,026 people screened
- 2,772 people vaccinated
- The total bailout amount of NT$234,232,000
- Epidemic prevention management publicity 126 sessions

In May 2021, the epidemic situation in Taiwan was upgraded to the third-level alert. In order to enable the manufacturers in the Park known as competitive moats, which are labeled as sacred mountains in CTSP, to operate smoothly, and to cooperate with the government's epidemic prevention policy, the CTSP Epidemic Prevention Team, the Ministry of Health Services, and the Health Bureau held regular epidemic prevention project meetings to develop epidemic prevention strategies. It was also actively handling COVID-19 screening and vaccination services with the Ministry of Science and Technology. It is hoped that through the contingency measures of CTSP, the Park will be able to build an epidemic safety net in the shortest time, so that manufacturers can still enjoy safety protection during the severe epidemic.

CTSP screening station

- Set up on June 4th, after a walkthrough test, and officially opened on the 8th.
- Online appointments could be made through the manufacturer service network of the Park, and the same factory (or company) will arrange for the same period of inspection, each period of 15 minutes, to avoid on-site clustering and cross-infection at the screening station.
- If the quick screening result is positive, the PCR test will be carried out on the spot, and the competent health authority will be notified immediately for follow-up management measures.
- A total of 7,026 people was screened during the service.

Vaccination station

- Set up a BNT vaccination station in the Industrial and Commercial Service Building to assist Phase 11 and Phase 12 vaccination operations.
- A single-window online reservation system was established.
- Colleagues of the CTSP Bureau also served as administrative service personnel on rotation.
- A total of 2,772 people was vaccinated.

Manufacturer bailout

- Deferral or reduction of land lease fees or plant rent.
- Management fee deferral NT$31,639,013.
- Deferred payment of sewer usage fees NT$202,488,076.
- Service industry rent (royalty) minus NT$104,788.

Epidemic prevention measures for migrant workers in the Park

- Health monitoring mechanism, integration of intermediary life management measures, accommodation reduction, strengthening clean-up operations and assisting enterprises to quickly screen, anti-epidemic management measures such as placement and isolation of positive cases, labor health protection, etc.
- Epidemic prevention management publicity 126 sessions.
- In addition to epidemic prevention, management methods should also consider the promotion of human rights of migrant workers, so that migrant workers can still be well cared for in a foreign country.

Column

Revitalize the central industry and invest in the Erlin Park

Investment promotion and layout

- Approved **26** manufacturers
- The planned investment amount is about NT$**95.073** billion

CTSP Erlin Park is a high-tech production land with the largest area and the best environment in Taiwan. The total area of the Park is 631 hectares, 343 hectares of which is for factory building. On April 28, the CTSP Bureau and the Central Joint Service Center of the Executive Yuan held the "CTSP Erlin Park Investment Promotion Conference" at Taichung Howard Hotel. Representatives from more than 100 manufacturers participated. Most of them were precision machinery and biotechnology manufacturers. In order to attract more manufacturers to join, CTSP will implement the following actions:

- Monthly land rent is NT$8.21 /㎡: In order to reduce the initial construction cost of the new manufacturers so that the funds can be used for R&D and equipment upgrades.
- Standard factory buildings and staff dormitories have been planned to be built: In the future, they can be rented by settled manufacturers.
- Developing surrounding land and real estate markets: manufacturers can see business opportunities and invest in early deployment.
- Public transport connections: Changhua County Government has newly opened urban passenger transportation 19 Road "Changhua - Erlin (via National Highway No. 1)" express bus route on September 28, 2021 and was officially opened to traffic today, benefiting the commuting needs of manufacturer personnel in the future.
- Tai76 Expressway Extension Line Project

By the end of December 2021, the introduction of 26 manufacturers has been approved. The planned investment amount is about NT$95.073 billion. The officially leased land area is 46.73 hectares, and the leasing rate is 34.95%. There are 16 manufacturers applying for lease land, including 2 in operation, 7 in construction, and 7 in the process of planning and designing for plant construction. The domestic heavyweight semiconductor packaging and testing company Sipin Precision Co., Ltd. has been approved to expand its factory in Erlin Park. The first phase is expected to be completed in 2022. CTSP Erlin will become the core base for the packaging and testing of Sipin Precision in the next 10 years, prompting young people to return to their hometowns and stay in Changhua. It is expected to be fully operational in the next 8 to 10 years and will create nearly 7,500 jobs locally. Erlin Park hopes to expand the scale of existing technology industries in the central region through cooperation between the central and local governments, and drive upstream and downstream industry chain manufacturers to enter and promote the development of the Park!

Erlin Investment Promotion Briefing

Green Park

Climate Action

Environmental management

Climate Action

In the face of the worsening extreme climate, protecting the environment and cherishing resources are the direction that everyone needs to work together. The ability to face climate change has become an important issue for the CTSP. We should not only save energy, but also cooperate with government policies to promote Green policy and net-zero plan actively, guide manufacturers to save water and electricity, improve production process, conserve ecology and raise other environmental protection awareness, in order to improve environmental quality and implement the concept of coexistence and co-prosperity between the Science Park development and environmental protection. Manufacturers in the Taichung Park have obtained 1 bronze and 1 gold green building certification.

Corresponding Material Topics

GRI 302 : Energy (Energy Saving, Renewable Energy)

Corresponding SDGs

Management Objectives and Policies

- Avoid affecting the business activities of park manufacturers due to water resource or energy supply issues.
- Build a resilient park by improving the ability to respond to disasters and reduce potential losses.

Responsible Units

Environment and Labor Affair Division, Construction Management Division, Land Development Division, Water, Power and Gas Supply Committee, Climate Change Identification Team.

Invested Resources

- The Construction Management Division provides guidance on water and electricity conservation for the manufacturers in the Park.
- The Construction Management Division formed the Water, Electricity and Gas Supply. Committee in coordination with trade associations.
- In 2021, the "Climate Change Identification Team" will be established.
- Participate in the Drought Disaster Emergency Response Team meeting held by units at all levels.
- In response to the Central Government's Green Energy Roofs Project energy policy, jointly promotes solar power generation with park manufacturers.
- Form a manufacturer visit working group to handle the manufacturer's visit plan, which is carried out by visiting the factory or holding a symposium. In addition to conveying the policies and plans promoted by this Bureau, it also has an in-depth understanding of the problems faced by the manufacturers, and cares about the needs of the manufacturers, shows concern about their needs, and offers solutions.

Complaints Mechanism

Director-General's mailbox

Management System and Evaluation Mechanism

- Implemented according to the Bureau's Directions for the Internal Control Task Force, Internal Control System, Operation Directions for Disaster Prevention Notification and Description of Emergency Response Team Operation for risk management and crisis handling related operations.
- The planning team collects monthly statistics on the water and electricity consumption of the Park manufacturers.

2021 Performance

- There were 1 plants counselled regarding water conservation with a total water-saving potential of 52,195 tons/ year, which can reduce 7.93 metric tons of CO_2e/year.
- The water recovery rate of different parks was 88.9% in Taichung Park, 79.8% in Houli Park, 93.4% in Qixing Park, 88.8% in Huwei Park, and 100.0% in Erlin Park, respectively.
- The cumulative solar power generation capacity of the CTSP Park exceeded 52.88MW.
- Manufacturers in the Taichung Park have obtained 1 bronze and 1 gold green building certification.

Climate Change Disaster Prevention and Adaptation

Facing increasingly severe risks of climate change, which may have an impact on the production and operation of park businesses, the CTSP Bureau has set up a Climate Change Identification Team in 2021 to implement and plan corresponding management actions for energy resource supply risks and natural disaster risks. The CTSP Bureau has assessed the risks, opportunities and possible financial impacts of the Park's transition to a low-carbon economy based on the framework of the Task Force on Climate-Related Financial Disclosures (TCFD) guidelines.

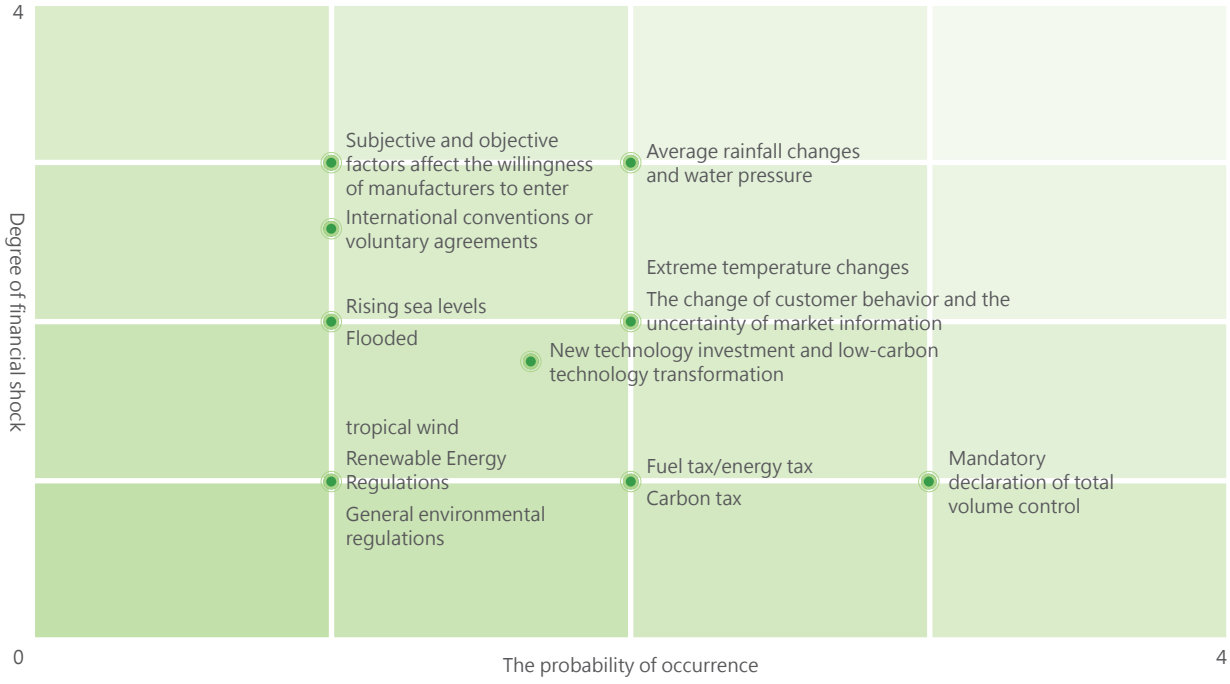
CTSP Bureau TCFD Framework Response

The climate change identification team will act as the management unit. After identifying climate-related risks and opportunities, they will discuss coping strategies with relevant units and evaluate the impact on CTSP Finances. For the opportunities created by the organization to adapt to climate change include improving the efficiency of resource use and saving costs, adopting low-carbon energy sources, developing new products and services, entering new markets, and improving supply chain resilience. Based on the climate-related risks and opportunities provided by the TCFD, the CTSP divides climate-related risks into two categories:

(1) Transition risks related to a low-carbon economy

(2) Physical risks related to climate change.

Risk Identification Matrix



The Climate Change Identification Team of this Bureau assesses climate-related risks and opportunities based on the level of impact on park operations and the probability of occurrence. Park businesses are encouraged to introduce ISO 14064-1 : 2018 (GHG Inventory) and participate in the CDP (Carbon Disclosure Project) to establish annual greenhouse gas inventory capabilities and use carbon footprint as the basis for environmental management of the Park.

Significant Climate Change Risk Management

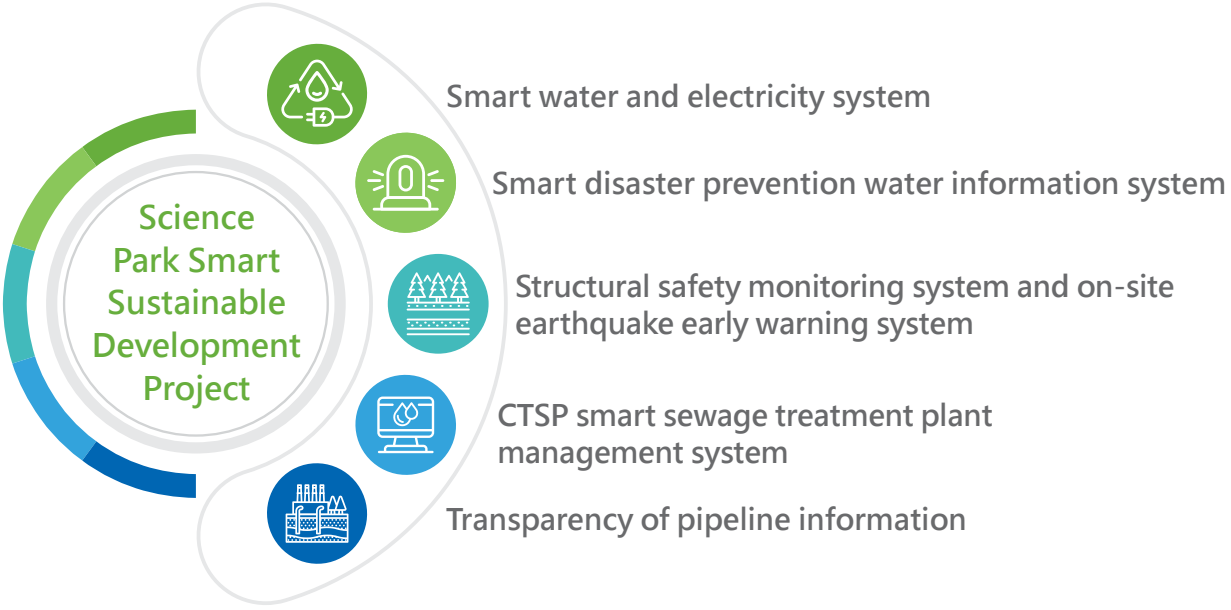
In 2021, after the evaluation, "Changes in average rainfall and water stress" were listed as major climate change risks and managed by the construction team. In the first half of 2021, Taiwan was facing a water shortage crisis. The water conditions were tight, and in the face of the possible water shortage crisis for the park manufacturers, the CTSP Bureau provided the following relevant countermeasures and possible financial impacts:

Risk response measure	Risk response cost
1.Took the initiative to provide water-saving counseling for manufacturers in the Park 2.Matched reclaimed water plant to increase water supply for manufacturers 3.Formed CTSP Drought Emergency Response Team 4.Provided manufacturer mobile RO Water purification equipment 5.Improved the water saving rate of the Park by up to 17% 6.Implemented the red-light phase for water restrictions. Replacing the "five-supply-two-stop" with "reduced supply and non-stop supply" can effectively stabilize the water supply in the Park. 7.Enabled combat-ready wells to provide manufacturers with alternative water sources 8.Held more than 42 drought relief meetings (From September 2020 to July 2021) 9.In accordance with the instructions of the central government, the Park saved 15% water	1.Administrative expenses for water saving counseling 2.Reclaimed water plant pipeline construction expenditure (about NT$58.27 million/year) 3.Water Tanker transportation cost (about NY$500/ton of water, based on the daily water consumption 150,000 tons in CTSP's 5 Parks, 5%-10% of which was estimated via Water Trucks, about NT$3.75-7.5 million per day)

The CTSP will continue to implement various plans through the Climate Change Team to cope with the operational challenges and risk management brought about by climate change. In addition to coaching manufacturers in the Park to save water every year and promoting the water recovery rate of various industrial processes in each Park, it will also cooperate with the planning schedule of regional reclaimed water development plans (such as Shuinan and Fengyuan) to jointly promote the utilization of water resources. It will continuously improve the overall energy efficiency of the Park, reduce the impact of climate change, and stabilize the energy supply to the Park, so that CTSP can be fully prepared for whatever risks it faces in the future.

› smart management of the Park

The Bureau has introduced the forward-looking technology into the smart management of the Park, integrating Information and Communication Technology (ICT), successively building intelligent disaster prevention water regimes, earthquake early warning systems, and updating park pipeline maps to the geographic information system database, in the hope of minimizing losses when disaster strikes.



Smart Water and Electricity System Establishment plan

Smart technology and Internet communication capabilities provide safe lighting and energy saving, real-time control of water supply. To avoid wasting water resources, the establishment of a smart water management display platform was completed, including the Taichung Park smart water system which was completed in February 2020 engineering.

Smart Disaster Prevention Water Information System

This system can interpret the results of water conditions within the following 6 hours or 72 hours and assess flood risk, formulating decision-making support scripts in the face of typhoons and natural flood disasters. When disasters occur, drones are used for inspection, and the returned photos are scanned via an AI image recognition system, allowing the Bureau to dispatch personnel for inspection and repairs as soon as possible. In addition, LINE water information disseminating bots are used for push notifications of real-time warning messages and decision making suggestions.

CTSP Smart Sewage Treatment Plant Management System

This system combines the Smart Sewage Discharge Emergency Response Control System and Smart Sewage Treatment Plant Management System to ensure that the annual discharged water quality meets national effluent standards and the stricter environmental assessment standards. Water quality (volume) monitoring systems and cameras were installed at important nodes in the sewer to collect big data for analysis, which is all combined with multimedia such as a web page, multi-media wall, text messages, and LINE and display bots, to provide rapid decision-making solutions. In addition, a reclaimed water treatment pilot plant was also built with smart remote control to effectively solve the sewage treatment problem at CTSP.

Structural Safety Monitoring and On-site Earthquake Early Warning System

In order to enhance the earthquake disaster and emergency response capabilities of the Park, an On-site Earthquake Early Warning System was deployed in the five major parks of the CTSP Bureau. By making use of the speed difference between seismic P waves and S waves, early detection of a few seconds to tens of seconds can be made to issue an early warning for an earthquake. The Structural Safety Monitoring System is set up in the office building of the Bureau. Sensors record the dynamic response of structures during earthquakes in real time, synchronously integrate into the data center for analysis, and quickly provide structural assessments to help determine whether personnel need to evacuate or can continue to work safely.

Transparency of Pipeline Information

In addition to pipelines general daily civilian use, this Bureau also has special industrial gas pipelines required for the manufacturing processes of the park manufacturers. This Bureau has established a Facility Inspection Notification System for management of park facilities. Inspectors who find damage can immediately make reports for repairs to be made, and the repair staff will submit the latest updates after the completion of the work. In addition, the Bureau built a new broadband pipeline maintenance system, providing units with online applications, notifications, and inquiries, so as to improve the efficiency of administrative operations.

CTSP Disaster Emergency Response Center

Park energy resource management

Water and electricity usage

The water used by manufacturers in the CTSP comes from the water company.

Park	Water source (water release area)
Taichung Park	Liyutan Reservoir
Houli Park	Deji Reservoir
Erlin Park	Existing water system in the surrounding area
Zhongxing Park	Jiji Barrage
Huwei Park	Rinnai Water Purification Plant and Hushan Reservoir

Notes: It shows that the whole Taiwan is Low-Medium (1-2); the bases of each Park are not set up in national or international protected areas, and the water taken is for the legal use of water sources authorized by the government, and there is no significant impact on the water sources.

The reason for the decrease in 2021 annual water consumption compared to 2020 is drought relief needs.

Year / Item	2019	2020	2021
Power Consumption (kWh)	10,486,214,360	11,593,947,254	12,281,819,084
Power Consumption (GJ)	37,750,371	41,738,210	44,214,549
Power Use Intensity (GJ/ NT$100 million)	4,735	4,459	4,271
Intake Water (IW) (million liters)	49,617	53,442	50,686
Water Consumption (million liters)	49,617-37,922 (excl. Chung Hsing Park)=11,695	53,442-39,762 (excl. Chung Hsing Park)=13,680	50,686-36,671 (excl. Chung Hsing Park)=14,015
Intensity of Intake Water (million liters/NT$100 million)	6.22	5.71	4.89

Notes:
1. The denominators of Power Use Intensity and Intensity of Intake Water equals the CTSP's total annual turnover for the year (the turnover for 2020 reached NT$ 935.979 billion).
2. Every kilowatt of electricity = 1kWh = 3,600 KJ
3. Water consumption = Water intake (used) - drainage
4. Water consumption does not include that of Chung Hsing Science Park.

Water and electricity saving measure

In order to effectively manage the water and electricity consumption of the Park, the Ministry of Science and Technology Science Park Water and Electricity Guidance and Control Measures are implemented to save water and electricity for park users and manage them with flexible scheduling and diversified development to improve the efficiency of water and electricity use in the Park. There are mainly five aspects that Science Park users need to pay attention to : water and electricity application mechanism, water use records and relatedinformation retention, contingency measures and cooperation items in case of shortages, water and energy saving measures, and counseling and rewards, as well as control measures for breach of obligations.

Ministry of Science and Technology Science Park Water and Electricity Guidance and Control Measures

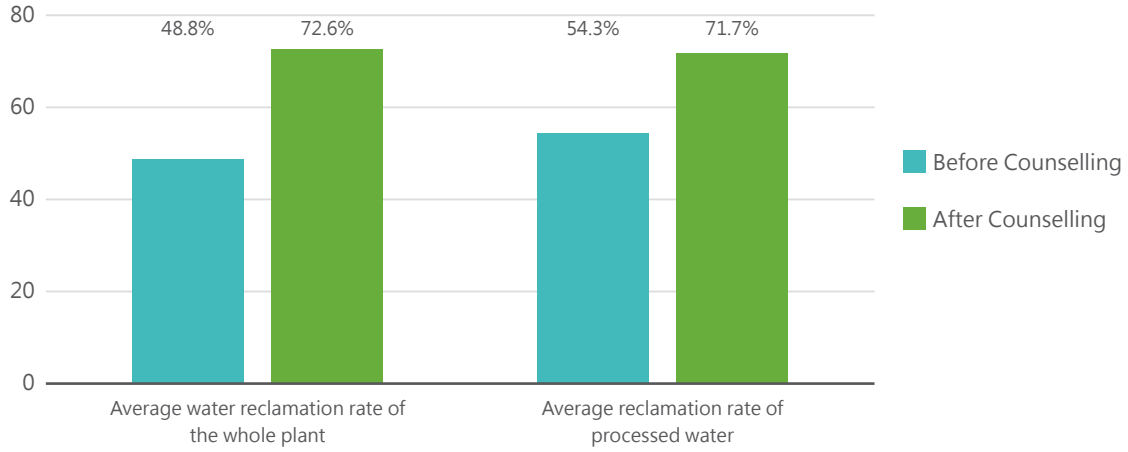
Park Water Conservation Counselling

In order to alleviate the potential impact water resources may have on production in the Park, the Bureau continues to provide counselling and advocacy related to water conservation and reclamation. Since 2007, CTSP has organized water-saving counseling, and has handled 42 sessions so far, with a cumulative water-saving potential amount of 11.53 million tons/year, which can save about 7.2 Shigangba Reservoirs per year (the effective capacity of Shigangba Reservoir is 1.605 million

tons), and can reduce the annual emissions of CO_2e by 1,753 metric tons; In 2021, we had 1 water-saving counseling session, and the total water-saving potential amount was 52,195 tons/year.In addition, based on the CO_2e emissions from every cubic meter of water announced by the Taiwan Water Corp., when converted to the benefits of the energy conservation and carbon reduction measures, each ton of water saved can reduce CO_2e emissions by approximately 0.152 kg, reducing7.93 metric tons of CO_2e per year.

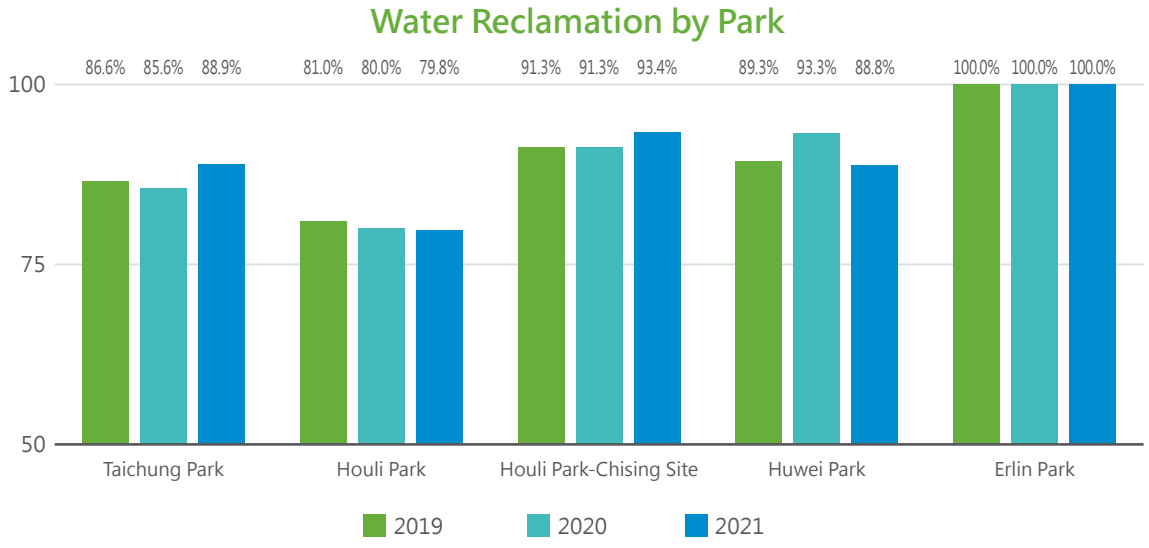
2021 Water Conservation Counselling Performance

Year	2021	
Item	Before Counselling	After Counselling
Average water reclamation rate of the whole plant	48.8%	72.6%
Average reclamation rate of processed water	54.3%	71.7%



Park / Year	2019	2020	2021
Taichung Park	86.6%	85.6%	88.9%
Houli Park	81.0%	80.0%	79.8%
Houli Park-Chising Site	91.3%	91.3%	93.4%
Huwei Park	89.3%	93.3%	88.8%
Erlin Park	100.0%	100.0%	100.0%

Notes :
1. Reclamation rate (Reuse rate) = Amount of reclaimed water / (Original water withdrawal + Reclaimed water) *100
2. Chung Hsing Science Park is a new park established in 2019. It is positioned as a research and development park during the planning stage, and water is mostly used for people's livelihoods. (65.4%)



Park Energy Conservation Counselling

The Bureau has conducted energy conservation field counselling every year since 2014. As of 2021, a total of 35 manufacturers have been coached. The energy consumption of park manufacturers is mainly electric. With an energy saving potential totaling 10,485 MWh, and a total saving rate of 1.11%.

In 2022, the bureau handled the power quality improvement plan for the three parks, discussed the power quality of the parks, and carried out research and analysis. From the power plants, power transmission and distribution, substations, and Park manufacturers' electrical equipment at the power supply side, research and propose improvement measures, hoping to optimize the Park's power quality and improve the reliability of power supply stability. In subsequent years, it will be included as a reference for promoting and coaching Park manufacturers to strengthen energy conservation and improve electricity safety.

On March 3, 2021, due to the failure of Taipower equipment, some manufacturers in the CTSP Park experienced a power voltage drop, but fortunately, there was no serious impact on the production line. In response to various power accidents, the bureau has already handled the power quality improvement plan in the Park, and will continue to do so in the future to improve the safety and stability of electricity consumption in the Park, and strengthen the control measures of electricity consumption.

Development of emerging energy resources

Green Energy Roofs Project

In response to the "Solar Photovoltaic Project" launched by the Executive Yuan, CTSP and the Park manufacturers are committed to promoting solar power generation, making good use of the existing Park plant construction area, making the most effective space planning and utilization between land and buildings, and improving the environment to practice the concept of symbiosis between the

science Park and the land, and gradually to promote the diversification of energy and sustainability development.

In 2021, a total of about 6.62MW of solar photovoltaic was added, so that the cumulative capacity of solar power generation installations in the CTSP exceeded 52.88 MW by the end of 2021.

In order to actively achieve the policy goal of expanding the solar photovoltaic project (rooftop type), CTSP adopted the following policies:

1. New manufacturers: In the land lease briefing, building permit pre-examination and electricity plan application, it is required to evaluate the available area of the roof to install solar photovoltaic.
2. Existing manufacturers: CTSP issued a document requesting manufacturers to fulfill their corporate social responsibilities, continued to handle solar photovoltaic publicity and matchmaking, and held relevant meetings to urge manufacturers with installation space to actively evaluate and set up solar photovoltaics.
3. On February 22, 2021, the "Solar Photovoltaic Installation Promotion and Information Seminar and Matchmaking Meeting" was held to encourage manufacturers in the Park to strengthen the installation of solar photovoltaic facilities.
4. Due to the annual cumulative installed capacity of about 21 MW from 2016 to 2020 (the total installed capacity of the combined Hsinchu plant was about 31MW), CTSP manufacturer AUO won the award of the Ministry of Science and Technology in 2021 "2020 Annual Solar Photovoltaic Best Contribution Award".

Ecological Park

Green Building Ecological Community

Since the establishment of the CTSP in 2004, it has endeavored to promote a sustainable environment with the hope of achieving symbiosis and co- prosperity with environmental protection. The CTSP has many achievements for the Park buildings under its jurisdiction. As of 2021, 11 buildings have obtained the Taiwan Green Building Assessment System-EEWH Diamond Green Building Label, 1 Gold Green Building Label, 6 Bronze Green Building Labels, 12 qualified buildings, 6 free-from assessment buildings, 1 diamond-level smart building, 1 diamond-level ecological community and 4 have obtained the green factory label of the Ministry of Economic Affairs.

Ecological survey of the Park

Eco Paradise

Maintaining the ecology of the Park is one of the firm principles of the CTSP. In accordance with the EIA commitment, an ecological survey is carried out in each Park (Taichung, Houli, Erlin, and Zhongxing) on a regular basis every year, and the rich species in the Park are recorded. On the migration route of migratory birds in East Asia, the number of northern migratory birds that come

to spend winter is often more than that of summer migratory birds that come here to breed in summer. In addition, some resident birds have the habit of descending migratory in winter, so it can be recorded in autumn and winter that most of them belong to winter migratory birds, or the descending migratory birds in winter. If the weather is warm in spring and summer, there are many species of resident birds.

The surrounding environment of the Park is mostly grassland or farmland. Most of the recorded species are common species. Because amphibians and reptiles breed in spring and summer, the number of species is the largest in spring and summer. The monitoring site of the water area is the downstream water body of the specially-managed water outlet of Houli Park and the sewage discharge outlet of Zhongxing Park. The project includes fish, benthic organisms, aquatic insects, and phytoplankton. In 2021, because the various parks of CTSP are committed to ecological environment conservation, the ecological survey results have shown the habitat of increasing species. In the future, we will continue to promote environmental conservation, so that more species are willing to come and enrich the habitat of the Park.

Discovery location：Zhongxing Park

Conservation Species

Level 1 conservation category：
Squalidus banarescui

Level 2 conservation category：
Painted-snipe, Crested Goshawk, Sparrow hawk, Oriental Honey Buzzard, Crested Serpent Eagle, Black-winged Kite, Collared Owl

Level 3 conservation category：
Brown Shrike, Striped Water Snake

Endemic to Taiwan

Mammals：Formosan Masked Palm Civet, Formosan Giant Flying Squirrel, red-bellied squirrel, Taiwan leaf-nosed bat

Endemic species of birds：Taiwan bamboo partridge, White-eyed Nun Babbler, Lesser Scimitar Babbler, Muller's Barbet

Endemic subspecies of birds：House Swift, Oriental Turtle-Dove, crested goshawk, Sparrow hawk, Crested Serpent Eagle, Plain Prinia, Yellow-headed Fantail Warbler, Gray Treepie, Black Drongo, Hypothymis azurea, Sinosuthora webbiana, Alcippe brunnea, Hypsipetes leucocephalus, Pulsatilla, Cyanoderma ruficeps, South Asian Nighthawk, Collared Owl

Amphibians：Chirixalus idiootocus

Reptiles：Diploderma swinhonis, Plestiodon chinensis Taiwan subspecies, Scincella formosensis

Fish：Acrossocheilus paradoxus, Opsariichthys pachycephalus, Squalidus banarescui, Spinibarbus hollandi, Tachysurus brevianalis, Rhinogobius candidianus, Rhinogobius rubromaculatus

Discovery location：Houli Park

Conservation Species

Level 3 conservation category：
Lanius cristatus found in Houli and Qixing Farm

Endemic to Taiwan

Fish：Spinibarbus hollandi, Opsariichthys pachycephalus

Discovery location：Erlin Park

Conservation Species

Level 2 conservation category：
Sterna albifrons, Black-naped tern, black-winged kite, oriental bee hawk, great crested vulture, crested goshawk, sparrow-hawk, oriental buzzard, kestrel

Level 3 conservation category：
swallow plover, Lanius cristatus

Endemic to Taiwan

Mammals：Crocidura shantungensis

Birds： Pomatorhinus musicus

Reptiles： Japalura swinhonis Gunther, Takydromus stejnegeri

Discovery location：Taichung Park

Conservation Species

Taichung Park

Level 2 conservation category：
Peregrine Falcon, Starling, Horned Owl, Crested Goshawk, Black-winged Kite and Sparrowhawk

Level 3 conservation category：
Lanius cristatus

Expansion land

Level 2 conservation category：
myna, crested goshawk, black-winged kite, collared owl, sparrowhawk

Level 3 conservation category：
Lanius cristatus

Endemic to Taiwan

Taichung Park

Endemic species：Pomatorhinus musicus, Megalaima nuchalisi, Svenhou's climbing lizard

Endemic subspecies：South Asian Nighthawk, Apus nipalensis kuntzi, Myna, Black-naped Blue Flycatcher, Dicrurus macrocercus cathoecus, Cisti-cola exilis volitans, Brown-headed Wren, Tree Magpie, Pulsatilla, Red-billed Black Bulbul, Collared Owl, Golden-backed Dove, Crested Goshawk and sparrowhawks

Expansion land

Endemic species：Eptesicus sertinus horikawai, red-bellied squirrel, Pomatorhinus musicus, Muller's Barbet, Japalura swinhonis Gunther

Endemic subspecies：South Asian Nighthawk, Little Swift, Myna, Black-naped Blue Flycatcher, Dicrurus macrocercus cathoecus, Yellow-headed Fantail Warbler, Brown-headed Wren, Cyanoderma ruficeps, Tree Magpie, Pulsatilla, Red-billed Black Bulbul, Collared Owl, Golden Dove, Crested Goshawk, Sparrowhawk

Megalaima nuchalis

Lanius cristatus

Safe Nesting

According to the EIA commitment, the Bureau has set up a total of 15 nest boxes in Guangfu Elementary School (Zhongxing Xincun), Guangrong Elementary School, Guanghua Elementary School, Learning Center, and Hushan Farm near Zhongxing Park. In 2021, only the habitat utilization of Hemidactylus was recorded, and no target animals were used. In addition, the Bureau also set up a total of 13 nest boxes at the Huwei Sewage Treatment Plant and Guangfu Primary School (Huwei Town), which mainly provide bat breeding, for winter and general habitat, and observed the bio-utilization of East Asian house bats, Horikawa's brown bats, high-headed bats and so on.

Horikawa's brown bat in nest box

East Asian house bat in nest box

Net Zero Program

With the impact of climate change, the sustainable issue is on the rise, Net zero emissions in COP26 (Conference of the Parties) Climate Summit have made an agreement, which has become an important international issue. President Tsai Ing-wen also proclaimed to achieve net zero carbon emissions in 2050. In addition, the Taichung City Government also held the "Taichung City 2050 Net Zero Carbon Target Path" research conference on February 25, 2022. The six major departments including energy, industry, housing, transportation, environment and agriculture proposed zero-carbon paths and strategies to minimize carbon emissions, in order to continue to promote carbon reduction actions and renewable energy goals, and then amended the "Taichung City Development Low-Carbon City Autonomy Regulations", through the legal regulations to actively achieve net zero emissions in 2050.

On 23 March 2022, the Ministry of Science and Technology and the three Parks' Bureaus held the "6th Meeting of the Park Business Report", which aims to formulate specific carbon reduction promotion methods, and to cooperate with the formulation of relevant indicators and incentives and other implementation measures, and to guide park manufacturers to work together to promote carbon reduction in order to achieve the carbon reduction planning target of the science park in 2025. To achieve the carbon reduction targets, the following four main approaches will be promoted.

1. Energy saving: Inventory/counseling of park manufacturers with energy saving potential (between 4.69 and 33.82 million kWh/year in 2018-2020), and the annual potential power saving target for the future is 4.3 million kWh.
2. Energy storage: Evaluate the feasibility of setting up energy storage demonstration sites

or cooperating with manufacturers to build (the current cumulative construction of energy storage systems is 6 MWh grid-connected type, which has been sent to The Taipower System for System conflict auditing), and it is expected that the energy storage will be 30MWh in 2025。

3. Energy Creation: At present, the solar power generation device capacity in the park reaches 46.33MW, but the future setting is not easy, so the Bureau will actively introduce circular economy manufacturers (such as green hydrogen industry), and guide them to set up factories to build a circular economy park, and at present, TSMC, Delta, AUO, etc. in the park have joined the RE100 renewable energy initiative, and in the future, the new park and the new leased land construction manufacturers will build green electricity and purchase green electricity vouchers, and it is expected that green electricity will reach 10% of the total electricity consumption in 2025.
4. Smart grid: The new park has built a smart grid, and proposed to promote and guide the park manufacturers to apply the smart grid method. At present, 15th factory has completed the construction of energy management systems, and the penetration rate of energy management systems in the park of more than 25,000 KW manufacturers has reached 100%.
5. Circular economy: In 2020, the waste recycling rate of the Bureau has reached 94.4%, and another 15.54 hectares have been planned to promote the industry with reduction (zero) waste technology and circular economy, and build recycling facilities. Emissions of 59,400 tons (CO_2e) per year are expected to be reduced after the completion of the set-up.
6. Carbon reduction technologies promotion: We will hold relevant explanatory meetings or seminars, invite domestic experts and scholars to share and provide relevant domestic and foreign carbon capture and storage technologies for reference by the Park manufacturers, and complete a seminar on "Energy Conservation and carbon reduction and environmental protection related issues" and 2 sessions on "Energy Conservation and Carbon Reduction Related Publicity Meetings" every year in the next three years, and aim to hold 2 sessions on "Energy Conservation and Carbon Reduction Publicity Meetings" and 1 seminar on "Energy Conservation and Carbon Reduction and Environmental Protection Related Issues" every year.
7. Carbon capture and storage: In 2020, the Bureau invited Distinguished Professor Liu Wanyu of Chung Hsing University to give a lecture on "Carbon Reduction and Carbon Determination by Afforestation" . In addition to making every effort to achieve carbon reduction goals, CTSP will also actively cooperate with government policies, counsel and promote energy conservation and net zero carbon emissions to manufacturers. In 2021, a total of 2 education and publicity meetings on energy conservation and carbon reduction were held. Distinguished Professor Lu Chongxing from the Industrial Carbon Reduction Promotion Office of Chung Hsing University is invited to give lectures on "The Final Path to Global Net Zero Carbon Emissions: Carbon Capture, Storage and Reuse" and Professor Chen Hewen from the Research Center of Smart Sustainable Circular Economy of Tunghai University to give lectures on "Smart Carbon Management Technology and the Construction of a Regional Circular Society: Cross-domain Collaboration and System Integration" , etc. A total of 86 people participated, matched carbon capture and storage technology for industry-academia cooperation, and continued to match industry-academia cooperation for carbon capture and storage technology in the

future, provided a database of carbon supply and demand, assisted industries to improve carbon reduction energy construction, cross-domain collaboration and system integration, and promoted green energy technology industry innovation programs, etc. CTSP also requires manufacturers to conduct greenhouse gas inspections on a regular basis every year. Net zero carbon emissions will inevitably become an international issue that cannot be underestimated. CTSP will also be fully prepared to face international changes to implement the core objective of environmental sustainability.

CTSP knowledge station

Q：What is RE100?

A：RE refers to renewable energy. RE100 is a global renewable energy initiative led by the Climate Group and the Carbon Disclosure Project (CDP) in 2014, which invites global enterprises to publicly commit themselves to the goal of 100% renewable energy use. Members who join RE100 must commit to 100% renewable energy by 2050.

RE100

In addition to setting goals and implementing them, it is expected that in 2022 the "Science Park Carbon Reduction Excellence Award" will be held, with the purpose of encouraging Park manufacturers to actively promote energy conservation and carbon reduction through competitions, so as to encourage all Parks to make concerted efforts to achieve the goal of carbon reduction.

Besides making every effort to achieve carbon reduction goals, CTSP will go all out to actively cooperate with government policies, counsel and promote energy conservation and net zero carbon emissions to manufacturers. In 2021, a total of 2 energy conservation and carbon reduction education and publicity meetings were held, with a total of 86 participants, and manufacturers were required to conduct regular greenhouse gas inspections every year. Net zero carbon emissions will inevitably become an international issue that cannot be underestimated. CTSP will also do a good job to prepare for international change and implement the core objective of environmental sustainability.

"Industry Towards the Final Path to Net Zero Carbon Emissions" Conference

"The Industry's Final Path to Net Zero Carbon Emissions" Q&A session

Energy Conservation and Carbon Reduction Education Promotion Conference

Environmental Management

With the extreme weather phenomenon caused by climate change, all industries are facing the risk of lack of energy and water resources. The CTSP Bureau cooperates with government policies to actively promote green energy and circular economy, and will strengthen the guidance and inspection of the Park manufacturers. During the operation of the Park, manufacturers should be aware of environmental protection such as air pollution, water pollution, waste, etc., in order to comply with relevant environmental protection regulations and grasp the use of energy and resources. They must comply with the content of the environmental impact assessment document and the conclusion of the review to avoid any resource supply problems affecting the operational activities of the Park manufacturers.

Corresponding Material Topics

GRI 303 : Water and Effluents、GRI 306 : Waste、GRI 305 : Emissions、 Circular Economy

Corresponding SDGs

Management Objectives and Policies

- To prevent the pollution from the opera- tion activities of the park manufacturers from exceeding the environmental load, to continue to build the spirit of co-prosperity, to carry out relevant control of the park manufacturers, and to work hard to create a sustainable environment.
- Follow Total Mass Based Control to monitor the environmental impact in the Park.

Responsible Units

Environment and Labor Affairs Division

Invested Resources

- The Environment and Labor Affairs Division is responsible for the review of various environmental protection permits, handling on-site inspections and tracking counseling, and implementing environmental quality monitoring.
- Set up sewage treatment plants in various parks and entrust professional organizations to operate them.
- Check whether the park manufacturers regularly declare air pollution fees, emissions, regular inspections, or industry-specific regulations.
- After the development of the Park, the environmental supervision team of each Park will continue to supervise it.
- In order to understand the current status of various environmental factors other than the EIA documents, this Bureau continues to supplement and monitor some items.

Complaints Mechanism

Free environmental protection hotline : 0800-777795

Management System and Evaluation Mechanism

- In accordance with the Water Pollution Prevention Measures Plan and Permit Application Review Management Measures, review the water pollution prevention and control measures plans of the park manufacturers.
- The waste disposal plan is checked from time to time according to the Waste Disposal Act.
- Prior to the development of the Park, various environmental assessment review reports were submitted in accordance with the operating procedures stipulated by the Environmental Impact Assessment Act.

2021 Performance

- A total of 12 EIA tracking and supervision meetings were held in each Park.
- The recycling rate of industrial waste in the Science Park reached 94.39% (including recycling).
- No major leakage or arbitrary dumping occurred.
- Both air pollution and sewage discharge met the environmental impact assessment commitment value.
- Completed 87 waste inspections and source reduction publicity sessions, and handled 1 publicity meeting on recycling technology and regulations.
- The total purchase amount of this Bureau's environmental protection products is NT$4,265,000, accounting for 100% of the total purchase amount.
- Handled 6 sessions of counseling and verification by the reuse agency.

Total Mass Based Control

The CTSP Bureau has never slackened on environmental protection, and strengthened guidance to check the waste gas, wastewater discharge, and waste disposal (replacement) of the park manufacturers in order to comply with relevant environmental protection regulations. The development of each Park must comply with the content of the Environmental Impact Assessment document and the review conclusions and commitments. The CTSP further requires park manufacturers to do a good job of independent management, pollution prevention equipment, operating procedures and environmental protection business management, and become learning benchmarks in their various fields.

In addition, this Bureau established a management system for the use of hazardous chemicals confirmed by the health risk assessment based on the review conclusions of the Environmental Impact Manual of the Taichung Park Expansion Land Development Plan, and referred to the spirit of the Registration, Evaluation, Authorisation and Restriction of Chemicals (EU REACH) system. The key points of chemical substance control operations have been set, and a total of 111 chemical registration codes have been issued by 2021. In addition, this Bureau has also established an online chemical declaration platform for business units to understand the use of chemical substances by various manufacturers.

Online chemical declaration platform

License review

The Central Taiwan Science Park is a park that implements Total Mass Based Control. Businesses that wants to settle in CTSP must submit an estimate of the total amount of pollution at the investment application stage. If a larger total amount is required after the official stage, it should apply for a change again. This Bureau will process the application and it will be processed and reported to the local competent authority according to the overall total amount of the Park. According to statistics, there were 50 total pollution application and change cases in 2021, and a total of 51 cases have been passed (including the applications in 2020 and passed in 2021).

In order to facilitate the application of environmental protection permits by manufacturers in the Park, a one-stop service mechanism is adopted in the Park. Since 2003, this Bureau has successively applied to the Environmental Protection Agency for entrusting the review of permits for each Park, so that manufacturers stationed in the Park can quickly obtain the environmental protection documents required for production. In 2021, a total of 140 applications for environmental protection documents were accepted, and a total of 132 cases were passed (including the 2020 application passed in 2021), and the cases that were not passed were returned to the manufacturer for correction or the case was still in the application process.

Environmental protection document application and review process

Audit tracking

After a permit is issued, on-site inspection and tracking is the basic method for implementing permit management and promoting the control of the total amount of pollution. In addition to understanding whether each business unit is actually performing according to the permit content, and further reviewing the blind spots in the system. It is indeed feasible to standardize the operation of various businesses in accordance with the contents of the license, and is also conducive to the promotion of overall environmental quality and sustainability. In 2021, the CTSP Bureau conducted a total of 216 permit inspections. Those who were found to be inconsistent with the permit after the inspection by this Bureau were sent a letter requesting the business to make improvements and submit the relevant application documents to handle the permit change or change. For the tracking improvement part of the audit that did not conform, the current improvement rate was 91%, and the improvement that had not yet been completed was mainly the case of Q4 2021 to carry out the audit, and the improvement involved the application for change or license changes, resulting in a lengthy time; In this regard, the Bureau will continue to track and urge the business to complete improvement as soon as possible.In addition to the staff of this Bureau, experts and scholars in related fields are also invited to assist in the inspection operations to ensure that the recycling agencies outside the Park properly dispose of the waste generated by the Park businesses and prevent the outside world from being concerned about environmental pollution in the Park.

Fixed pollution source permit verification

Water pollution source permit verification

Waste disposal plan review

Checking by reuse institutional experts and scholars

Fixed pollution source verification by experts and scholars

Checking by reuse institutional experts and scholars

This Bureau conducts flue exhaust sampling tests of park manufacturers at night or on holidays, and monitors whether the exhaust gas emitted by park manufacturers complies with regulations through a qualified inspection agency certified by the Environmental Protection Agency. The 2021 test results were in compliance with relevant regulations.

Random test operation at night of manufacturer

Manufacturer's day-time random test operation

Advocacy & Consulting

In response to frequent updates or amendments to various environmental protection related laws and regulations, this Bureau will hold various legal promotion briefings from time to time every year to strengthen business attention and comply with various environmental protection laws and regulations. In 2021, a total of 5 regulatory publicity briefing meetings, 1 chemical inspection publicity briefing meeting, 1 environmental protection seminar, 2 energy conservation and carbon reduction education publicity meetings, 1 environmental protection related topic briefing meetings were held,

and 4 on-site counseling meetings of park manufacturers and 20 on-site counseling meetings of experts and scholars in the park manufacturers were handled.In addition, the Bureau also provides consulting services on environmental protection business for park manufacturers. Through face-to-face communication with the industry or case-by-case counseling, we can understand the difficulties of the industry in the process operation or in the writing of environmental protection documents, and then assist in finding solutions. In 2021, we offered consulting services in a total of 1,309 cases. (Excluding summary regulatory consultation and case status inquiry)

Briefing Session on Promotion of Waste Recycling Technology

Environmental Seminar

Air Pollution and Greenhouse Gases

› Fixed source of pollution

In order to implement Total Mass Based Control in the Park, the CTSP Bureau will continue to perform counseling and verification operations after the fixed pollution source installation permit and operation permit are issued. Regular inspections and declarations or industry-specific regulations, for example, air pollution fee, emission declaration, periodic inspection declaration or industry-specific laws, etc., for businesses that do not comply with the license content are conducted, and the Bureau then immediately sends a letter to the business requesting improvement, and re-examine it at a later stage.

Fixed pollution source operation permits approved emission volume

unit: ton

Year	2019	2020	2021
Nitrogen oxides (NOx)	323.57	323.02	320.47
Sulfur oxides (SOx)	96.11	78.54	78.62
Volatile Organic Compounds (VOCs)	383.34	367.78	386.27
Granules	107.43	91.95	83.18

Note:
1. The air pollution approved emission data listed above is the total value of each Park, and the above values are also lower than the emission commitment value in the EIA document.
2. If the EIA has relevant control standards and regulations, it will be handled in accordance with the EIA commitment value.
3. The decline of Granules is due to the withdrawal of the case after the completion of the earthworks dumping site.

Greenhouse Gas Inventory and Reduction

The CTSP Bureau counted the greenhouse gas emissions in 2020 from the top 15 manufacturers accounting for the total turnover of the Park as shown in the table below. Among these 15 manufacturers, the first batch of 6 manufacturers that should check their registered greenhouse gas emissions (operational control rights-the base year is mainly based on the inventory check of each factory), which is required to be completed the entire factory previous greenhouse gas emissions at the end of August each year. For those inventory and registration of greenhouse gas emissions that are not required to be regularly, there are 2 companies checked and registered by entrusting third-party inspections while the remaining 8 are independent inventories.

2020 Annual gas emissions that account for the top 15 companies in the Park' s total turnover

Number of manufacturers	15
Scope 1 (10,000 metric tons of CO_2e)	93.59
Scope 2 (10,000 metric tons of CO_2e)	533.08
Total emissions (10,000 metric tons of CO_2e)	626.67
Turnover (NT$100 million)	8,993.13
Emission intensity (10,000 metric tons of CO_2e/NT$100 million)	0.070

Note: 7 companies have been verified externally and 8 companies have not been verified. The unverified manufacturers are based on the announcement content of version 6.0.4 of the Greenhouse Gas Emission Coefficient Management Table of the Environmental Protection Agency. The CO_2e equivalent conversion GWP value quotes the GWP value announced by the Intergovernmental Panel on Climate Change (IPCC) for the fourth time in 2007. The parameters quoted are used to explain the calculation basis.

In addition, this Bureau requires manufacturers stationed in Houli Park to conduct regular greenhouse gas inventory and reporting operations based on the EIA document of the Houli Park, and implement the greenhouse gas inventory and statistics of Houli Park in September each year. (data statistics for 2021 have not been completed before the issuance of this report). Among the manufacturers in Houli Park, there are only 2 of the first batch of manufacturers that should check their registered greenhouse gas emissions (operational control rights; the base year is based on the inventory check of each factory), while the rest perform self-inspection.The main reason for the higher total emissions in 2020 than in previous years is the addition of Micron Plant 2 in 2018, and the increase in production capacity of Taiwan LEADWELL Company, Micron Plant 1 and Plant 2 in 2020.

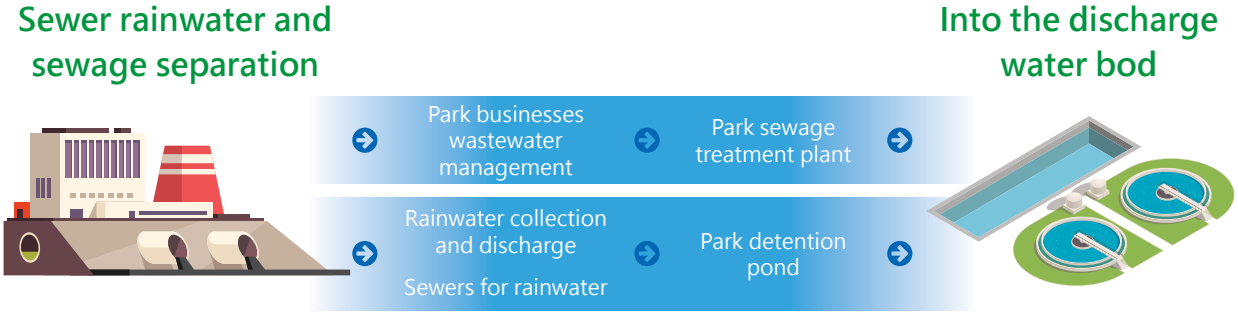
The above-mentioned CTSP Houli Park greenhouse gas inventory inspections are conducted in accordance with ISO 14064-1 and the greenhouse gas inspection guidelines. The carbon dioxide emission coefficient is calculated in accordance with the statistical method of the National Green house Gas Inventory Guidelines (referred to as IPCC 2006 Guidelines) formulated by the IPCC, and the GWP value according to the regulations of the Environmental Protection Agency. The warming potential of the fourth assessment report of the IPCC in 2007 should be adopted after 2016.

CO_2e Emissions in Houli Park

Year	2019	2020	2021
Scope 1 (10,000 metric tons of CO_2e)	17.68	11.49	13.57
Scope 2 (10,000 metric tons of CO_2e)	89.08	97.64	109.72
Total emissions (10,000 metric tons of CO_2e)	106.76	109.13	123.29
Turnover of Houli Park (NT$100 million)	1,332.17	1,340.68	1,192.36
Emission intensity (10,000 metric tons of CO_2e/NT$100 million)	0.08	0.08	0.10

Sewage management

The Park's under the jurisdiction of this Bureau have built a complete rainwater and sewage sewer system. Waste water from the Park businesses is included in the Park's sewage sewer system, properly treated by the sewage treatment plant, and discharged before it meets the national discharge water and strict environmental assessment standards. In addition to rainwater collection in public areas, the rainwater drainage system must include designs for rainwater collection pipelines when building plants, and a rainwater drainage inlet is to be incorporated into the rainwater drainage system, discharged into the Park's floodwater retention basin and then into the receiving water body. The Bureau regularly schedules sampling and inspection plans for the sewage sewer system of each Park to understand the status of the system and ensure that its water quality is normal.



The wastewater treatment plants in the Park adopt the tri-step-treatment method of sewage, using standard activated sludge biological treatment units (Taichung and Houli wastewater treatment plants adopt AO biological nitrogen removal system, and Huwei wastewater treatment plant adopts contact aeration method). Chemical coagulation and physical filtration treatment unit I added in the subsequent unit to improve the quality of secondary treated water, reducing the impact on the receiving water body.

Water management by manufacturer

The management of water pollution prevention measures at the manufacturer's end is in accordance with the Management Measures for the Use of Sewage Treatment and Sewerage in Science Parks. The waste and sewage of each manufacturer in the Park must be pre-treated to meet the management standards before it can be discharged into the sewer system of the Park. As for the relatively large-scale business entities in the Park, the CTSP Bureau assists in reviewing the manufacturer's water pollution prevention and control measures plan by experts and scholars to ensure that the sewage pretreatment facilities installed in the Park's businesses meet the expected benefits of the water quality management standards. After a permit is issued, the CTSP conducts counseling and verification work from time to time. According to statistics, in 2021, there were 152 companies in Taichung Park, 20 companies in Houli Park-Houli Base, 3 companies in Houli Park-Chising Base, and 12 companies in Huwei Park.

2021 Allocation of wastewater discharge

Unit : m^3/day(CMD)

Project\Park	Taichung Park (including expansion land)	Houli Park -(Houli base)	Houli Park -(Chiing Base)	Huwei Park
EIA approved total	145,000	57,000	26,000	8,000
Total distribution	132,160	25,316	20,521	5,317
Total approved amount	133,974	22,042	15,413	2,109

Note: Taichung Park (including expansion land), the total approved amount is greater than the total distributed amount, and the manufacturers' actual water discharge is lower than the total approved and distributed amount. The manufacturers have been asked to propose the change of the approved amount according to the actual situation, and we will continue to counsel the manufacturer to change the application documents.

100% in line with effluent standards and EIA commitments

Sewage plants in the Parks operate in compliance with regulations, properly treating wastewater, and controlling the amount and quality of discharged water. There are no livelihood and irrigation water intakes downstream of the discharge site. In 2020, the quality of the discharged water from the wastewater treatment plants in each Park is far superior to the discharged water standards and the stricter standards of environmental assessment commitments, and the total amount of pollution discharged is also below the upper limit of total pollution, which will not affect the water body and biodiversity.

Before the completion of the water resource center in Erlin Park, the waste water of the manufacturers in the Erlin Park is treated by the manufacturers themselves and then recycled and reused. According to the development schedule, the reclaimed water package treatment system will be set up first, and the reclaimed water package treatment system will be prepared in cooperation with the operation of the stationed manufacturer before the operation. Officially opened on March 28, 2022, it will properly collect and treat factory wastewater and recycle it for reuse.

The companies in Chung Hsin Park focus on research and experimental industries, and no process wastewater is produced. The wastewater from the laboratories of the manufacturers in the Park is entrusted to the qualified manufacturers for cleaning and transportation, and the domestic sewage is taken into the sewage sewer of the Park and sent to the Zhongzheng Road Sewage Treatment Plant for proper treatment and discharge.

Discharge data of sewage plants in each Park in 2021

Project/Park		Taichung Park	Houli Park - Houli Base	Houli Park - Chising Park	Huwei Park
Discharge location		Dadu River	Da-an River	Da-an River	Xinzhuangzi Drainage Channel
Annual discharged water (million liters)		29,172	5,096	2,076	332
Average daily discharge (CMD)		79,924	13,951	5,684	908
BOD_5 (mg/L)	Discharged water standard	25	25	25	30
	EIA commitment value	20	10 (7-day average)	10	20
	Average monitoring value	2.7	2.3	2.0	2.0
COD (mg/L)	Discharged water standard	80	80	80	100
	EIA commitment value	80	80	60	80
	Average monitoring value	33.7	56.3	34.7	25.5
SS (mg/L)	Discharged water standard	25	25	25	30
	EIA commitment value	20	10 (7-day average)	10	20
	Average monitoring value	4.0	6.9	1.7	1.8
Total Dissolved Solid (mg/L)	Average monitoring value	4,649	4,216	2,777	2,168

Waste Management and Reuse

Businesses in the Park under the jurisdiction of this Bureau must report waste output and storage information online after obtaining a waste disposal plan permit. This Bureau also conducts inspections from time to time, and checks whether the wastes that are cleared and transported by the business have obtained proper disposal documents certified by the disposal agency, ensuring that there is no random dumping of waste after leaving the factory. General industrial waste is mainly sent to private treatment facilities for processing, or follow the Waste Disposal Act by adopting relevant regulations for resource recovery and reuse. Hazardous industrial waste is transported to the industrial waste comprehensive treatment center under the guidance of the Ministry of Economic Affairs or qualified Class-A private waste disposal facilities shall handle the disposal or follow the relevant regulations on recycling.

The waste disposal volume of the businesses in the Park under the jurisdiction of CTSP is as follows: Among them, general industrial waste is still the main form. Hazardous industrial waste treatment handled by the Park manufacturers outside the Science Park all complies with the Basel Convention. General and hazardous industrial wastes are mainly used for recycling.

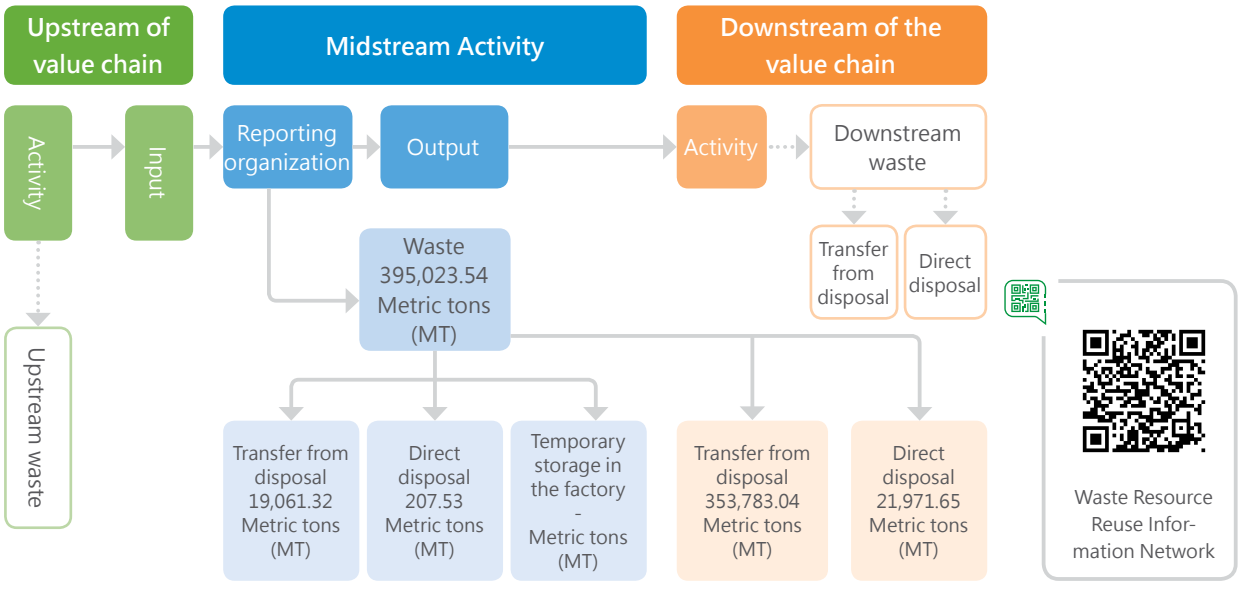
Composition of waste	On site		Departed	
Item	Waste generation (tons)	Processing method	Waste generation (tons)	Processing method
Hazardous waste				
Harmful sludge	0	—	345.34	Curing treatment
	0	—	149.56	Reuse
Hazardous solvent waste	0	—	46,658.39	Reuse
	0	—	19,784.38	Physical treatment
	0	—	5,248.20	Heat treatment (except incineration)
	0	—	6,119.25	Incineration
Other hazardous waste	5,308.32	Chemical treatment	97,995.45	Reuse
	0	—	1,497.68	Chemical treatment
	0	—	1,411.60	Incineration
	0	—	928.60	Physical treatment
	0	—	759.45	Washing treatment
	0	—	27.14	Curing treatment
	0	—	5.80	Receiving Country treatment
	0	—	0.39	Heat treatment (except incineration)

Composition of waste / Item	On site: Waste generation (tons)	On site: Processing method	Departed: Waste generation (tons)	Departed: Processing method
Non-hazardous waste				
Non-hazardous sludge	0	—	31,504.56	Reuse
	0	—	18,588.74	Heat treatment (except incineration)
	0	—	4,475.04	Physical treatment
	0	—	3,868.44	Incineration
	0	—	39.11	Stabilization
	0	—	18.62	Curing treatment
	0	—	22,870.61	Reuse
Non-hazardous solvent	170.48	Physical treatment	31,504.56	Reuse
	0	—	5,650.94	Incineration
	0	—	3,573.78	Physical treatment
	0	—	398.65	Heat treatment (except incineration)
Other non-hazardous waste	13,790.05	Physical treatment	93,113.65	Reuse
	0	—	6,032.18	Physical treatment
	0	—	3,285.00	Incineration
	0	—	858.40	Burying
	0	—	357.44	Washing treatment
	0	—	156.23	Chemical treatment
	0	—	24.75	Curing treatment
	0	—	7.32	Heat treatment (except incineration)

Note：
1. For the composition of waste, please refer to the Waste Disposal Plan classification (A/B/C/D/E/R... etc.).
2. The unit of measurement is in metric tons.
3. Types of recycling operations include preparation for reuse, recycling and other recycling operations.
4. Description of the type of recycling includes downgrade utilization, upgrade utilization, composting or anaerobic digestion.
5. Other recycling operations include changing the purpose of use or refurbishing.
6. Types of disposal methods include incineration (including energy recovery), incineration (excluding energy recovery), landfill and other disposal operations.
7. Other disposal operations include dumping, open burning or deep well injection.
8. "On-site" means within the physical boundary or administrative control of the reporting organization; "off-site" means outside the physical boundary or administrative control of the reporting organization.

Waste composition / Processing method	Hazardous waste		Non-hazardous waste		Total
	On site	Off site	On site	Off site	
Transfer during disposal	5,308.32	172,871.34	13,753.00	180,911.70	372,844.360
	178,179.66		194,664.70		
Direct disposal	0	8,059.89	207.53	13,911.76	22,179.18
	8,059.89		14,119.29		
Total	186,239.55		208,783.99		395,023.54
Total waste	395,023.54				
Resource ratio	94.39%				

Note :
1. Transfer during disposal: preparation for reuse, recycling, and other recycling operations; Direct disposal: incineration (including energy recovery), incineration (excluding energy recovery), burial, other disposal operations.
2. The calculation method of the resource utilization ratio is the amount of recyclable waste processed/total waste x 100%.
3. 94.39% including the proportion of on-site and off-site resources.

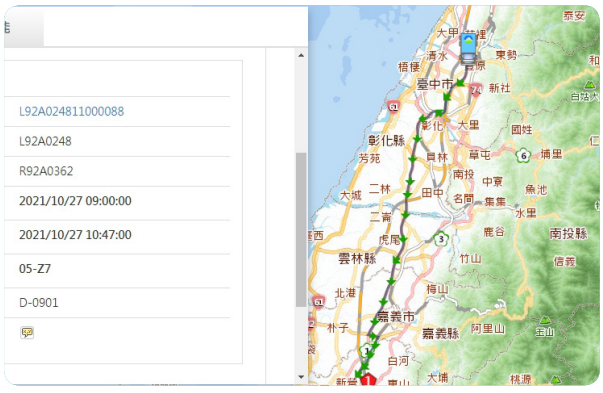


Sewage treatment plant sludge removal

The removal and treatment of the sludge produced by the sewage treatment plants in the Parks under the jurisdiction of this Bureau shall be handled by qualified removal and treatment organizations in accordance with the relevant regulations of the Waste Disposal Act, and the output shall be declared to the Environmental Protection Agency in accordance with the regulations of the EPA. According to the official website of the Bureau, the sludge removal and treatment documents (one original & 2 copies) are issued when the sludge leaves the factory, and the transportation vehicle is also equipped with a GPS tracking system to track the sludge flow direction. Subsequently a proper treatment certificate issued by a qualified treatment agency shall be obtained. In addition, this Bureau's sewage treatment plants sometimes follow the vehicle to confirm and ensure the sludge is indeed cleared and transported to the entrusted qualified treatment agency.

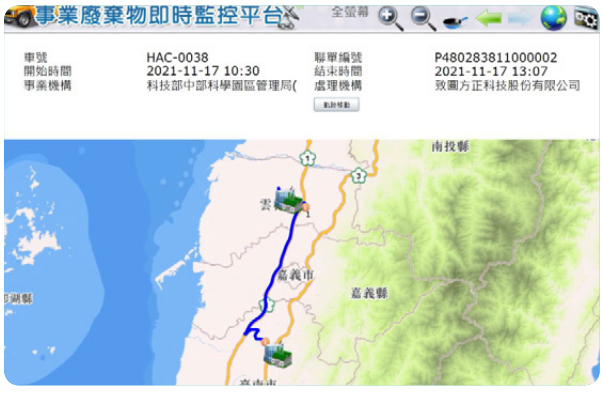
GPS vehicle track record for sludge removal and transportation of sewage to treatment plant (Houli)

Sewage treatment plant sludge removal truck accompanied by vehicle (Houli)



GPS vehicle track record for sludge removal and transportation of sewage to treatment plant (Taichung)

Sewage treatment plant sludge removal truck accompanied by vehicle (Taichung)



GPS vehicle track record for sludge removal and transportation of sewage to treatment plant (Huwei)

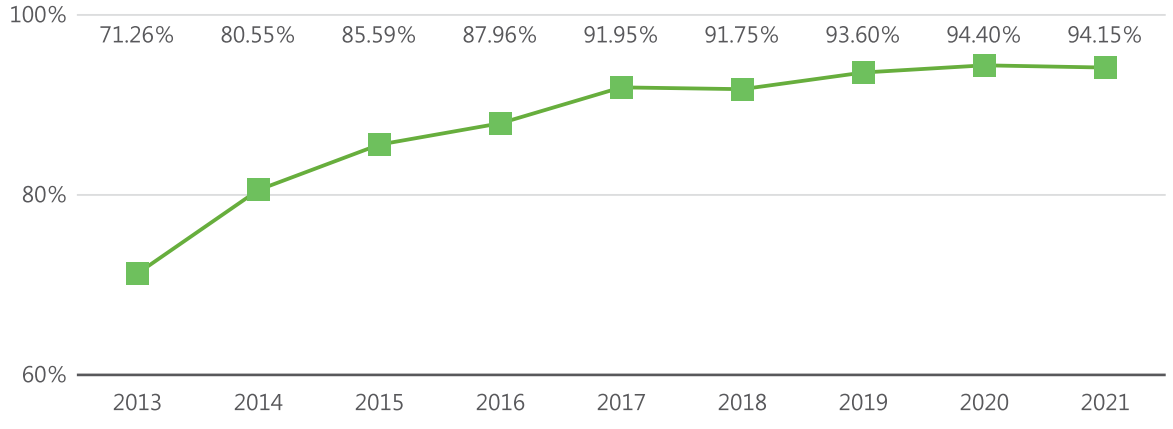
Sewage treatment plant sludge removal truck accompanied by vehicle (Huwei)

Circular Economy

This Bureau actively assists and coaches park manufacturers in waste reduction and reuse, and conducts selection and recognition of outstanding business units for waste reduction and resource recycling in the Park. It expects to substantially assist park manufacturers in reducing the output of terminal waste, provide recommendations on source reduction and waste recycling technologies, improve waste recycling rate, gradually turning the CTSP Park into a resource recycling ecological park. In 2021, two outstanding manufacturers of waste reduction and resource recycling and two outstanding personnel were selected. Following praise by the Bureau, the outstanding manufacturers were invited to share their experience. The results of promotion can be divided into two main axes for explanation:

Encourage manufac-turers to reuse	Continue to publicize source reductions and encourage and guide the park manufacturers to submit applications for reuse. Experts and scholars are invited to conduct site surveys and review. The reuse agencies will make amendments based on the review opinions and approved by the committee members.	▪ In 2021, a total of 3 reuse applications were approved (one is a test program). The waste reuse rate in the Parks under this Bureau increased to 94.39%(Including the proportion of on-site and off-site resources), and the reuse agencies declared a total of approximately 45,108.57 metric tons of reuse. ▪ In 2021, 87 waste inspections and source reduction publicity sessions were completed, and one recycling technology and regulation publicity meeting was conducted. ▪ In 2021, the purchase amount of this Bureau's environmental protection products totaled NT$4,265,000, accounting for 100% of the total purchase amount.
Tracking counselling reuse agency	After this Bureau has issued a re-use licen-secase, apart from routine inspections, experts and scholars will be invited to conduct follow-up and counselling work.	▪ In 2021, 6 sessions of counseling inspections for reuse agencies were conducted, 4 sessions of Institutional experts and scholars to track and counsel.

Recycling rate of industrial waste (incl. resource utilization)



Note: The data of run chart is off-site resources(excluding on-site).

Briefing session on promotion of waste recycling technology

Reuse application site survey review meeting

Institutional experts and scholars of recycling to track and counsel

Social co-prosperity

Innovation Driven Industries

Safe workplace

Social interaction

Innovation Driven Industries

Industrial transformation and upgrading can drive new investment, the industrial development to a higher level. In response to the trend and in cooperation with the Ministry of Science and Technology to implement various plans, cohesion of industry officials, education and research energy, CTSP actively mediate domestic and foreign manufacturers, participate in international activities, hold investment briefings to attract manufacturers to return to Taiwan investment, encourage park manufacturers and practitioners to innovate and start a business, through the "intelligent robot innovation self-built base", establish an open platform, cultivate future talents, link the international society, and jointly promote industrial upgrading.

Corresponding Material Topics

GRI 201 : Economic Performance (Industrial Upgrading)、Innovation & Entrepreneurship、Investment Promotion

Corresponding SDGs

Management Objectives and Policies

- Drive the development of high-tech industries in Central Taiwan.
- Link industry, government, academic and research resources to support the sustainable development of industrial clusters.
- Encourage innovative R&D and the development of new ventures, brewing energy for the next industrial upgrading.

Responsible Units

Investment Division, Planning Division

Invested Resources

- The Investment Division carries out the Park promotion, investment promotion, and resource planning for innovation and cultivation.
- Through the Innovation and Entrepreneurship Incentive Program, the innovative camp allows the innovation team to confirm the business model, holds two tiers of competitions every year, and provides entrepreneurial funds based on rankings.

Complaints Mechanism

Director-General's mailbox

Management System and Evaluation Mechanism

- The Planning Division collects monthly statistics on park investment, industrial turnover, and number of employees.

2021 Performance

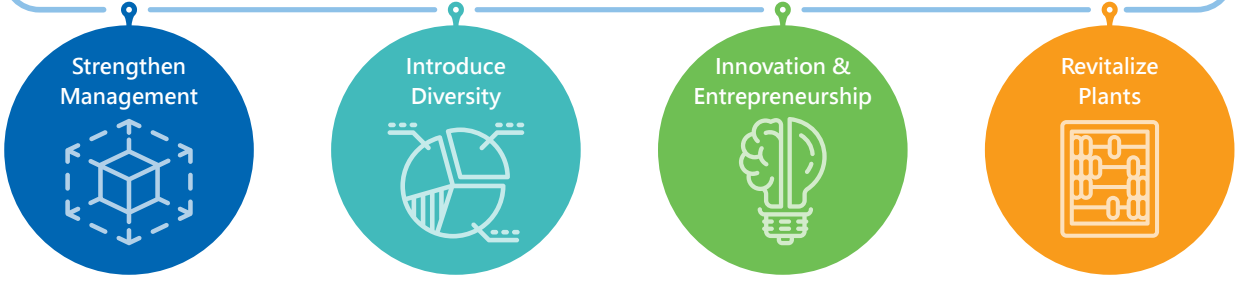
- Turnover reached NT$1,035.232 billion, an increase of 10.60% compared to the NT$935.979 billion in 2020.
- A total of 24 new manufacturers were introduced, with a total investment of NT$8.984 billion, and 6 manufacturers' capital increase projects, totalling about NT$58.814 billion, were completed. Two manufacturers expanded their factories, with an investment of NT$118 billion.
- The Project of Acceleration of Medical Device Industry Innovation and International Leap Promotion-Acceleration of Biomedical Industry Innovation Program in the Central Region approved subsidies to 7 park manufacturers and start-up companies.
- The "Science Park Emerging Technology Application Project" approved a total of 6 R&D subsidies, with an approved subsidy amount of NT$21.55 million.
- Coached 45 teams of the From IP to IPO (FITI) incentive program, of which 3 teams won the Entrepreneurship Excellence Award and won NT$1 million of entrepreneurship bonus, 5 teams won the entrepreneurial potential award, won NT$250,000 of bonus, and introduced 7 new start-up companies into CTSP.

Park Development and Innovation Transformation

On June 6, 2018, the Act for Establishment and Administration of Science Parks was amended, the word "industrial" was deleted, the types of organizations that can be stationed in the Park were relaxed, and diversified types of innovative research and development businesses were introduced. Science parks no longer only emphasized the clustering of manufacturing industries, but that of technological innovation. In February 2020, in line with the amendment of the establishment and administration regulations, the Bureau officially held an unveiling ceremony to amend the name of the Park, deleting the word "industrial", which symbolized that the CTSP has reached a milestone in innovation based on the foundations laid in the past.

Following the relaxation and revision of the regulations, by the end of 2021, 4 limited companies and 35 new manufacturers with a total investment of about NT$ 12.8 billion were introduced to the CTSP. In the future, the Park will regard technological innovation as its core value to guide industrial upgrading.

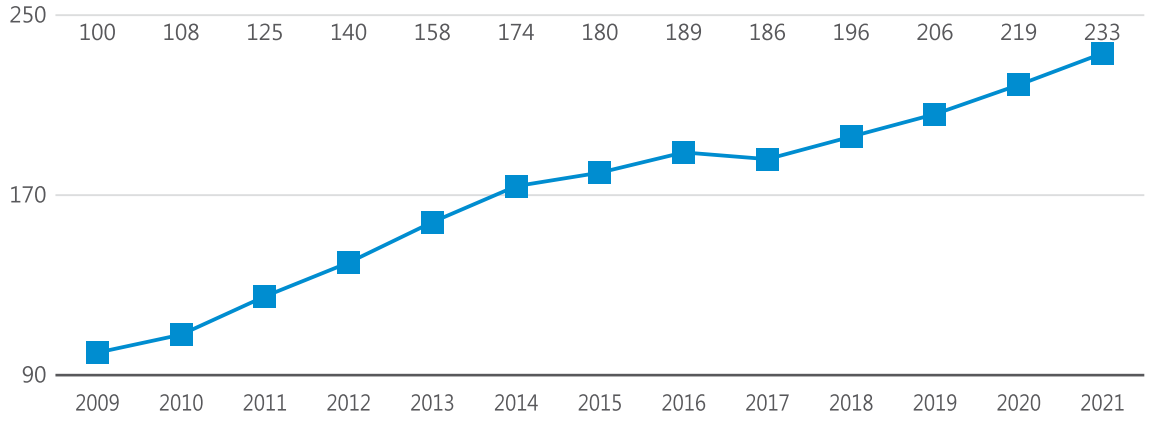
Future development direction of the science park following the revision of regulations



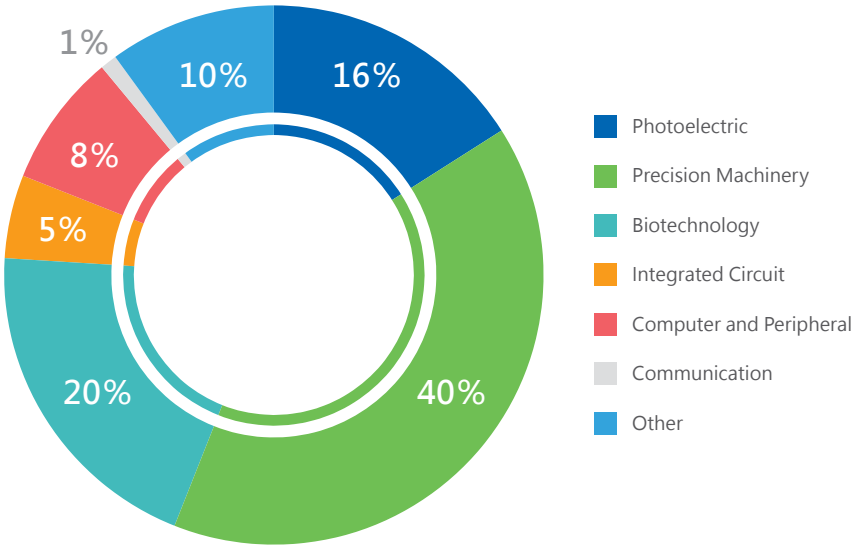
Industrial Clusters

Both domestic and foreign high-tech industries have been introduced to be stationed in the Park. As of the end of 2021, under the active investment promotion of the Bureau, 233 manufacturers have been effectively approved, and 14 research institutions and incubation centers have been introduced.

Successful Integration of Industrial Clusters



2021 Ratio of companies in each industry



Detailed manufacturer information can be found on this website

Park Turnover

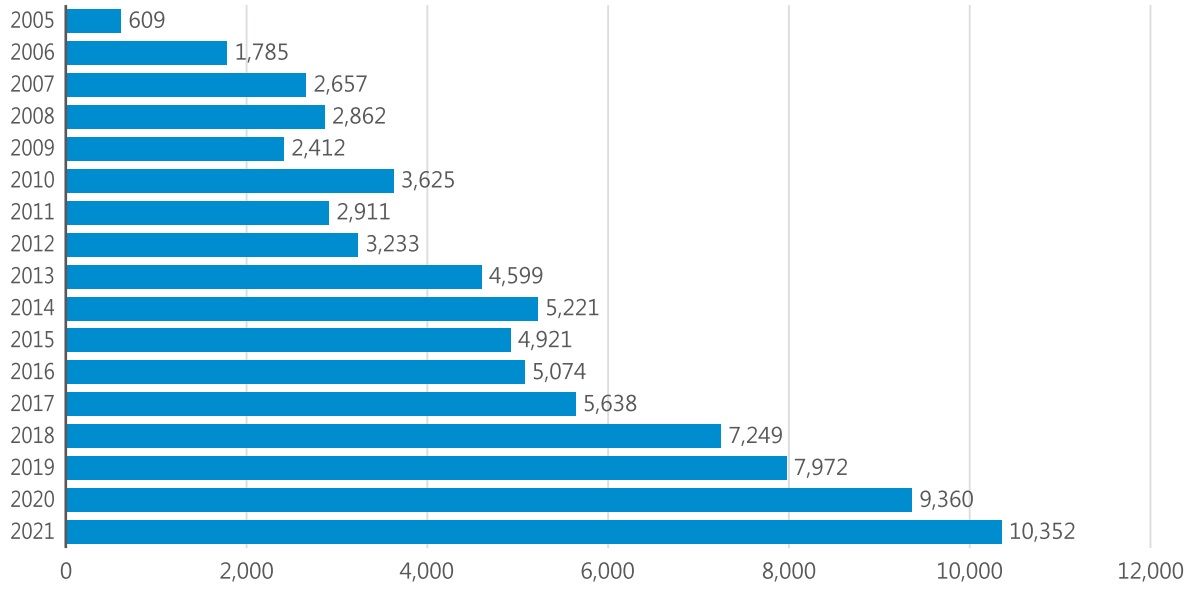
In 2021, the business turnover of the Park reached NT$1,035.232 billion, an increase of 10.60% compared to the NT$935.979 billion in 2020, yet again hitting a record high. The integrated circuit industry made up the largest amount of this turnover, followed by the Photoelectric industry, and then the precision machinery industry.

The integrated circuit industry benefited from increased demand for 5th generation mobile networks (5G), Artificial Intelligence (AI), automotive electronics and high-performance computing, resulting

in a 7.41% increase in turnover. After three consecutive years of recession in the optoelectronic industry, driven by factors such as the home economy, long-distance business opportunities and the commercialization of Mini LED technology, the turnover increased significantly by 23.33%. Due to the increase in demand for home decoration in Europe and the United States, precision machinery industry turnover increased by 22.60%. In addition, the demand for nucleic acid testing in the biotechnology industry due to the epidemic is still strong, and the sales of testing products are booming, with turnover increasing by 18.41%.

Turnover of CTSP in past years

Unit: billion



Turnover by Industry in past two years

Unit : NT$ 1 billion

Industry	2020		2021		Growth Rate (%)
	Turnover	Proportion (%)	Turnover	Proportion (%)	
Integrated Circuit	7,493.22	80.06	8,048.29	77.74	7.41
Photoelectric	1,493.35	15.95	1,841.72	17.79	23.33
Precision Machinery	242.30	2.59	297.07	2.87	22.60
Biotechnology	67.23	0.72	79.61	0.77	18.41
Computer and Periphera	32.97	0.35	49.62	0.48	50.49
Communication	1.86	0.02	4.82	0.05	158.82
Other	28.85	0.31	31.20	0.30	8.12
Total	9,359.79	100.00	10,352.32	100.00	10.60

The total import and export trade volume in 2021 was NT$794.734 billion, an increase of 16.57% from 2020. Exports accounted for about NT$ 592.308 billion, an increase of 10.19% from 2020, while imports were about NT$ 202.426 billion, an increase of 40.34% from 2020. In 2021, exports exceeded imports by a value of NT$389.882 billion.

In 2021, the stable recovery of the world economy will make the application of emerging technologies and digital transformation business opportunities hot network, expand the global demand for integrated circuits, increase the export trade volume of CTSP, and the Park photoelectric display industry expands its business scope, extending the core business of the panel to multi-field applications, and also driving the operation and export performance.

2021 Comparative Analysis of the Industrial Import and Export Trade Volume of the Park

Unit: NT$ 1 billion

Industry	Export Value		Growth Rate (%)	Import Value		Growth Rate (%)
	2020	2021		2020	2021	
Integrated Circuit	4,008.01	4,314.21	7.64	1,272.47	1,790.21	40.69
Photoelectric	1,154.65	1,367.01	18.39	89.08	80.62	-9.50
Precision Machinery	155.72	172.85	11.00	66.36	133.29	100.87
Biotechnology	30.27	31.58	4.33	4.85	4.93	1.64
Computer and Periphera	26.11	35.81	37.15	8.73	14.07	61.14
Communication	0.50	1.61	223.60	0.22	0.83	276.21
Other	0.00	0.00	0.00	0.69	0.31	-54.63
Total	5,375.26	5,923.08	10.19	1,442.40	2,024.26	40.34

Booming smart industry

Upgrading plan of smart machinery and aerospace industry in central and southern region

In 2021, the CTSP and the Taichung Municipal Bureau of Economic Development jointly held the "2017-2020 Strengthening Regional Cooperation to Promote the Upgrading of the Smart Machinery and Aerospace Industry in Central and Southern Region" promotion results exhibition and smart on-site application lecture. A total of 27 cases of subsidies were granted under the scheme, and the 10 manufacturers that were subsidized during the scheme period were invited to set up booths to exhibit the R&D results on site, while CTSP shared the results of the subsidy scheme with the park

manufacturers Tan Kong Precision Tech Co., Ltd. and PRO MACHINERY CO., Ltd., and also invited Mitsubishi Electric and Advantech Co., Ltd. to share the successful experience of upgrading and transformation and the future trend of intelligent manufacturing, and show the implementation results of the plan, so as to encourage domestic manufacturers to invest in intelligent machinery and industrial upgrading, promote industrial transformation, and enhance national competitiveness.

From 2022, the CTSP Bureau will promote the acceleration of the new plan of industrial intelligent upgrading and digital optimization plan in the central region, hoping to continue to link the energy of production, education and research units in the future, and drive manufacturers to introduce innovative technologies to achieve intelligent machinery and intelligent manufacturing.

Innovation Plan for Biomedical Industry in the Central Region

Since 2019, the Bureau has promoted the acceleration of the biomedical industry innovation plan in the central region, actively used the niche of the precision machinery and optoelectronic industry in the central region, and guided the technical expertise such as automatic control, mechanical design, photovoltaic power measurement and intelligent robots to the smart medical and biomedical industries.

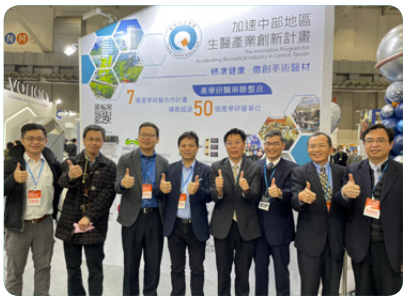
From 2019 to 2021, a total of 31 cases of approved subsidy plans were approved: 21 cases of subsidies for systematic and modular products and technologies, and 10 cases of product expansion subsidy plans. In addition, 26 cases of accelerated commercialization and integrated service counseling were completed, the innovative energy of industry, education and research and medicine was connected, and the practice of precision protection and treatment was accelerated.

On October 6, 2021, the CTSP conducted the analysis and exchange activity on the development opportunities of the biomedical new venture industry, hoping to help start-ups to have a broader understanding of product development or strategy formulation when considering entering the biomedical industry, and promoted more opportunities for gathering and exchanging talents who are interested in becoming biomedical talents.

In December, to participate in the "2021 Taiwan Medical Technology Exhibition", the CTSP and 7 manufacturers that implemented the project set up the "CTSP Precision Health Theme Pavilion" to present the results of the project in the form of a joint exhibition, and 7 manufacturers in the CTSP Park also set up booths to participate in the exhibition, showing the top technology and manufacturing energy in the fields of precision health, minimally invasive surgical materials, smart aids and other medical material products.

Analysis and exchange activities on the development opportunities of biomedical innovation industry

The keynote speakers exchanged views with the delegates.



The CTSP Bureau combined with 7 manufacturers that implemented the biomedical plan to set up the CTSP Precision Theme Pavilion to participate in the joint exhibition.

Accelerate the innovation plan of biomedical industry in the central region

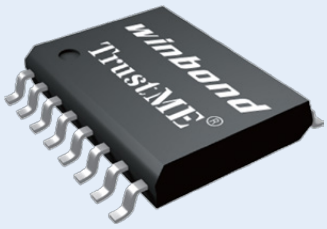
Emerging technology application programs and innovative products

In order to implement the policy axis of high employment growth and industrial innovation, and to encourage scientific undertakings to form alliances with different industries or academic forces to jointly engage in the research and development of emerging technologies, the CTSP Bureau will integrate existing resources and promote the "Ministry of Science and Technology Science Park Emerging Technology Application Program" from 2021 onwards, carry out cross-industry alliances guided by industrial demand, and at the same time introduce the strength of all walks of life of education and research to encourage industry-academic joint investment in the development of "industrial heterogeneous integration and key technologies", promote the cultivation of innovative technical talents, solve market problems, cultivate new start-ups and create talent value to achieve a win-win situation in which industrial innovation and transformation and derivative industry clusters are integrated.

In 2021, a total of 6 R&D subsidies were approved, and the amount of approved subsidies was NT$21.55 million. In addition, in order to encourage the manufacturers in the park to actively innovate and research and develop new products, a special award for innovative products of excellent manufacturers is set up.

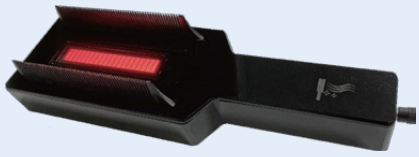
Innovative Product Awards 2021

IC- Winbond Electronics Corp



Photoelectricity -AUO Corporation, Taichung Factory

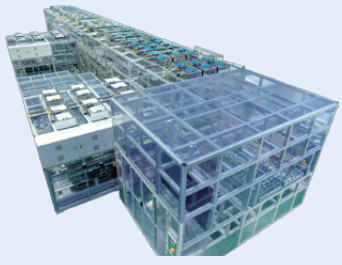
Photoelectricity- RAYSTAR OPTRONICS, INC.



Photoelectricity- H.P.B. HI-TECH CORP.

Precision machinery-UVAT Technology Co., Ltd., CTSP Branch

Precision machinery-Gallant Precision Machining Co., Ltd, GPM, CTSP Branch



Precision machinery-William Tools Co., Ltd.

Combined with industry-government, university and research

Technical Forum

CTSP Industrial Innovation Online Exchange Symposium - AI, intelligent manufacturing, optoelectronics, semiconductor fields

The CTSP Industry, Academia and Training Association was jointly established by CTSP and Chung Hsing University. It is one of the most important platforms for promoting industry, academia and training cooperation, promoting regional integration goals of industry -academia cooperation and establishing a cooperation network between manufacturers and the academic research community in Central Taiwan. Every year, the CTSP conducts forums, academic lectures and large-scale industry- academia employment fairs, etc., and will further continue to promote the industrial development of Central Taiwan and participate in industry-academia innovation activities, indirectly promoting cooperation between academia and industry.

Zhongxing University implements the industry-university-training technology exchange and matching plan of the CTSP Bureau, and in 2021, it held an CTSP online exchange symposium on industrial innovation-AI, intelligent manufacturing, optoelectronics, semiconductor fields, and discussed AI, intelligent manufacturing, optoelectronics, semiconductors and other fields from the perspective of industrial trends, hoping to provide a reference for the industrial development of park manufacturers, promote industrial transformation, and expand the effect of regional industrial settlements.

In order to promote the development of industrial innovation and application, 2 innovative technology forums and 1 industry-university media exchange meeting were also held, where scholars from relevant fields from many universities were present to publish innovative research results, and experts from manufacturers inside and outside the Park and research institutions of foundations were invited to share development trends, technology applications and practical experience, and to build a research and development matching platform between academics and industries, taking this opportunity to enhance and activate the industrial energy of the Park.

Innovative Technology Forum

Industry-Academia Alliance

In order to enhance the combination of Taiwan's robots and intelligent manufacturing, and promote the development of the robot industry, the Taiwan Robot Industry-Academia Alliance held a results presentation and exchange meeting in Taichung Precision Park on November 10, inviting experts from the industry to express their views on the future of the robot industry, and also invited representatives of qualified robot engineers in the academic community to the scene to express the operation results since the establishment of the qualified field, as well as the research technology trend and energy.

Robot Industry-Academia Alliance Results Presentation and Exchange Meeting

At this annual exchange meeting, everyone exchanged and observed each other, and through this opportunity, they jointly promoted the development of Taiwan's robot industry and contributed to industrial transformation.

Industry-academia matchmaking

Since its establishment in 2008, the CTSP Industry-Academia Training Association has successively held forums, academic lectures and large-scale industry-university-employment fairs to gather the energy of industry, government, education and research, which is an important platform for promoting Industry- Academia-Training Cooperation in central Taiwan. In recent years, it has actively participated in innovative activities in the industry-academia industry, and strengthened the competitiveness of the high-tech industry in central region through the integration of resources.

In 2021, the CTSP held the "Central Science Parks Industry-Academia Media Exchange Meeting, artificial intelligence and intelligent machinery innovation and application" activity, inviting experts and scholars in the field of artificial intelligence from multiple universities to share innovative research results, and encouraging manufacturers and research units to exchange innovative technology and practical experience, and building a research and development matching platform between academia and industry.

On the same day, about 459 industry-government-university-research units attended the event, with a total of more than 100 people actively attending, hoping to take this opportunity to drive the development of enterprises, with a positive cycle of industry-university cooperation, and enhance the industrial energy of the Park.

Industry-Academia Media Exchange Meeting

Central Taiwan Science Park Industry-Academia Training Association

Deepen international cooperation

Actively attract investment and external marketing

In order to continue to promote the development of Taiwan's high-tech industry, the CTSP Bureau is committed to domestic and foreign investment promotion and marketing, actively explore potential high-tech manufacturers, and drive them to understand the overall investment environment of CTSP, and in 2021, a total of 24 manufacturers was introduced to invest, with an investment amount of up to NT$8.984 billion.

In terms of domestic investment promotion, in 2021, 11 investment promotion briefing meetings was held in Zhubei Biomedical Park, Changhua Regional Industry-University Improvement Association, Plastic Center, Taichung Fuhua Hotel, Zhongxing University Optics Valley Forum, Changhua County Government, Zhongxing Park, Taichung Computer Association Membership Conference, 2021 Industrial and Commercial Service Industry Operation Observation Symposium and Joint Briefing Meeting to promote Industry-University Plans. In addition, for the marketing of CTSP, investment promotion and industrial promotion, the Bureau actively participated in large-scale exhibitions in Taiwan, including the 2021 Asian Biotechnology Exhibition and the 2021 International Semiconductor Exhibition, in order to show the business performance of CTSP and establish and strengthen the image of the high-quality park.

CTSP Erlin Park Investment Promotion Briefing Meeting Group Photo

Active attraction of investment

A total of 24 manufacturers were introduced to CTSP for investment.

Domestic investment

Held 11 investment promotion briefings.

CTSP Marketing

Participated 2021 Asia Biotechnology and International Semiconductor Exhibition to display the business performance of the CTSP and establish and strengthen the image of a high-quality park.

International integration and exchange

In 2021, the Asian Science Park Association (ASPA) adopted a virtual and real hybrid meeting in response to the epidemic and held the "2021 Science Park Innovation Exhibition and Leaders Roundtable" in Daegu, South Korea, where Korean VIPs attended the conference site, while the rest

of the VIPs participated remotely in the form of an online platform, attracting more than 280 science parks and enterprises from 15 countries to participate in the event.

In addition to the Science Park Forum and conference, the event also held an online exhibition, this time by Deputy Director Shi Wenfang representative. The meeting invited a total of 12 industry, government, education and research units to participate in the discussion. Deputy Director Shi shared the medium and long-term strategic views on cultivating new venture investment at the meeting, one is "continue to help start-ups enhance their own value", followed by "support the development of new innovation ecosystem", before learning from the leader, it is recommended to first analyze their own stage characteristics and topics, and then focus on the development of strategies. At the same time, it also needs the inflow of talents and funds, and CTSP attaches great importance to the cultivation of talents, precisely because excellent talents are an important indicator for the development of new start-up industries, such as promoting STEM (Science, Technology, Engineering, Mathematics) education, and cultivating young students with the ability to develop and explore their potential.

2021 Science Park Innovation Exhibition & Leadership Roundtable

In order to promote good sustainable development, the CTSP Bureau has joined domestic and foreign industrial and commercial organizations in order to enhance exchanges with various enterprises and obtain the latest industrial and commercial information.

CTSP Bureau Foreign and Domestic Cooperating Organizations

	Organization Name	Serving as
Domestic	Chinese National Association of Industry and Commerce, Taiwan	Member
	Taiwan Industrial Technology Association	Member
	Academia - Industry Consortium for Science Parks in Central Taiwan	Member
Foreign	Asian Science Park Association (ASPA)	Director
	International Association of Science Parks (IASP)	Member
	Association of University and Research Parks (AURP)	Member
	Federation of International Robot-Sport Association (FIRA)	Member

International Cooperation and Exchanges

New dreams come true

Innovation and entrepreneurship incentive program

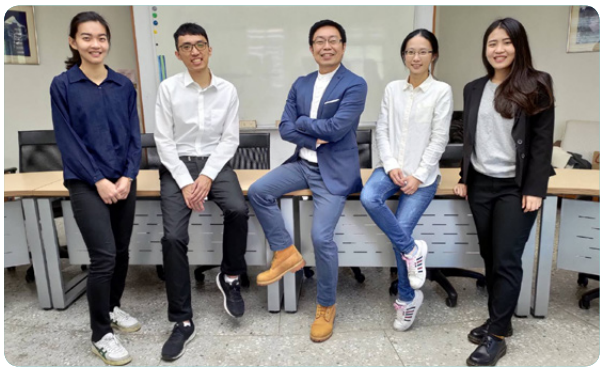
In order to implement the innovation economy and promote the transformation of the park, the Ministry of Science and Technology drives the "From IP to IPO (FITI) incentive program " to connect the gap between "innovation" and "entrepreneurship", to help the new start-up team to take off in their dreams. CTSP actively cultivates colleges and universities, excavates excellent technologies, and counsels to participate in the " From IP to IPO (FITI) incentive program " of the Ministry of Science and Technology, assists in transforming their ideas into feasible business operation models, and provides customized counseling for industry teachers to plan business models, link industries, market expansion, and entrepreneurial fields, and also provide the energy needed by the new start-up team in the early stage of entrepreneurship, and then continue to coach and grow through the accelerator, promote its growth into a scientific undertaking, drive the ecological chain of the new start-up industry, and become an important incubation base for accelerating the growth of the new start-up team.

In 2021, a total of 45 teams selected for the From IP to IPO (FITI) incentive program received CTSP counseling services, of which 3 teams won the Entrepreneurship Excellence Award, 5 groups won the Entrepreneurial Potential Award, 7 new start-up companies were introduced into CTSP, 3 were already park manufacturers. 45 teams were assisted to participate in the entrepreneurship competition to win awards or obtain government subsidy plans, and assisted the media in 2021 FITI team - TuringChain, VorteSonic, Asia Media Ping, Gao Yu Energy and Ruijia Technology and other 5 teams won TTA SV to the United States funding program, VM-Fi Sound Pulse Unlimited won the CES2020 Smart City Innovation Award, Terk Thinker was selected for the CES program and GasPay raised NT$1 million. We assisted 15 start-up matchmaking or linkages. In addition, CTSP has handled more than 8 media meetings, symposiums and Loser Alliance exchange meetings, and gathered new opportunities for new ventures in a diversified and cross-domain communication mode.

As of the end of December 2021, 19 groups of start-up companies have entered the innovation and entrepreneurship field, a total of 235 FITI selected teams have been coached, and 97 teams have established companies, and a total of NT$120 million has been raised to help start-up companies.

2021 FITI Winning Teams

Project	Stage 1	Stage 2	
Entrepreneurship Excellence Award NT$2 million/ team	Carbon Shiny Mater. Technol.	MicroGas	FITI
	VorteSonic		
Entrepreneurial Potential Award NT$250,000/ team	VM-Fi	Visionertech	
	WudanyiCity	Keedle Education	
	GAT Robotic		



CTSP New Venture Team Dreams Taking Off repeatedly achieved good results in the FITI Competition.

Integration of Technological Creativity and Self- production

Intelligent robot innovation base in the Park

With the purpose of "cultivating the talent needed by a new generation of future industries and allowing self-production education to take root" as the establishment purpose of the CTSP self-production hub, the construction of a basic environment for smart robots has been completed. The CTSP continues to cultivate talent through experiential learning integrated with self-production hubs within accelerators, cultivating cross-domain talents for smart robots. The vision is to create a one-stop innovation and entrepreneurial ecosystem, derived from industry upgrades, industry chains, accelerated cultivation and talent cultivation, as well as other major policy axes to promote the upgrading of the CTSP smart robot-related industries and improve the innovation and entrepreneurship ecosystem. By the end of 2021, it has attracted more than 60,000 visits.

In order to continue the policy mission, the CTSP self-production hub has publicly selected the Industrial Technology Research Institute as an independent operating team, which will continue to operate independently from 2021, thereby promoting the upgrading of smart robot-related industries in the CTSP and verifying the financial and economic feasibility of the proposed operating project and activity scale.

1 2017~2020
- Construct good ecosystem with solid foundation

2 2019~2020
- Service model verification before trial operation

3 2021~2023
- Commercial verification

4 2023+
- Continuation policy Sustainable development

In order to implement the mission of cultivating talents, CTSP Intelligent Robot Self-Manufacturing Base held a two-day "CTSP Self-manufacturing Base Winter Vacation STEAM Maker Camp" and a five-day "CTSP Self-manufacturing Base Winter Vacation Little Maker Camp", from which children were guided not to learn for the exam, but to learn for their own interests, "play in learning, learn

in playing". STEAM education originated in the United States, integrating science, technology, engineering and mathematics, practicing thinking from different perspectives, problem-oriented, solving problems through discussion, cooperation or hands-on work, and the course content will be combined with life to trigger children's curiosity to explore knowledge.

Through the base equipment, children can quickly complete handmade items, and use the curriculum to guide children to create their own unique works, without restrictions on material factors, the use of 3D printing, laser cutting and other tools, to achieve their own creativity, training children to take the initiative to own creativity, logic and technology and other skills.

In the future, the base will continue to handle STEAM education, makers, robot education, new innovation and many other courses, through the newly created educational methods to cultivate children's curiosity to think independently to solve problems, flip the unique thinking ability under the current education system. Let more children contact self-made equipment, and we look forward to opening up children's horizons.

CTSP intelligent robot innovation base fan page

Photos of the intelligent robot innovation base events

Safe Workplace

CTSP has been committed to attracting high-quality talents and building a healthy workplace in the Park, regularly holding talent recruitment activities, attracting all kinds of talents to join, actively cultivating high-quality R&D manpower, and promoting occupational safety and health seminars and other related work in the Park, handling various labor inspection plans and labor complaints in the Park, actively dealing with labor disputes in the Park, eliminating labor disputes with appropriate laws and reasonable solutions, combining various activities to publicize, implementing the protection of labor rights and health, and creating a balance between the physical and mental health of workers to promote a healthy working environment in the workplace.

Corresponding Material Topics

Safe Workplace Audits

Corresponding SDGs

Management Objectives and Policies

- Establish a good working environment to attract talent to work in the Park.
- Prevent manufacturers from violating human rights and labor-related laws and regulations, and reduce occupational safety risks.
- Carry out the cultivation subsidy plan and provide new creation and cultivation resources.

Responsible Units

Environment and Labor Affairs Division

Invested Resources

- The Environment and Labor Affairs Division undertakes the general publicity of labor laws and regulations, and carry out inspections of park manufacturers.
- Organizes labor law promotion meetings, labor conditions inspection, labor supervision and inspection, occupational safety and health-related project counseling plans, occupational safety and health-related laws and regulations training and briefing sessions.
- Handle the Science Park Talent Cultivation Subsidy Program and Science Park Professional and Technical Talent Training Program.

Complaints Mechanism

Whistleblower Hotline : 04-25658588, Director-General's mailbox, and communications from other agencies

Management System and Evaluation Mechanism

- Inspections of the labor conditions of park manufacturers are conducted in accordance with the Labor Standards Act, Act of Gender Equality in Employment, Labor Pension Act, Labor Insurance Act, Employee Welfare Fund Act and other related laws and regulations.
- Implement labor supervision and inspection in accordance with relevant occupational safety and health regulations.

2021 Performance

- Held 43 various talent recruitment activities.
- Organized 3 labor law promotion meetings and conducted 73 labor conditions inspections (including gender equality inspections).
- Implemented a total of 12 special inspection plans and 781 labor supervision and inspections under the labor supervision and inspection plan.
- Handled 3 occupational safety and health related project counseling plans, and 15 occupational safety and health related laws and regulations training seminars.

Creating Career Opportunities

Talent recruitment activities

Manufacturers' joint recruitment event

2 events

On April 17 and November 20, 2021, two Manufacturers' Joint Recruitment Events were held with the Taichung City Employment Services Office. A total of 24 companies offered more than 1,400 job vacancies, with a matching rate of 49%.

Single-manufacturer recruitment event

41 events

With the Workforce Development Agency of the Ministry of Labor, Yunlin-Chiayi-Tainan Branch and the Taichung City Employment Services Office, we assisted park manufacturers to hold single-manufacturer micro-talent events to meet their individual manpower recruitment needs.

Recruitment event group photo

Constant stream of job-seekers at the recruitment event

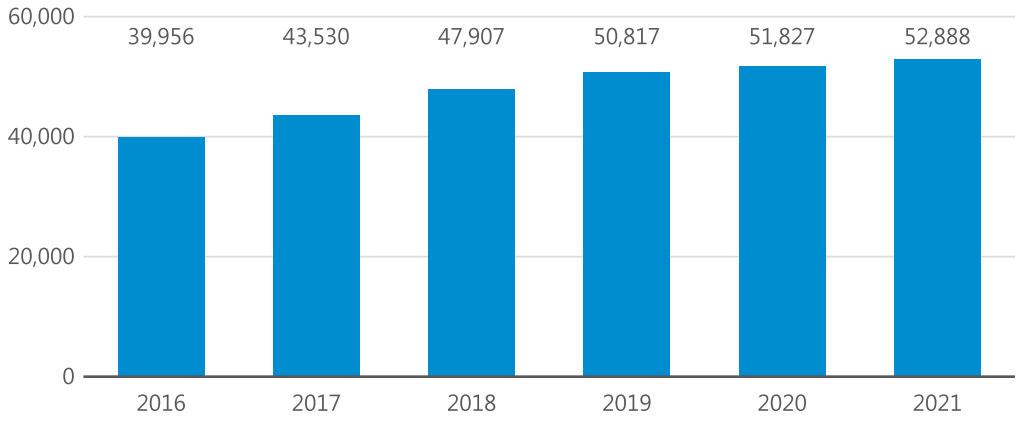
Talent recruitment

Employment Demographics

As the number of CTSP manufacturers has grown year by year, the number of employees in the Park has also continued to increase. In December 2021, the number of employees has reached 52,888, an increase of 2.05% from 2020. The semiconductor industry accounted for 43.33% of the number of employees, followed by the optoelectronics industry with 32.44%. According to the distribution of education level, the proportion of employees with a college degree or above was as high as 79.88%, while by gender, the proportion of males and females was 65.99% and 34.01% respectively.

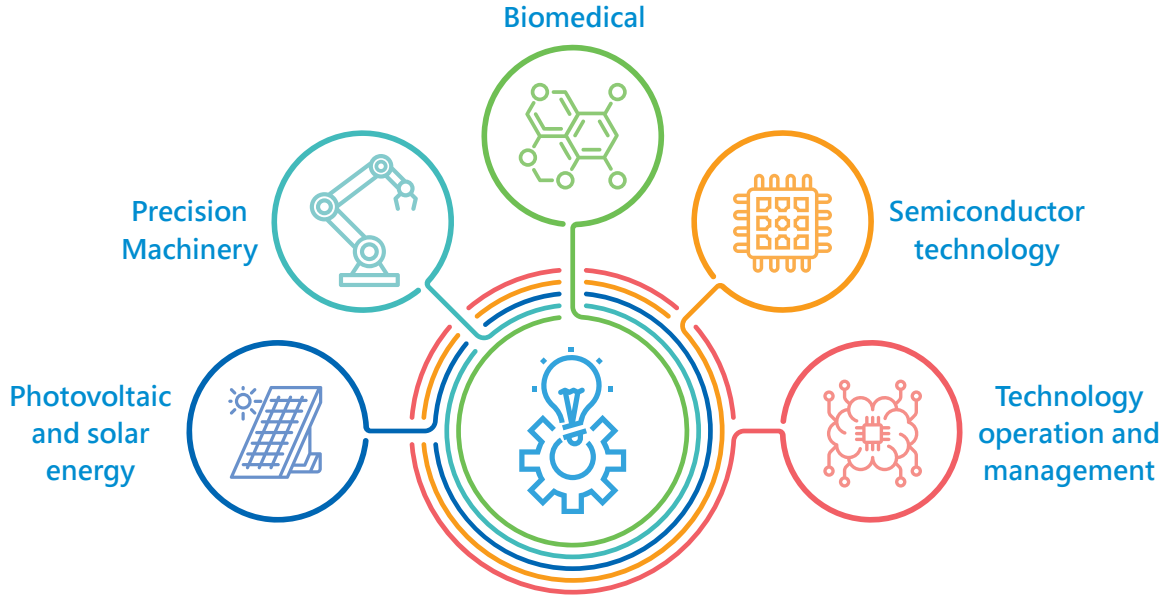
As of the end of 2021, 26 manufacturers have entered the first phase of the Erlin Park. With the continuous increase in the number of manufacturers, the number of employed people will continue to increase in the future, resulting in the promotion of local prosperity.

CTSP Employee Statistics Table



Cultivating Talent

In order to meet the needs of park manufacturers for recruiting and training technical personnel and to improve the professional knowledge and skills of CTSP Park manufacturers' employees, the CTSP Bureau continues to hold the CTSP and Advanced Research Park Professional and Technical Personnel Training Program every year, and totally developed the photovoltaic and solar energy fields, technology operation and management field, semiconductor technology field, biomedical field and precision machinery industry. There are also five types of courses in the field of precision mechanics. Not only do they provide multiple learning channels for the employees of the park manufacturers, but also assists manufacturers in the Park to improve the quality of on-the-job manpower and cultivates outstanding professional and technical personnel, building the core and key capabilities of the employees in the Park. In 2021, the Bureau continued the original physical courses and offered a total of 36 training courses in 5 categories, with a total of 811 attendees. The Bureau also begun to promote digital learning courses, focusing on other science and technology, and business management fields, providing convenient access for employees in the Park. The online learning method effectively saves time and space, and achieves the purpose of high-efficiency learning. Some courses were conducted online because the impact of the epidemic, the overall satisfaction survey index of the students after class is still over 95.36%, and the average satisfaction of the course content to work practicability and promotion of future development is over 97.57%, showing that the course content and execution quality of this program as a whole meet the needs of employees and manufacturers.



Talent Cultivation Subsidy Program

All colleges and universities around the Park were encouraged to jointly offer modular and corporate internship courses through industry-academia cooperation. The practical needs of manpower in the technology industry were mastered, and practical experience through corporate internship opportunities were increased. In addition, through corporate internship opportunities increase practical experience, enhanced the employment function of prospective graduates, shortening the gap between the workforce in the science and technology industries, effectively filling the manpower gap required, thereby implementing the program for high-quality talent taking root. In 2021, subsidies for a total of 12 module courses and corporate internship courses in 9 schools, with a subsidy amount of NT$8 million was approved, and it is estimated that the total number of trainees reached 890.

Park Labor Rights

Labor rights promotion

The CTSP Bureau is committed to building a friendly park. In 2021, a total of 3 publicity meetings were held on the Labor Standards Act, Act of Gender Equality in Employment, and the Regulations for the Allocation and Management of the Workers' Retirement Reserve Funds. The Employment Discrimination Review and Gender Employment Equality Committee was also set up. If any gender equality complaints are received, a meeting is to be held for deliberation in order to build a friendly workplace in the Park. On the other hand, the Bureau cooperates with the Ministry of Labor to handle various labor condition inspection plans and labor complaints in the Park, and continues to strengthen labor condition inspections to ensure the protection of labor rights. Regarding labor disputes in the Park, the Bureau adopts a positive mediation attitude, guiding both labor and management to follow the law, eliminating labor disputes with appropriate laws and reasonable solutions.

In addition, in order to promote the proper leisure activities for employees in the Park, cultivate sports atmosphere, promote physical and mental health, and strengthen team spirit, the Bureau held the "CTSP Cup Softball Competition" with home runs and team games in 2021, so that employees have the opportunity to exercise and relieve work pressure, and also cultivate each other's understanding!

The last key swing of the AUO Tiger, flying high against the wind!

Champion: AUO Optoelectronics, Taichung Factory, AUO Tiger

Workplace Equality

The CTSP Bureau guarantees equal employment opportunities for employees in its jurisdiction, prevents employers from discriminating against job applicants or employees, or has gender-based unfair treatment, and eliminates gender discrimination in the workplace. Article 2 of the Implementation Rules of the Employment Service Act and Article 5 Item 1 of the Gender Equality in Employment Act stipulates the establishment of the Employment Discrimination Review and Gender Employment Equality Committee of the Central Taiwan Science Park Bureau under the Ministry of Science and Technology. In 2021, one such review meeting was held, and in the meeting, in addition to the explanation of the Park's gender equality work, two case of gender equality appeals was considered. (The result of the review was that the Gender Equality in Employment Act was not violated.)

On October 12, 2021, in order to strengthen and implement related human rights issues, the Bureau followed The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and conducted a seminar on the promotion of workplace equality related laws and regulations. The lectures included the Act of Gender Equality in Employment, the prevention of sexual harassment and other related laws and regulations. The Taichung City Government Health Bureau was also invited to promote Creating a Friendly Breastfeeding Environment in the Workplace in order to enhance the professional knowledge of the manufacturer personnel and promote the equal employment rights in the workplace. There were 12 manufacturers participating in this seminar.

This Bureau actively counsels park manufacturers to promote equal rights in the workplace, and annually organizes the Outstanding Public Institution evaluation activity on Promoting Equal Rights in the Workplace to encourage enterprises to actively implement labor laws and regulations and build a harmonious working environment. In the 2021 event, Taiwan Nitto Optical Co. earned the

Special Award and AUO Crystal Co., and AUO Co. the Outstanding Award. In addition to statutory matters, the promotion of other workplace equality issues includes the promotion of gender wage equality and the Female Executives Association, flexible work arrangements, priority parking spaces for pregnant women and exclusive dust-free clothing, etc. The intention to promote equal rights in the workplace can be seen everywhere.

Labor Complaints Status

Inspections of the labor conditions of public institutions in the Park are continuously implemented in accordance with labor complaints, the Ministry of Labor's project inspection plan and custom inspection plans. The inspections check for violations of the Labor Standards Act, Act of Gender Equality in Employment, Labor Pension Act, Labor Insurance Act, Employee Welfare Fund Act and other laws, which stipulate that if there are violations found, the business unit will be notified to immediately improve and be punished according to law.

A total of 59 labor complaints were received in 2021 (reporting public institutions for violating labor laws and regulations). For those complaints which were suspected of violating the law, personnel were dispatched to perform labor condition inspections. Among these, a total of 25 were fined in accordance with the law with 9 cases related to overtime work, 10 cases not paid for overtime work, and 6 violations of the Labor Standards Act. In addition, notice was sent to the complainant of the inspection results and the circumstances of the ruling, and the business units were also instructed to make improvements. The other 34 cases were as a result of the complainant's misunderstanding of the laws and regulations and no violations of the law were found. The relevant regulations were explained in detail in reply to the complainant. In 2021, a total of 73 labor conditions inspections (including gender work equality inspections) were conducted, and 25 cases were fined according to law. Of these 11 cases were for overtime work, 8 cases were not paid for overtime work, and 6 cases were of other violations of the Labor Standards Act. In 2021, there were no violations of regulations on gender equality in work, employment discrimination, etc. by the park manufacturers.

CTSP Bureau Contact Information

Creating a Safe and Healthy Park

In advocating occupational safety and health, counseling, and performing labor inspections, the Park adopts a one-stop service and advance safety assessment and guidance mechanism through information technology to strengthen business units' self-management and expansion of the full staff participation mechanism. In addition, diversified use of disaster prevention resources is utilized in order to effectively improve the overall safety and health standards of the Park, promote labor health and labor inspection efficiency, and construct a safe, healthy, and humanized labor environment.

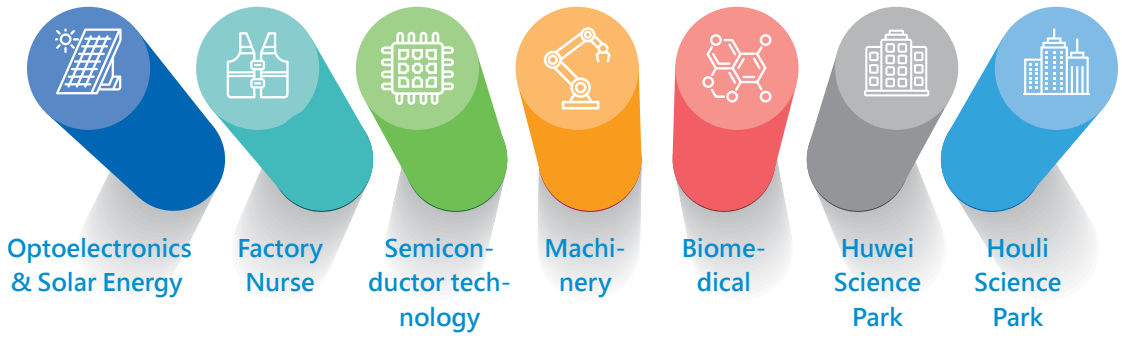
The health and safety status of workers in the CTSP in 2021 was as follows : There were 104 disabling injuries at a frequency rate of 1.09 and a severity rate of 15. There were 0 deaths attributed to work-

related occupational disasters. In addition to conducting occupational disaster investigations in accordance with the law and writing a report to the Occupational Safety and Health Administration of the Ministry of Labor for review, counseling was given to the public institutions to make improvements and strengthening the concept of occupational safety and health. Related occupational disaster cases are expanded to publicize the knowledge of the park manufacturers to review similar risks in the factory and take preventive measures to prevent the same disaster from recurring.

Occupational Safety Advocacy

In order to promote a culture of industrial safety in the Park, the CTSP Bureau actively counsels the CTSP Association for Occupational Safety and Health Promotion which is divided into seven major occupational safety families. Through the method of large factories leading small factories, regular meetings are held every quarter to promote safety and health laws, exchange disaster prevention information, share safety and health management experience, discuss chemical management and emergency response to accidents, and mutual support for rescue facilities, etc., giving full play to the role mutual support plays in emergency response to accidents.

Seven Major Occupational Safety Families



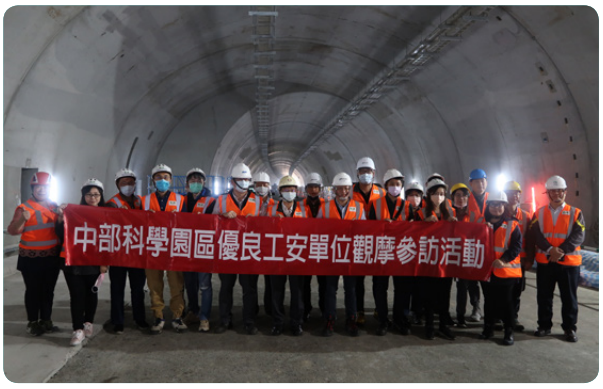
Implementation Status of Occupational Safety and Health in 2021

Project Counselling Plan	3 plans
Laws and Regulations Training and Briefings	15 sessions
Workplace Safety Performance Unit and Health Promotion Visits	1 session
Occupational Safety and Health Seminars	1 session
Labor Supervision and Inspection Plans	12 items
Labor Supervision and Inspections	781 sessions in which 47 were found in violation of Occupational Safety and Health Act, with 17 work suspensions

Occupational Safety and Health Seminar

Smart Technology Occupational Safety and Health Exhibition

Toxin and Chemical Disaster Professional Response Operation-level Training



Visits of Outstanding Industrial Safety Units

Physical and Mental Wellbeing of Park Workers

The CTSP Bureau's industrial and commercial service building has an employee clinic on the first floor of the Central Taiwan Science Park. It is operated by the affiliated hospital of China Medical University. It also has outpatient clinics for occupational medicine, Chinese and Western medicine, and rehabilitation. In 2021, there were a total of 17,370 outpatient visits. In addition to outpatient clinics, it also handles various health promotion advocacy such as first aid education and training for personnel, breast ultrasound exam, pap smear test, adult health exam, abdominal ultrasound, oral cancer prevention, sports, mental health, physical fitness, vaccination, and other lectures and consultations, etc. Professional medical doctors are also invited to the Park companies with 3,136 special consultations conducted in 2021 for the physical and mental health of the workers in the Park and improving the occupational health promotion work of the park manufacturers.

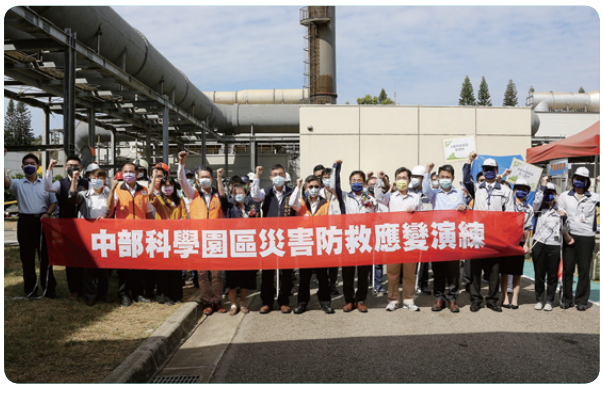
Disaster prevention drills in the Park

On November 1, 2021, the Bureau, together with the Environmental Protection Bureau of the Taichung Municipal Government and Nitto Optics Co., Ltd. of Taiwan, jointly held the "2021 Annual Disaster Prevention and Response Drill of The CTSP", in which the disaster situation caused an accidental collision between the stacker and the truck vehicle caused by an earthquake, resulting in the truck driver being trapped in the car, catching fire and the toxic chemical butyl acrylate leakage accident.

Considering the epidemic situation and site restrictions, the number of on-site observers is limited, in order to allow those who cannot attend the scene to observe the drill process, for the first time, the drill process was synchronized on the network for online live broadcast, so that those who could not participate in the field observation could also participate in the drill together.

This year's disaster prevention and rescue drills were affected by the epidemic, and the scale of the drills was reduced a lot, however, while fighting the epidemic, the work of disaster prevention and emergency response was still not neglected, and the drill process was very compact and realistic, which fully showed that when the accident occurred, the manufacturers completed the notification, fire extinguishing, leakage and other operations in a timely manner, and the manufacturers in the downwind also practiced emergency evacuation operations. After the relevant support units arrived at the factory, they immediately carried out personnel rescue, water mist protection, perimeter environmental detection and environmental reconnaissance.

The CTSP also used the established chemical database to quickly grasp the chemical allocation around the scope of the accident and the number of rescue equipment that could be supported by the joint defense manufacturers, and provided relevant units to conduct disaster assessment and rescue strategies, so that the disaster could be controlled one step faster. The participating units included Taichung fire bureau, Environmental accident technical team of central district of Environmental Protection Department, Park police team, staff clinic, Taichung park sewage plant and joint defense manufacturers, etc., a total of 13 units, more than 60 people participated in the drill.



2021 CTSP Emergency Response Joint Defense Drill

Firefighters are on alert with water mist protection.

Social Interaction

To create a friendly park with ecological coexistence and co-prosperity, and to encourage exchanges between the park manufacturers and the surrounding areas, the CTSP Bureau regularly conducts environmental monitoring to minimize the impact of park operations on the environment, and at the same time handles the visits of the neighbors, enhances the exchanges between the park manufacturers and neighboring communities, and develops the park functions more completely and conveniently for the public. In addition, it also continues to promote environmental education, develop educational curriculum programs, assist in the development of education in fields related to intelligent robots, and actively cultivate domestic students.

Corresponding Material Topics

GRI 203 : Indirect Economic Impacts (Park Infrastructure Construction)

Corresponding SDGs

Management Objectives and Policies

- Strike a balance between economic growth, environmental protection and social harmony.
- Construct software and hardware facilities in the Park to improve the quality of services and continue to implement the work of good neighborliness.

Responsible Units

Environment and Labor Affairs Division, Land Development Division, Construction Management Division

Invested Resources

- Plan the construction of the Park according to needs.
- Organize various labor recreational and welfare activities.

Complaints Mechanism

Toll free hotline for environmental complaints : 0800-777795, Director-General's mailbox

Management System and Evaluation Mechanism

- Smart Sustainable Development Plan for the Science Park

2021 Performance

- Completed the setup of 179 wireless network hotspots in the Park. The whole project was accessed 1,320,462 times by the end of 2021.

2021 Performance

- The total number of passenger rides on the CTSP Shuttle Bus reached 87,944 in 2021, which is equivalent to a reduction of 87 metric tons of CO_2e emissions.
- From the first date of operation to the end of 2021, the electric vehicles in Huwei Park have provided 4,383 rides and traveled 10,700 kilometers.
- A total of 38 environmental education activities in Taichung, Huwei and Houli Park Sewage Plants were conducted, with a total of 939 people participating.
- The CTSP and the Community Development Association held beach cleaning activities, with a total of 132 participants.

Convenient Life in the Smart Park

Intelligent park

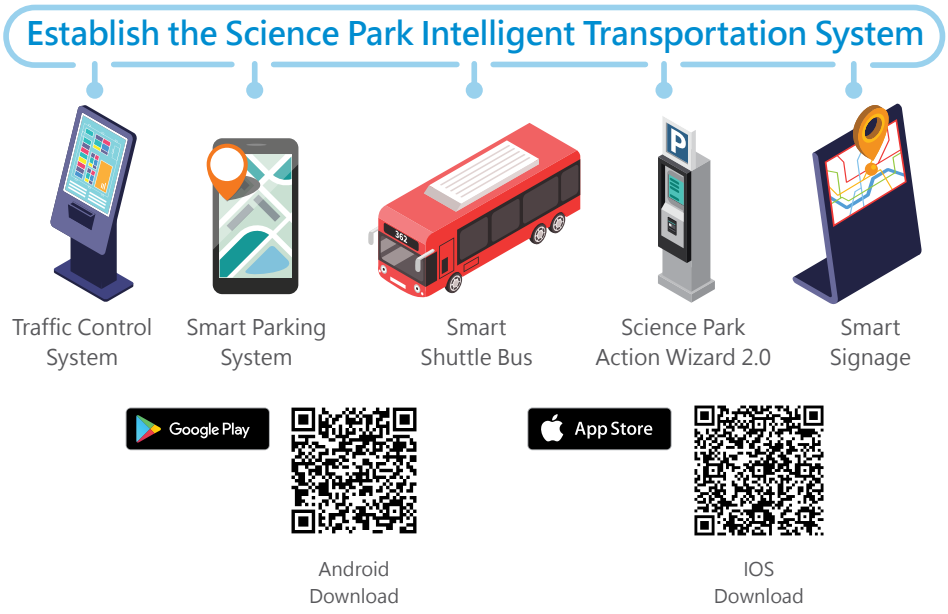
Every inch of land in the CTSP is continuously managed by Bureau personnel. In order to allow the park manufacturers, visiting guests and the public to enjoy a good network environment, business services, park art appreciation and detailed traffic information, the Bureau builts the following facilities:

Free Wi-Fi in the Park	Wi-Fi hotspots have been set up in the public spaces of the CTSP for the convenience of park manufacturers, visitors and employees to use the Internet for free. To date (December 2021) of the project, a total of 179 wireless network hotspots have been completed, with an achievement rate of 293%, and has been accessed a total of 1,320,462 times (from December 2016 to the end of December 2021).
Business Service Platform Website	A total of 29 manufacturers have been stationed in the Bureau's Industrial and Commercial Service Building by the end of December 2021, with an occupancy rate of 96.48%, encompassing financial, medical, employment, postal, transportation, catering, corporate finance, as well as accounting and law firms and other related industrial and commercial service industries, enhancing operational efficiency. In order to enhance the industrial and commercial service information of each Park, the Bureau established the Business Promotion Platform Website. This platform has three main functions: Mobile App download, industrial and commercial service information and related links.

Online Platform for Smartphones

Business Service Platform Website

Bonded business management system	1. In order to enhance the efficiency of administrative services and cooperate with the "Measures for the Administration of Bonded Business in Science Parks" to be amended and promulgated on 4 June 2020, to facilitate the implementation of business and the principle of consistency, after reaching consensus between the Bureau and the Customs Department of the Ministry of Finance, the Customs office in the three Parks and the Science and Industry Association of Taiwan Science And Industry Parks, the "Key Points of Bonded Business Operations in the Central Science Park" and the "Key Points of Inventory Operations in the Central Science Park Business" were revised and issued on 4 October 2021 for manufacturers to follow. 2. The bonded business management system is established in line with laws and regulations. The system includes operations for exporting bonded goods, commissioned processing operations for bonded goods, scrapping operations for bonded goods, and operations for transferring (yielding) bonded machinery and equipment, etc. In 2021 the total number of applications was 373. 3. This simplifies the process of coordinating with the revision of the law. For example, the cases of bonded goods leaving the zone are checked through the system, and the cases that belong to the customs review are filtered, and they are directly sent to the customs review terminal by electronic transmission to speed up the review.
CTSP Art Tour: Smart Digital Surround- View Guide	In response to the development and operation history of the CTSP and the humanistic care contained within, the achievements of past public art projects are continued with digital collection import technology aimed at local memories and intellectual assets in five dimensions: people, culture, land, property, and scenery. In the first stage, a total of 8 public art works in Taichung Park and 2 in Houli Park are expected to be incorporated into a 3D Smart Digital Surround-View Guide to CTSP, so that VIPs and those unable to visit the Park in person can enjoy it online. The beauty of the art works in the Park, and the establishment of a 3D Guide Info Station in the Park, guides visiting VIPs and the public to cross the limitations of time and space, helping them enjoy the beauty of CTSP through 3D virtual reality surroundings at specific scenic spots, creating a benign science, technology and humanistic interaction, thus achieving the purpose of expanding the benefits of the public art installation project. In the future, we will continue to introduce the Bureau's public buildings, parks and other cultural landscapes in Taichung, Huwei, Houli, Chising, Erlin and Chung Hsing Parks into this 3D smart scenic spot guide system.  CTSP Art Tour QR Code

Smart Transportation System	The CTSP Bureau has developed a smart transportation system in the Park, containing real-time links to traffic information management, public transportation and parking lots. As of December 2021, the Science Park Action Wizard 2.0 had been downloaded more than 68,000 times. The Huwei Park electric vehicles have served 4,383 passenger rides and traveled 10,700 kilometers, while the CTSP shuttle bus has provided a total of 87,944 passenger rides, which is equivalent to a decrease of 87 Metric tons of CO_2e emissions. (Calculation method: Referring to the public information of the carbon footprint website of the Environmental Protection Administration of the Executive Yuan, the emission coefficient of motor gasoline is 2.361kg/liter. Based on this, it is calculated that when the use of cars is transferred to the use of public transportation, about 1.3kg of carbon emissions is saved per trip. In addition, referring to the calculation data of carbon reduction on the iPASS website, the carbon reduction per trip from the use of cars to the use public transportation is 1.61kg. To sum up, in order to conservatively calculate and avoid data overstatement, the emission of 1kg per trip is adopted as the calculation standard.) 
Customs clearance of the new electronic visa system	The new e-Service System for customs clearance of imported and exported goods in the Park is now online, which further enhances the convenience and accuracy of the park business. The system can precisely facilitate the application of the three- in-one format of import and export trade customs clearance information, the active message transmission module, and bidding customs clearance system, forming the highly digitalized park service operations. In 2021, there were a total of 250 visa applications for various types of export and entry permits.

Park Construction

In order to make Park functions more convenient and complete, providing banking, convenience stores, restaurants, large conference halls, and entertainment venues, the CTSP continues to improve related construction and services in the Park. The following were completed in 2021:

Project：Taichung Park - Smart Intersection Collision Avoidance System

In order to improve the problem of collisions between right-turning cars and straight-forward motorcycles, the "Intelligent Intersection Collision Avoidance System" was set up at two important intersections in Taichung Park in 2021 to provide warning information to vehicle dynamics through sensing equipment to provide warning information before collisions, effectively improving road traffic safety in the Park, and traffic accidents in 2021 was reduced by 37.5% compared with 2020.

Project：Taichung Park - Digital Technology Parking

From November 1, 2021, digital technology was introduced into each parking lot, all of which used 3D license plate recognition, and the payment system would provide multiple convenient payments, and the online mobile payment system can also be used, eliminating queuing, saving time and convenience. In addition, we will provide parking space location inquiry services to quickly find a car and provide more convenient services.

Project：The City Transport Bus in Erlin Park was launched

The "Changhua-Erlin (via National Highway No. 1)" express bus route is to meet the commuting needs of manufacturers and personnel in Erlin Park, and to encourage people to take public transport and promote local development, and it was officially opened on September 28, with a total of 13 stops, 35.7 km, different from the traditional route, saving about 30 minutes of time, people can quickly travel from Changhua City to CTSP Erlin Park.

Project：Improvement of the meeting space of the CTSP

In addition to setting up a high chair next to windows in the business zone on the first floor of CTSP, so that visitors can quietly experience the natural beauty, and a new "Quality Moment Review" photo wall has been set up in the corridor in front of Conference Room 101 on the first floor, allowing visitors to experience the past times since the CTSP's Grand Opening and enhance their awareness and goodwill of the history of CTSP.

Good neighborly and friendly environment

In order to enable neighbors to understand the Park, the Bureau conducts visits to Taichung, Houli, Huwei, Erlin and Zhongxing parks every year to enhance exchanges between the park manufacturers and neighboring communities, and in 2021, it had a number of labor recreation and welfare activities, such as CTSP Cinema, beach cleaning activities, softball competitions, environmental education, etc. to promote the physical, mental and spiritual well-being of park staff through activities.

Beach cleaning activities

The CTSP and the Community Development Association have been entering their 8th year of beach cleaning activities, and on September 11, they jointly removed garbage from the beach next to the Guake Ecological Park in Da'an District, with a total of 132 participants. This year, due to the impact of the COVID-19 epidemic, the scale of handling was reduced, but for the survival of coastal and marine life, the maintenance of coastal cleanliness, the care of the environment with practical actions, we still organized beach cleaning activities, and the implementation of the real-name system, temperature taken at the entrance to the venue and hand disinfection, and participants needed to wear masks throughout the process. The activities were a little tough than before, but the efforts to protect the environment were not reduced at all!

2021 Da' an Beach Clean-up

Health Risk Assessment and Epidemiological Investigation

According to the four major health risk assessment steps in the Technical Guidelines for Health Risk Assessments announced by the Environmental Protection Agency, this Bureau conducted five health risk assessments in Taichung Park, four in Houli Chising Park, and one in Erlin Park in 2021. Taking into account the operating needs of park manufacturers, Chising Park will continue to implement health risk assessments from 2021.

In order to take care of the community residents, Chising Park has continued to implement the Good Neighbor Health Care Project for residents in Houli District and Da' an District since 2011, providing free health checkups for eligible residents. In 2021, 42 advocacy sessions, 897 telephone interviews and 764 health check-ups were conducted. From 2011 to 2021, a total of 316 publicity sessions, 6,660 telephone interviews and 4,918 health check-ups were handled. In addition, after Chising Park started operation, an epidemiological follow-up survey is conducted every 5 years. As of 2021, a total of 2,235 questionnaire surveys and blood biochemical tests have been carried out.

Implementation of the Good Neighbor Health Care Project

Keeping Watch: The Water Environment Patrol Team

The CTSP Bureau was invited by the Environmental Protection Bureau of Yunlin County to set up the Water Environment Patrol Team at the Huwei Science Park Sewage Treatment Plant. In addition to providing environmental protection expertise, experience and technology, the CTSP Bureau also uses the Patrol Team to perform the work of guarding adjacent rivers and waters, effectively grasp the changing trends of river water quality and quantity, and increase the environmental sensitivity of the patrol team through the gradual accumulation of local river inspection experience. Subtle changes in the river can be detected and notified as soon as possible to prevent illegal discharge or dumping by industry or public, implementing the effectiveness of good neighborly relations. This year, 53 patrol tasks were carried out.

River Patrol Team - Clean Stream Activity

Environmental Education Activities

CTSP Bureau's sewage treatment plants in Taichung, Huwei, and Houli Park have all been certified by the Environmental Protection Agency as environmental education facilities. They actively promote environmental education to make local residents better understand the role of sewage plants, and at the same time take root in the development of elementary and middle school education courses, run certification courses, invite students from neighboring schools to participate in course programs and provide suggestions for improvement, convey the function of environmental protection and education of sewage treatment plants. The plants not only achieve the effect of close friendship and good neighborliness, but also serves the purpose of environmental education. In 2021, a total of 38 environmental education activities in Taichung, Huwei and Houli Park Sewage Plants were organized, with a total of 939 people participating.

Taichung Park Sewage Treatment Plant

Environmental education courses	Environmental education related visits	General visit activities	Neighboring environmental education partners to promote related activities
118 people in 3 sessions	84 people in 4 sessions	64 people in 64 sessions	20 people in 1 sessions

- Signed a memorandum of cooperation with 13 environmental education units in Central District, including AUO Perpetual Foundation and TSMC 15 Factory units.
- Continuously develop 1 set of adult professional field lesson plans, and maintain 2 sets of environmental education courses.

Houli Park Sewage Treatment Plant

Environmental education courses	General visit activities
268 people in 10 sessions	78 people in 3 sessions

- On April 1st, Children's Day, in conjunction with the partner schools, set up stalls at Neipu Primary School to effectively advocate the importance of water reuse and understand sewage treatment in the form of designing break-in activities.
- Signed a letter of intent and memorandum of cooperation with 8 neighboring schools and 10 adjacent environmental education facilities, and has joined the Central Environmental Education Alliance, and will actively negotiate cooperation with park manufacturers in the future.
- On November 18, the environmental education certification site was postponed.

Huwei Park Sewage Treatment Plant

Environmental education courses	General visit activities	Outdoor teaching activities
244 people in 11 sessions	33 people in 1 sessions	30 people in 1 sessions

- On April 29, the environmental education certification site was postponed.
- Signed memorandums of cooperation with 17 neighboring units, including elementary schools (9), communities (2), and environmental education fields (6).

Environmental Education Curriculum Experience - Washington Elementary School

Making Training Plans for Professional Fields - online study courses with Taichung University of Education

Making Training Plans for Professional Fields - online study courses with Tunghai University

Lesson Plan Experience- New Taipei City Environmental Protection Bureau Cleaning Team - Drinking Water to know Sources

Lesson Plan Experience – Houli elementary school – "When we mix together"

Lesson Plan Experience - National Torao Senior High School - Water! Water! A lifetime~

Outdoor Action Teaching (Ruifeng School, Meishan Township, Chiayi County)

Promotion Activities - World Earth Day - 2021 Love the Earth Yunlin Feiyang Stall Advocacy

Promotion Activities - Children's Day Games in Nei Pu School

Cultivate talents to lay out the future

Environmental protection tracking and supervision

According to the Environmental Impact Assessment Enforcement Rules, the competent authority of the purposed business should track the activities during the process or after the completion of the development. Therefore, the Ministry of Science and Technology established an environmental impact assessment tracking team for the development of the science park, which is composed of experts, scholars, and representatives of the park manufacturers and agencies. In 2021 they performed 1 follow-up meetings to this Bureau.

Before the development of the CTSP Park, the environmental impact assessment documents were submitted for review in accordance with the Environmental Impact Assessment Enforcement Rules, and the Environmental Impact Assessment briefing was handled in accordance with the procedures. Active communication with all walks of life, and the review was passed, the Environmental Assessment

documents and commitments were indeed followed. Taichung, Houli and Erlin parks were all handled in accordance with the key points of environmental protection supervision, and an environmental protection supervision team was established. A total of 16 experts and scholars (including environmental engineering, soil and water conservation, and health risks), 13 NGO representatives, 24 local leaders and 4 representatives of local authorities, 4 representatives of manufacturers, and 61 external committee members participated in order to enhance the extensive participation of environmental protection supervision, regularly hold supervision meetings, and continue to track the development of the Park.

2021 TSP Development plan environmental assessment review, tracking and supervision meeting handling situation

Organizer	Category	Conference Name	Sessions
Environmental Protection Agency	EIA supervision On-site inspection	On-site inspection of environmental impact assessment and supervision of the environmental impact specifications of each Park's development plan	1
Ministry of Science and Technology	Environmental Assessment Tracking	Environmental Impact Assessment Tracking Group for the Development of Science Parks of the Ministry of Science and Technology meeting	1
CTSP Bureau	EIA supervision	Central Taiwan Science Park Taichung Park Environmental Protection Supervision Group meeting	4
	EIA supervision	Central Taiwan Science Park Houli Park (Houli Base and Chising Base) Environmental Protection Supervision Group meeting	4
	EIA supervision	Central Taiwan Science Park Erlin Park Environmental Protection Supervision Group meeting	2
Total			12

Houli Park Environmental Protection Supervision Group 4th Meeting

Environmental Assessment Tracking Team Meeting of the Ministry of Science and Technology - Taichung Park Site Investigation

Environmental protection business

Handling of environmental protection petition cases

This Bureau has set up a free environmental protection complaint hotline - 0800-777795, which is manned 24-hours a day by special personnel, and to then go to the scene to conduct inspections and handling operations. In 2021, a total of 10 complaints from the public were accepted, including

7 complaints about air, 2 for noises, and 1 of abandonment. The Bureau immediately went to deal with the issues after receiving the petitions. All petition cases in 2021 have been closed.

Environmental quality monitoring

In order to effectively prevent pollution emissions and minimize the impact of park operations on the environment, the CTSP Bureau conducts various environmental monitoring every year in accordance with the environmental monitoring plan contained in the EIA document, including airquality, noise, vibration, and water quality, surface water quality, groundwater quality, sediment, soil, ecology, traffic volume and cultural assets, etc. Of these, 1,963 monitoring sessions were conducted in 2021. The environmental monitoring results of this Bureau are open and transparent, and are published on the CTSP Park Environmental Information Integration Network for public viewing.

In order to understand the current status of various environmental factors other than the environmental assessment documents, this Bureau added some supplementary monitoring points in 2021, including air quality, noise and vibration, discharge water quality, surface water quality, groundwater quality and other items, of which 829 monitoring sessions were carried out in 2021.

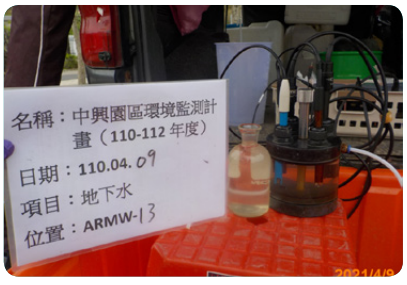
Air Quality Monitoring - Taichung Park Photochemical Monitoring Station

Air Quality Monitoring-Houli Park - Qixing Base General Air Quality Monitoring Station

Noise and vibration monitoring

Water quality

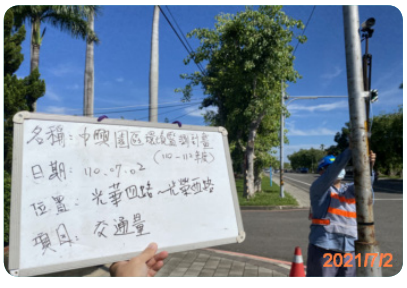
Surface water quality



Groundwater quality

River bottom sediment

Soil quality



Traffic flow

In addition, in order to improve the credibility of the data, this Bureau also planned parallel monitoring in 2021, which included general air quality, acid-base gas, peculiar smells, flue detection (including night detection), civilian wells, etc., and synchronous detection is carried out from time to time, ensuring the quality of monitoring data. In order to understand the manufacturers' night emissions situation, on April 16、August 13 and December 13, 2021, this Bureau performed the night flue inspections together with the environmental protection supervision team members (local chiefs), and the test results were not abnormal. It is hoped that through irregular inspections, we can truly understand the impact of the Park operation on the environment.

Environmental Information Integration Network

Cultivate talents to lay out the future

Establish Taiwan robot team linking the international

On September 12, CTSP Intelligent Robot Self-Built Base held the WRO Future Engineer Competition to cultivate talents for AI autonomous driving, and a total of six schools competed. The winning team will compete in the "WRO International Olympia Robot Online World Competition" with students from 75 countries around the world to win the glory of Taiwan. The competition was based on AI autonomous driving, and the team needed to design its own AI autonomous driving car, judge whether there are obstacles in the surrounding environment through sensors, and complete the challenge in a limited time to obtain task scores. Through this activity, students can understand the principles and applications of autonomous driving, and can integrate the relevant topics related to AI autonomous driving, and challenge the mastery of core capabilities in AI autonomous driving.

Since 2017, the CTSP has been committed to promoting robot education. In addition to handling FRC robot courses and competitions, it also actively cultivates students who are interested in robot-related aspects, and encourages young students to build self-confidence, learn professional knowledge and skills from competitions, and explore and stimulate more people's interest in the technology industry.

Future Engineer Group AI Autonomous Driving Challenge Participating Teams

Team competition site

Build the FRC CTSP Alliance

CTSP Self-Built Base has always taken "cultivating talents" as the core policy. In 2021 due to the impact of COVID-19, most of the events were cancelled, but the Bureau still seized the time to make full preparations for the next season's events. In 2021 it opened the "FRC National High School Vocational Winter Vacation Training Camp" and "Six Schools Invitational Tournament" and promoted the "FRC Member Machine Optimization and Upgrade Program", providing participant equipment, professional practitioners, maker space and other open resources, hoping that the team can strengthen and upgrade robots with the assistance of all parties. In addition to strengthening the equipment, we also improve each other's strength through simulation matches.

In order to promote the "Intelligent Robot Innovation Self-Built Base - Cross-domain Intelligent Ecosystem Alliance", the CTSP Bureau invited collaborative operators to enter the site, with the goal of building the self-built base into a multi-service platform, providing empirical field verification technology or solution , and creating an environment suitable for the work and exchange of new teams, and can also combine professional consultant teams to develop in the direction of intelligent manufacturing technology service alliance. At present, Atmospheric Plasma has joined the cooperative operation, which will provide more diversified and more commercial value technology and counseling services in the industry.

FRC National High School Vocational Winter Vacation Training Camp

FRC simulation competition conducted by CTSP Intelligent Robot Self-Built Base

Plan and improve education and cultivate national talents

In order to provide the employees of the Bureau and the employees of the park manufacturers with the choice of nearby childcare and to support the staff to balance family and workplace, the Bureau will open a non-profit kindergarten in Taichung Park at the National CTSP Experimental Senior High School on August 1, 2022, and is operated by the Macro Cultural and Educational Foundation, which can enroll 16 children aged 2 and 180 children aged 3 to the age before entering the elementary school.

Kindergartens held by the Bureau shall be in accordance with the provisions of Item 2 of Article 14 of the Implementation Measures for Non-profit Kindergartens, and the childcare facilities established in accordance with Article 23, Item 1, Paragraph 2 of the Gender Equality at Work Law, and will give

priority to the enrollment of the Children and Grandchildren of the Bureau staff, the joint provision of education and protection service agencies by the Bureau, the teaching staff of non-profit kindergartens and the employees of the Manufacturers in the CTSP. If there is still student vacancy after enrollment, the service can be expanded to recruit children who need assistance outside of the CTSP.

Taichung Park Non-Profit Kindergarten will practice the government's early childhood education policy, advocate the core values of "public-private cooperation, professional integration, community service, equal respect", offer benefits and correct educational concepts to teachers and staff with learning environment and professional teaching, and cooperate with the dual-income family life style, kindergartens provide childcare services from 8 a.m. to 5 p.m. Monday to Friday, and can extend the childcare time to 7 p.m., and also during winter and summer vacations as usual, so that parents can work with no worries.

In addition to the upcoming Taichung Park non-profit kindergarten as the focus of attention, CTSP Experimental Senior High School is also committed to building a campus that combines science and technology and humanities, so that students can grow up in the innovative spirit of the science park and a high-quality campus that can not only inspire students to innovate the concepts and practices, but also take into account the cultivation of humanities, and create an ideal and distinctive educational environment for students, and is now a famous school that students in the central region yearn for.

The National CTSP Experimental Senior High School (hereinafter referred to as CTSP Shizhong) is set up for the public institutions to serve the Park, providing educational resources in line with the international level, since the establishment of the high school in 2010, just over the first decade, during which the Junior High School was established in 2016, and the bilingual department was set up for students in grades 7-12 in 2019, which was the first national bilingual school in central region, and in 2021, it enrolled students in grades 1-6 for the first time.

From kindergarten to high school, it provides a good and high-quality teaching environment, cultivating the ability and knowledge of the new generation in the future, and benefiting the students in the central region.

The National CTSP Experimental Senior High School (referred to as CTSP Shizhong)

Non-profit kindergarten in Taichung Park

Park operation and maintenance

Integrity Governance

Integrity Governance

As a public service unit, the CTSP Bureau does comply with various laws and regulations, follows the "Open Government Information Law" to protect the people's right to know, and follows the "Code of Ethics for Civil Servants' Integrity" formulated by the Executive Yuan to enable civil servants to perform their duties in a clean and self-sustaining, impartial and selfless manner, and administer according to law, put an end to all cases of corruption, implement an internal control system, create a friendly and fresh image with honesty and law-abiding and dedicated services, and with the remote office and information development extended by the epidemic, many information security issues have also been triggered. In order to reduce the risks of information security of the Bureau, we have to stay alert and complete information, security of relevant data, information systems, equipment and networks, and cooperate with administrative agencies to promote the strengthening of information and communication security management of various organizations, thereby improving the overall information service.

Corresponding Material Topics

GRI 205 : Anti-corruption

Corresponding SDGs

Management Objectives and Policies

- Ensure that the Bureau does not violate the various economic, environmental and social laws and regulations.
- Administer according to the law and limit the risk of possible violations of various laws and regulations.

Responsible Units

Civil Service Ethics Office, Environment and Labor Affairs Division, Information Room

Invested Resources

- Each responsible unit regularly conducts identification of relevant laws and regulations and establishes corresponding management measures, while also assisting in publicity and business execution.
- Organize workshops and seminars on relevant laws and regulations of the Park to help park manufacturers understand legal issues.
- Annual training on environmental, anti-corruption and ethics related laws and regulations.
- Establish a database of corruption risks for the organization, and assess that the base of operations includes up to 100% of all parks of the Bureau.

Complaints Mechanism

Civil Service Ethics Office, Whistleblower email and phone number

Management System and Evaluation Mechanism

- Relevant procedures are stipulated in accordance with the Civil Servant Work Act, the Act on Recusal of Public Servants Due to Conflicts of Interest, and the Executive Yuan's Ethics Guidelines for Civil Servants.
- Establish an internal control task force and internally audit operations in accordance with the internal control system.
- Comply with relevant business regulations, such as environmental protection regulations, labor standards laws and other relevant government regulations.
- The Civil Service Ethics Office compiles the Institutional Integrity Risk Assessment Report, completes the event risk assessment form and the personnel risk assessment form, and conducts regular assessment and revision.

2021 Performance

- No violation of economic, environmental and social laws and regulations occurred.
- A total of 9 environmental protection issues and regulations briefings, and 20 park business counselingmeetings were handled.
- According to the Act on Recusal of Public Servants Due to Conflicts of Interest, a total of 13 applications for self-recusal were submitted, 2 civil servants' integrity ethics code cases were accepted and registered, and 1 anti- corruption advocacy seminars were handled.
- The Bureau has conducted a total of more than 247 inspections of public project and factory construction sites.
- Seminars on "Copyright Issues Involving the Handling of Business by Government Agencies" and "Introduction to the Convention on the Rights of Persons with Disabilities" were held.

Overview of the operation of the CTSP

Single-window service

In order to implement the single window service and improve the administrative efficiency of the manufacturer's application, the Bureau actively strives for a number of business entrustment authorizations with a view to providing more expeditious services.

Unit	Authorized business
Planning Section	▪ Legal consultation
Business Section	▪ Company and factory registration, tax reduction, movable property guarantee, employment permit for foreign professionals, annual final account online declaration operation. ▪ Strategic high-tech goods export (entry) visa, general export (import) permit, etc.
Construction Section	▪ Construction management business such as construction license, usage license, change of use, and issuance of interior decoration approval certificate.

Unit	Authorized business
Environmental safety Section	▪ Occupational safety and health, labor relations, gender work equality, employee welfare, vocational training, employment services, foreign labor inspection, no violation of labor laws and other labor administrative matters under the jurisdiction of local governments. ▪ Labor inspection business in the Park. ▪ Review, issuance and extension of the Water Pollution Prevention and Control Measures Plan, the Park Business Waste Clean-up Plan and the Fixed Pollution Source Installation and Operation Permit.

Personnel Structure

The CTSP Bureau is a government agency and all personnel are full-time employees. 100% of the employees are civil servants and residents of Taiwan. There are no part-time or temporary employees. The total number of employees in the past 3 years is shown in the table below. As of the end of December 2021, the total number of employees of this Bureau is 142, including 120 national examination appointees, 12 hired personnel and 10 engineering staff (including 6 workers, 3 mechanics, 1 driver). This Bureau encourages the recruitment of employees with disabilities and promotes measures for a friendly workplace. In 2021, a total of 4 people with disabilities will be recruited, including staff and contractors, in compliance with relevant laws and regulations on employment.

Staff composition over the past 3 years

Year		2019		2020		2021	
Category	Age / Gender	Male	Female	Male	Female	Male	Female
Personnel	29 & less	3	3	5	0	3	0
	30-49	38	36	37	38	37	37
	50 & up	21	16	21	18	23	20
	Subtotal	62	55	63	56	63	57
Hired	29 & less	0	0	0	0	0	0
	30-49	2	2	2	2	2	3
	50 & up	1	6	2	5	2	5
	Subtotal	3	8	4	7	4	8
Engineering staff	29 & less	0	0	0	0	0	0
	30-49	2	3	2	3	1	2
	50 & up	2	2	3	2	4	3
	Subtotal	4	5	5	5	5	5
Total		137		140		142	

Notes:
1. Engineering-level personnel include: workers, mechanics, and drivers.
2. In 2021, male employees accounted for 50.70% and female employees accounted for 49.30% of the total. The proportion of employees under the age of 29 was 2.11%, the proportion of employees aged 30-49 is 57.75%, and the proportion of employees over 50 is 40.14%.

Employee distribution over the past 3 years

Item / Gender		Age	2019 (people)	2020 (people)	2021 (people)
Supervisors above team leader level	Male	29 & less	0	0	0
		30-49	0	1	0
		50 & up	6	5	7
	Female	29 & less	0	0	0
		30-49	0	0	0
		50 & up	4	4	3
Supervisors not above the team leader	Male	29 & less	3	5	3
		30-49	40	38	39
		50 & up	16	18	18
	Female	29 & less	3	0	0
		30-49	38	40	40
		50 & up	18	19	22
Engineering staff	Male	29 & less	0	0	0
		30-49	2	2	1
		50 & up	2	3	4
	Female	29 & less	0	0	0
		30-49	3	3	2
		50 & up	2	2	3
Total			137	140	142

New Arrivals and Staff Retention

The CTSP Bureau recruits (employs) employees in accordance with the relevant laws and regulations on the appointment of civil servants and the Labor Standards Act, and does not employ child labor (15 years old, under 16 years old). There is no child labor used in outsourced workers who provide labor services. The CTSP Bureau had no child labor incidents in 2021. The staff of this Bureau are public servants. If the staff asks for leave, moves, retires, or resigns, their business shall be handled in accordance with the Notes for Agency Duties of Various Authorities and other regulations.

Number of new employees over the past 3 years

Year / Age / Gender	2019				2020				2021			
	Nr. of new male entrants	Male new entrant rate (%)	Nr. of new female entrants	Female new entrant rate (%)	Nr. of new male entrants	Male new entrant rate (%)	Nr. of new female entrants	Female new entrant rate (%)	Nr. of new male entrants	Male new entrant rate (%)	Nr. of new female entrants	Female new entrant rate (%)
29 & less	0	0.00%	0	0.00%	1	20.00%	0	0.00%	0	0.00%	0	0.00%
30-49	3	7.14%	2	4.88%	1	2.44%	1	2.33%	1	2.50%	4	9.52%
50 & up	0	0.00%	1	4.17%	2	7.69%	3	12.00%	2	6.90%	1	3.57%
Total number of new entrants	6				8				8			
Total number of employees	137				140				142			
Total new arrival rate (%)	4.37%				5.71%				5.63%			

Notes:
1. The employees who leave midway are not deducted from the number of new employees.
2. New recruit rate (%) = the number of new recruits of the category in the current year/the total number of employees in the category atthe end of the current year.

Number of employees left over the past 3 years

Year / Age / Gender	2019				2020				2021			
	Nr. of male turn-over	Male turnover rate (%)	Nr. of female turn-over	Female turnover rate (%)	Nr. of male turn-over	Male turnover rate (%)	Nr. of female turn-over	Female turnover rate (%)	Nr. of male turn-over	Male turnover rate (%)	Nr. of female turn-over	Female turnover rate (%)
29 & less	0	0.00%	1	33.33%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
30-49	5	11.90%	4	9.76%	1	2.44%	1	2.33%	0	0.00%	1	2.38%
50 & up	22	91.66%	9	37.50%	2	7.69%	4	16.00%	3	10.34%	2	7.14%
Total number of resignations	41				8				6			
Total number of employees	137				140				142			
Total turnover rate (%)	29.93%				5.71%				4.23%			

Notes:
1. Resigned employees include employees who have retired and resigned.
2. Turnover rate (%) = the number of turnovers in this category in the current year/the total number of employees in this category at the end of the year.
3. The reason for the decrease in the turnover rate in 2020 compared to 2019 is that in 2019, we cooperated with the Executive Yuan to revitalize Zhongxing New Village and took into account.

Shortest Notice Period

The staff of this Bureau are all civil servants, and contracted staff are hired once a year. The staff members are included in the budgeted posts of various agencies and schools, in accordance with the Regulations on Contracted Employment of the Executive Yuan and Its Subordinate Agencies. The Regulations on the Employment of Contracted Persons by the Agency stipulates that personnel hired by contract must have a public law contractual relationship with the employing agency from the date of employment, and have been approved by the former Labor Committee of the Executive Yuan in its No. 0960130914 announcement, dated November 30, 1996. The Announcement excludes the applicability of the Labor Standards Act, so the minimum notice period stipulated in the Labor Standards Act is not applicable.

Human Rights Respect and Care

The CTSP Bureau not only provides employees' rights and interests in accordance with relevant laws and regulations, but also respects internationally recognized human rights regulations, and treats employees fairly and does not discriminate due to gender, race, religion, or political stance. In addition, this Bureau has stipulated the Sexual Harassment Prevention Measures, Complaints and Punishment Points of the Central Taiwan Science Park Administration of the Ministry of Science and Technology, regularly organizes sexual harassment prevention and control activities and provides channels for complaints. In 2021, the CTSP Bureau had no relevant human rights complaints.

In order to maintain good communication with colleagues, in addition to providing employees' complaints channels through the Director-General's mailbox, and through various measures and activities, we listen to the voices of employees in a considerate, warm and respectful manner at any time, understand their needs and solve problems.

- Strengthen communication and explanations with heads and supervisors through business meetings and related occasions.
- Proactively provide relevant rights and interests information when colleagues are married, attending funerals, or festivals.

Salary and Benefits

Staff promotion and job vacancies

The internal promotion of the CTSP Bureau's job vacancies is handled in accordance with the Civil Servants Promotion Act, Civil Servants Promotion Law Implementation Rules, and the Ministry of Science and Technology Central Taiwan Science Park Administration Regulations on Staff Promotion and Transfer Operation Regulations, and are calculated based on the promotion scoring table achievement. If it is used in the form of supplementary compensation, it shall be used in accordance with the Civil Servants Employment Act and other laws and regulations, and there is to be no discrimination due to gender, sexual orientation, age, appearance, or physical and mental disabilities.

Salaries and Assessment Subsidies

The CTSP Bureau is a government agency and the board of directors' management mechanism does not apply. However, the salary management is handled in accordance with the law on public servants' salary and the method of public servants' allowances. The standard salary of grassroots personnel is calculated based on the salary of newcomers in the elementary examination, and the local minimum salary is based on a calculated ratio of 1.26, and the ratio of the basic salary for workers to the local minimum salary is 1.1. Therefore, the salary is 100% higher than the minimum wage set by the Labor Standards Act. As for the salaries of male and female civil servants in the bureau, there is no difference based on gender.

The civil servants of this Bureau shall undergo regular performance reviews in accordance with the Civil Servants Performance Appraisal Act and hiring personnel shall be hired in accordance with the Main Points of Work Performance Appraisal for Employment and Contracted Employees of the Central Taiwan Science Park Administration of the Ministry of Science and Technology. The proportion of staff participating in the performance appraisal of this Bureau in 2021 was 100% (Note : Except for when the performance appraisal is not handled for less than half a year in accordance with the Civil Service Performance Appraisal Act). A total of 12 people were hired to participate in the appraisal, and the examination rate is 100%.

Childcare leave without pay

CTSP Bureau employees work in accordance with the Public Educational Personnel Insurance Law. In the event of disability, pension, death, family funeral, childbirth and childcare leave without pay, they can apply for insurance benefits in accordance with the regulations. In case of leave or business trips, the Legal Leave Rules for Public Servants stipulate how it should be handled. When employees have a need to take leave without pay, such as military service, baby-care, family situation, advanced education, etc., they can apply in accordance with the Civil Servants Retention and Non-Pay Measures and related welfare regulations. The statistics of this Bureau for the recent 3 years of child-rearing leave are as follows:

Year	2019			2020			2021		
Gender / Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Actual number of applications for parental leave in that year A	0	0	0	0	2	2	0	3	3
Number of persons who should be reinstated after parental leave in that year B	0	1	1	0	2	2	0	3	3
Actual number of reinstatements in parental leave in that year C	0	1	1	0	2	2	0	2	2
The number of employees who were actually reinstated in the previous year D	0	2	2	0	1	1	0	2	2

Year / Gender / Total	2019 Male	2019 Female	2019 Total	2020 Male	2020 Female	2020 Total	2021 Male	2021 Female	2021 Total
The number of employees who were actually reinstated in the previous year and has been reinstated for 12 months E	0	2	2	0	1	1	0	2	2
Rate of reinstatement after parental leave in the current year % (C/B)	--	100%	100%	--	100%	100%	--	67%	67%
Retention rate% (E/D)	--	100%	100%	--	100%	100%	--	100%	100%

Note: The information is reorganized in this year due to information error in 2020.

Employee living allowance subsidy

Employee benefits include bonuses, weddings and funerals, and child education subsidies. In addition to the fixed salary, the staff in the establishment also receive bonuses and subsidies. The bonus part includes performance appraisal, year-end work bonuses, and condolences, which are issued in accordance with the Civil Servants Performance Appraisal Act, 2021 Year-end Work Bonuses for Military and Public Education Staff and other regulations. In addition, civil servants may apply for marriage, funeral, and child education subsidies in accordance with the key points of the national military, public, and educational staff remuneration. As for retirement and pensions, their payment and allocation are all handled in accordance with the Public Servants Retirement Compensation Law and its implementation rules.

Freedom of association

The CTSP Bureau respects the rights granted by employees by law. The freedom of assembly and association is governed by the Civil Servants Association Law. It has never restricted or interfered with employees' rights to freedom of association. This Bureau has so far included the Hong jiao ya Club and Badminton Club.

Staff health

The CTSP Bureau is a government agency that is not regulated by the Labor Trade Union Act or the Occupational Safety and Health Act, has not established any organization, nor has any organization similar to the nature of a trade union existed, and the CTSP Bureau has no personnel at high risk of occupational diseases. Regarding the health and safety status of employees from 2017 to 2021, the rate of work-related injuries, occupational diseases, absenteeism due to work-related injuries, and work-related deaths were all zero.

Employees of this Bureau shall conduct health examinations in accordance with the general health examinations of public servants. Employees over 40 years of age can go through health examinations on public holidays in accordance with regulations. The heads and deputy heads may apply for health

examination subsidies every year, and public officials who are over 40 years old can apply for a health check subsidy every two years. In 2021, a total of 12 employees underwent the health check and received the subsidy.

Staff training

The CTSP Bureau formulates an annual training program every year, with a view to strengthening the ability of civil servants to continue to be employed and to assist them in managing their retirement career with functional management and lifelong learning programs. The eLearn learning platform does not have statistics on the average training hours by gender. The average training hours per year by staff category are as follows:

Year / Item / Gender		2019			2020			2021		
		Total people	Total training hours	Average training hours	Total people	Total training hours	Average training hours	Total people	Total training hours	Average training hours
Management	Male	23	1,269	55	22	1,314	60	22	817	37
	Female	13	687	53	14	746	53	16	1,203	75
Full-time	Male	38	2,479	65	41	2,003	49	41	2,012	49
	Female	40	2,912	73	40	2,115	53	39	2,087	54
Appointment	Male	3	94	31	4	134	34	4	211	53
	Female	8	308	39	8	218	27	8	328	41
Total		125	7,749	62	129	6,530	51	130	6,658	51

Notes:
1. The number of education hours for workers at the industrial level is not actually counted, so it is not included in the table.
2. Management positions refer to full-time employees above section chief.
3. The total number of trainees does not include unpaid employees who stayed for the year.

Civil servants of the CTSP Bureau, in addition to the 20 hours of study hours per person per year that focus on business-related study hours, according to the letter of the Executive Yuan, those who meet certain qualifications can also participate in four weeks of promotion and other training, or in response to business needs, be selected to participate in advanced training or seminars for several days. The main factor in the higher average number of training hours for women in management positions than for men in 2021 is that 2 women and 1 man participated in a four-week training course for promotions and other training, and 3 women and 1 man had 70 hours of basic training courses for procurement professionals.

The employment period of contracted personnel is based on the principle of one year. Although there is no specified study time limit, they can still choose to take this Bureau self-organized training courses or online e-learning, and business units are also authorized to participate in business-related trainings according to their individual circumstances and job needs. The main factor in the average number of male training hours of the contracted employees in 2021 is greater than the average

number of training hours for women, and the 1 male employee is a new information security personel, who participated in more personal function training courses. In summary, the opportunities for each employee of the CTSP to receive training each year do not vary by gender or job.

Personnel Training

There are 1 basic trainings for civil servants appointed by this Bureau at the beginning of 2021: the basic training handled by the National Civil Service Academy under the Civil Service Guarantee and Training Committee or entrusted by the training organization (institution) school, and the practical training entrusted for the Employer Organization by the Insurance Training Association. In order to improve the knowledge and skills required by the newcomers, and depending on the nature of the business and training, it is recommended to send newcomers to participate in the relevant training or study of civil servants in a timely manner.

With section chiefs as participants, in 2021, it was recommended to send personnel to participate in the management function application and advanced physical courses, and 2 people attended. With high-level personnel as the target of training, in 2021, 5 staff members were recommended to participate in the physical courses of environmental insight workshop, cross-domain coordination workshop, public communication workshop, and risk management workshop.

Policy and Functional Training

In 2021, a total of 38 sessions were registered in the Civil Service Lifelong Learning Network in 2021, including : Environmental education, two human rights conventions, namely the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, Legislation and practice in the administration of civil servants, Convention on the Elimination of All Forms of Discrimination Against Women, Public engineering ecological promotion lectures, Press release writing practice workshop, Improving the quality of construction of the bureau's public works, education and training project, on-site observation and visit activities, Procurement and professional seminars on the lack of procurement audits, Science Park International Observation Development Information Sharing Meeting, Traffic safety promotion meeting, Science Park Master Business Seminar, Basic and advanced courses of document and file management.

In 2021, employees participate in courses (including digital) for a total of 5,073 hours. In 2021, the total number of human rights policies training hours for employees was 311 hours. The percentage of all CTSP Bureau employees receiving human rights training was 100% (including official documents, posting announcements, CTSP regulations, etc.).

Information Security Training

In 2021, a total of 11 information security-related courses were conducted, including: IoT and home office information security, personal asset inventory and risk assessment, information security of smart phones and home IoT, information security risk social engineering and ransomware training courses such as operation mode, with a total of 1,176 hours and 392 sessions.

Energy consumption

In coordination with the Government's promotion of the Four-saving Plan, the Bureau has implemented the specific targets set by the Executive Yuan for saving electricity, water, fuel and paper respectively, with electricity and fuel consumption being reduced in both electricity and fuel consumption in 2021 compared to 2020 and a total reduction of gasoline fuel consumption by 388 liters, which is due to the following reasons:

(1) Electricity consumption reduction: In order to cooperate with energy-saving measures, replace the office lighting equipment on each floor, and set the indoor air conditioning temperature of 26-28 degrees in the use of air conditioning, increase the ice melting temperature setting, and shorten the air conditioning turn-on time.

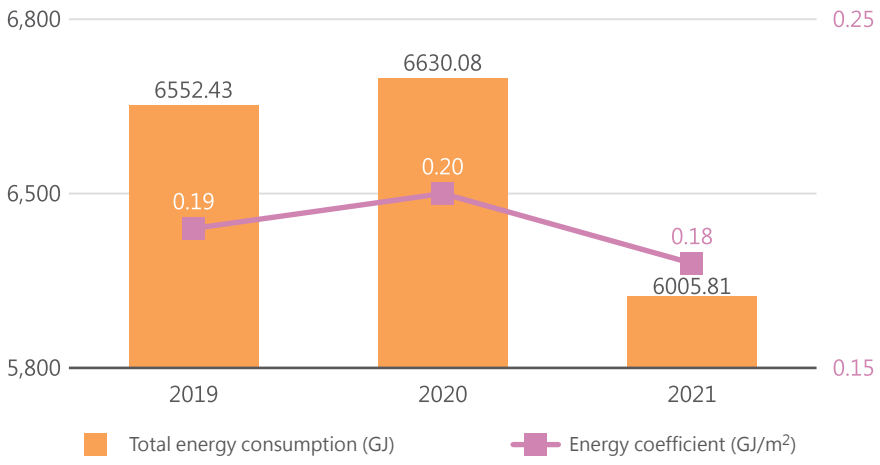
(2) Fuel consumption reduction: The use of 5 gasoline-electric hybrid vehicles for official vehicles can save fuel for official vehicles and also the office reduced business trips during the epidemic.

In terms of water usage, it increased slightly by 0.01% in 2021 compared with 2020, and the online document signing rate of the Bureau was 64.21% in 2021, an increase of 6.55% compared with 2020.

Year / Item	2019	2020	2021
Electricity (kWh)	1,753,106	1,797,215	1,631,101
Gasoline (liters)	4,617	3,380	2,992
Diesel (liters)	2,577	1,417	1,030
Total energy consumption (GJ)	6,552.43	6,630.08	6,005.81
Energy coefficient (GJ/m^2)	0.19	0.20	0.18
Water consumption (million liters)	4.20	4.72	5.24
Water intensity (million liters/m^2)	0.00012	0.00014	0.00016
Online sign-off ratio	55.56%	57.66%	64.21%

Notes:
1. The standard unit of organizational measurement is the floor area of the administrative building of the Administration (33,724.91 m^2).
2. The energy conversion coefficient refers to the content of 6.0.4 version of EPA's GHG Emission Coefficient Management Table: Electricity 3,600KJ/kilowatt-hour, Gasoline 7,800kcal/L, Diesel 8,400kcal/L
3. The information is reorganized in this year due to information error in 2020.

Energy consumption over the past 3 years



CTSP Bureau Power and Water Conservation Measures

In order to achieve the goals and requirements of the Executive Yuan's energy-saving and carbon-reduction project, this Bureau implemented power-saving measures including replacing power-saving lamps, controlling the number of light sources in parking lots according to the time of use, replacing LED lamps and installing automatic sensing devices, and using air conditioners, set the indoor air-conditioning temperature to 26-28 degrees, increased the ice melting temperature and shorten the air-conditioning opening time. The annual electricity consumption has been decreasing year by year from 2.02 million kWh since 2009. By 2021, the whole building was opened to increase air circulation and reduce the heat radiation effect. According to statistics, the total annual electricity consumption is 1.63 million kWh, compared with 2009, with an annual decrease of 19.3%.

Regarding water-saving measures, this Bureau adopts methods such as pressure-reduced water supply and reverse osmosis drinking water and water recycling to save water sources. In addition, from time to time, electronic bulletins are used to urge colleagues to implement water-saving measures.

Risk management

We cooperate with the policy of simplifying the management and examination operations, integrate risk management into internal control, and regularly handle risk assessment operations according to the key points set by the internal control project team of the Bureau and the internal control system, and the director or the authorized deputy director will preside over the meeting, and hold 1 meeting per year.

Cata-strophic (3)	12. Earthquake disaster 13. Drought risk 14. Typhoon risk 15. Park flooding		
Critical (2)	7. Environmental Impact Assessment (EIA) commit-ments have not been implemented. 9. Employee corruption case occurs, affecting Bureau image. 16. Controversy over a construction and maintenance project. 17. Maintenance and management of public facilities. 19. Operational fund financing interest rates rises sharply. 22. Misconduct in handling procurement procedures due to carelessness. 24. News media risks.	1. Case has passed EIA, but appeal or litigation pending by environmental protection groups. 4. Major fires, chemical spills, environmental pollution or toxic disasters encountered by park manufacturers. 5. Mishandling of large-scale dismissal of labor, damaging labor rights and leading to labor disputes. 6. Sewage treatment facilities stop operating without warning or sewage pipeline ruptures. 10. Poor water conditions or unscheduled water outage. 11. Unscheduled abnormal power supply. 20. The amount of soil and stone generated by plant construction and large number of construction vehicles exceeds amount specified in the EIA. 21. Fire breaks out in a residence (dormitory) in the Park.	
Minor (1)	3. Manufacturers fail to devote themselves to R&D in accordance with the development trend of global high-tech industries, redu-cing competitiveness, thus failing in the industrial cluster effect.	2. Affected by economic climate, business conditions of park manufacturers are poor, affecting investment benefits of park development and labor employ-ment. 18. Incidents involving protests groups occurred in the Park. 23. Leakage of known official secrets or stored in the office.	8. Abnormal information security events.
Impact Level / Inci-dence Rate	Very Unlikely(1)	Likely(2)	Almost Certain(3)

Extremely dangerous risks (R=9) : Require immediate action.
High risks (R=6) : Management needs to supervise own plans drawn up, provide resources and deal with it.
Moderate risks (R=3~4) : Scope of management responsibility has to be clearly defined, and do the necessary monitoring.
Low risks (R=1~2) : Tolerate it and deal with it according to the current steps.

The Bureau has designed and reviewed the control operation worksheets based on risk assessment results, audit opinions in the Final Reports from the National Audit Office in previous years, cases of (proposed) corrective measures by the Control Yuan, and general business (including cross-functional) stipulated by the competent authorities. The 10th edition of the Internal Control System was amended on March 9, 2021, and 14 individual businesses, 5 common businesses and 1 cross-functional business were formulated, and control operation worksheets of a total of 20 businesses have been established. Each division or room shall handle it accordingly, with the head of each responsible for the implementation promotion and supervision of related businesses.

Compliance with Laws and Regulations

Regulatory compliance

This Bureau is a public agency, a non-profit institution, and does not apply anti-competitive behavior, nor violate antitrust or monopoly laws. It follows The Freedom of Government Information Law to protect the public's right to know, and all affairs are administrated in accordance with this law, as well as the Legislation in the administration of civil servants to handle all duties and business. The CTSP has always maintained a neutral administrative attitude towards politics, and no political contributions are made. None of the sewage treatment plants commissioned by the Bureau to operate on its behalf have had major leaks, and there were no violations of environmental protection laws and regulations. There were no violations of economic, environmental or social laws and regulations in 2021.

Transparent procurement operations

In order to enhance the professional knowledge of colleagues in procurement and the requirements for avoidance of conflict of interest, to be able to comply with the avoidance of conflict of interests in the process of procurement operations, ensure the fairness of procurement operations, improve the quality and efficiency of the procurement business of the Bureau, and to implement the transparency of procurement, the following actions were taken in 2021:

- To conduct the 2021 "Integrity Care - Procurement Health Inspection Series -Government Procurement Confidentiality and Anti-Malpractice Promotion Seminar", strengthen the advocacy of colleagues' understanding of the relevant confidentiality provisions of government procurement, avoid the situation that procurement specifications are restricted by competition, and strengthen the awareness of procurement-related laws and regulations, so as to maintain the fairness of the Bureau's procurement and take into account the quality and efficiency of procurement.
- Strengthened advocacy of the relevant provisions about Conflict of Interest Recusal Law in the E-Bulletin of the Bureau's Parks, and in 2021, a total of 13 applications for self-recusal were submitted under the Conflict of Interest Recusal Law for Public Officials.
- To encourage colleagues to actively participate in the procurement professional training course, in 2021, 10 people participated in the basic training course for procurement professionals, and 2 people participated in the advanced training course for procurement professionals, for a total of 12 people to complete the training.

Anti-corruption policies

As a government department the CTSP Bureau follows all government laws and the principle of administrative neutrality. Employees should also have a full understanding of and abide by the Civil Servant Work Act and the Executive Yuan's Ethics Guidelines for Civil Servants Regulations as well as other relevant laws and regulations. The civil servants of this Bureau should administer in accordance with the law and avoid any conflicts of interest. It is forbidden to accept donations, banquets and dinners, special relationship lobbying of any kind from stakeholders. The relevant processing procedures for the foregoing behaviors should be clearly stipulated, and clearly follow the standards, making civil servants distinguish right from wrong, and ensuring integrity, self-sustainability, impartiality, and public interest in the performance of duties.

In order to implement an early warning mechanism and integrity risk management, the various anti-corruption operations are planned and executed by the CTSP Bureau Civil Service Ethics Office. Related issues of integrity are implemented in accordance with the Ministry of Justice Agency Against Corruption annual governance goals for the sake of clean government with zero tolerance for corruption. The Civil Service Ethics Office of this Bureau handles the following business every year:

1. Institutional Integrity Risk Assessment Report: In accordance with the operational principles of corruption prevention, eradication, and re-corruption prevention, the Institutional Integrity Risk Assessment Database is updated every year, with the base of operations including up to 100% of all parks of the Bureau.
2. Makes use of the Bureau's Civil Service Ethics Office mailbox to publicize important anti-corruption policies and messages to fully 100% of all colleagues to strengthen publicity before specific holidays and festivals and pay attention to complying with the Ethics Guidelines for Civil Servants Regulations, and the concept of clean government.
3. Performs business audits: Through the implementation of audit operations, existing internal and external risks are identified in advance to prevent and reduce possible crises, with the aim of achieving a perfect system.
4. Acts as an early warning system for potential risk events or personnel breach: In the event of potential risk events or personnel breach, immediately report to a supervisor, taking preliminary precautions and then mentioning the internal control system of the Bureau.
5. Anti-Corruption Activities: Held the 2021 "Honest Government Practice" advocacy activity of the Bureau, during which a total of 35 online government regulations were answered, 1 Mid-Autumn Festival slogan poster design campaign, 1 advocacy workshop, and 15 people provided proof of participation in online learning, with a total of 132 participants, through colleagues taking the initiative to participate in the issue of integrity, enhancing the awareness of integrity laws and regulations, deepening the concept of integrity, so as to achieve the vision of a clean government.

6. Strengthens the supervision and auditing mechanism of procurement cases : All bidding documents of this Bureau have stipulated anti-corruption regulations on conflicts of interest avoidance. All CTSP Bureau procurement cases are filtered and summarized by cross-comparison analysis every six months, and a procurement analysis report is prepared. If an abnormal situation is discovered, a Consolidated Table of Violations and Errors in Procurement Cases is completed and reported to the Department of Government Ethics of the Ministry of Science and Technology, and included in follow-up tracking to prevent the occurrence of abuses.
7. To conduct the 2021 "Integrity Care - Procurement Inspection Series -Government Procurement Confidentiality and Anti-Malpractice Promotion Seminar", strengthen the advocacy of colleagues' understanding of the relevant confidentiality provisions of government procurement, avoid the situation that procurement specifications are restricted by competition, and strengthen the awareness of procurement-related laws and regulations, so as to maintain the fairness of the Bureau's procurement and take into account the quality and efficiency of procurement.
8. Carefully handles public (manufacturer) reports and petitions : Actively investigates and prevents fraud by investigating and dealing with park businesses related public reports and petition cases carefully, and report the investigation to the Director by documentation as well as providing a letter to the petitioner, to maintain a clean and honest image of this Bureau, and use it to understand the areas where this convenient service need to be improved, and develop improvement plans to provide reference for related organizations.

"Integrity Care - Procurement Inspection Series -
Government Procurement Confidentiality and Anti-Malpractice Promotion Seminar"

Civil Service Ethics Office

Civil Service Ethics Office Whistleblower Hotline

Tel : 04-25658588 Ext. 6801, 6811 or 6813
Email : discipline@ctsp.gov.tw
Fax : 04-25658822

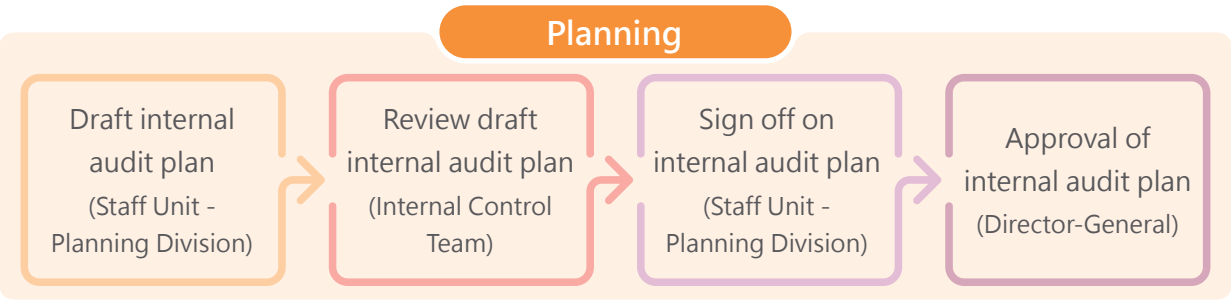
Internal controls

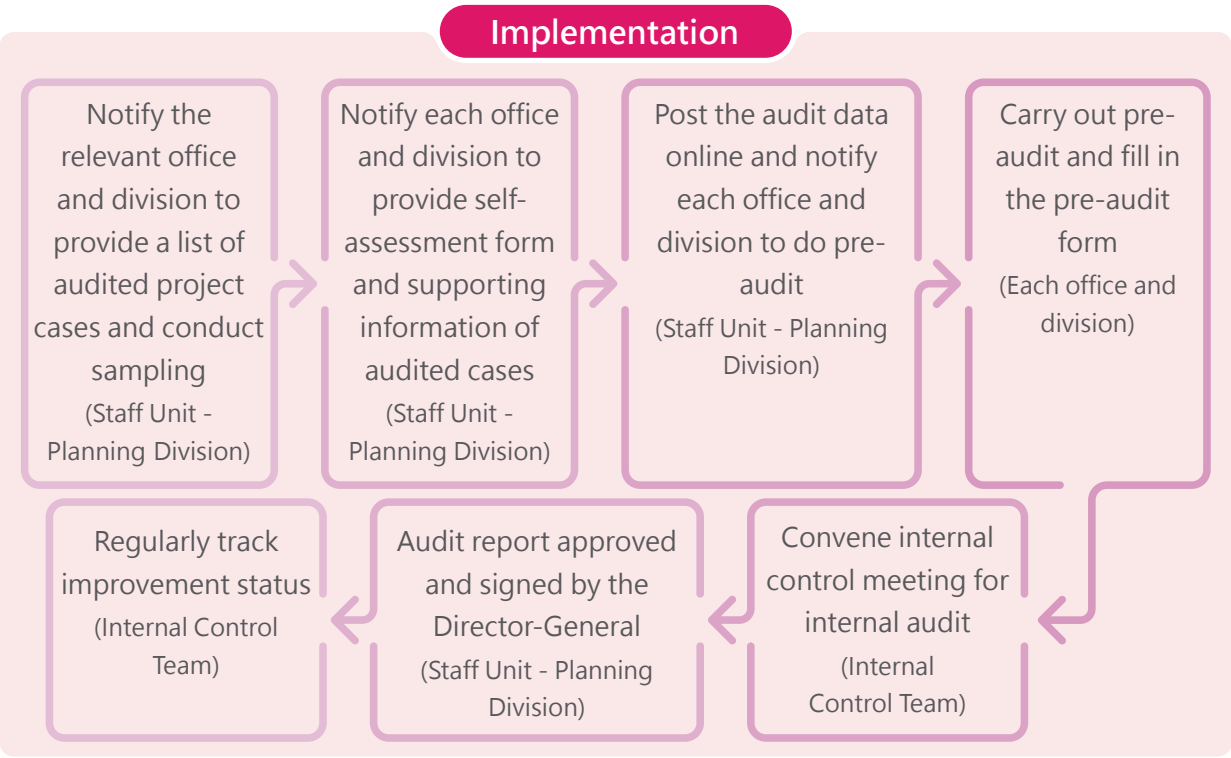
The CTSP Bureau conducts business in line with the relevant regulations on internal government control issued by the Executive Yuan, and actively promotes various internal control work. The CTSP Bureau established an internal control task force, with the Deputy Director-General serving as convener, the Chief Secretary as the deputy convener, and the directors of various units serving as members of the committee. The planning and implementation of internal control operations are carried out by each office and division according to the nature of the business, while staff work is performed by the Planning Division. The internal control task force meeting, in principle, is held once every three months to review the internal control opinions submitted by the Control Yuan, the National Audit Office and the Ministry of Science and Technology, review the internal control system, plan and conduct self-assessment and internal audits, and handle the signing of the internal control declaration.

This Bureau conducts internal audit operations every year to check the establishment and implementation of internal control, provide timely improvement suggestions, or provide suggestions or early warning opinions on the economy, the efficiency and effectiveness of the use of agency resources, and major challenges related to management and future performance, in order to detect and prevent abnormal events in real time, so as to reasonably ensure normal business operations. After the audit is completed, the audit report is to be completed within 2 months and sent to the Director-General for approval. Any internal control deficiencies and the implementation of reform proposals are to be tracked regularly.

According to the results of the Bureau's 2021 internal control self-assessment and internal audit, all the deficiencies found have been improved and removed from management or managed by the units themselves, and the constructive proposal has been adopted to amend 1 control operation, and the signature of the Bureau's 2021 internal control statement is of the "valid" type, and it is announced on the Bureau's website (open government information) and uploaded to the internal control declaration system of the Comptroller General Office of the Executive Yuan.

CTSP Bureau Annual Internal Audit Operations Implementation Process





Park Supply Chain

The CTSP Bureau's approach to supplier management, in addition to complying with the Enforcement Rules of the Government Procurement Act, is also to conduct on-site inspections on relevant regulation compliance of the social and environmental aspects. There are also relevant regulations and norms for the management of park businesses such as annual labor inspections, factory visits, environmental supervision, holding promotional meetings and other management actions. Furthermore, the Bureau responds and manages according to the material topics of the relevant stakeholders, which shows the importance and significance of sustainable development to the CTSP Bureau and related value chain partners.

Science Park Vendor Service Network

Procurement Policy

All procurement projects of this Bureau for various projects, labor services, and property are subject to bidding in accordance with the Enforcement Rules of the Government Procurement Act. After each unit requiring procurement generates a list of recommendations for selection committee members on the Public Construction Commission website, the head of the business unit will appoint the selection committee. Vendors are then selected based on the principles of transparency, fairness and competitiveness.

The procurement contracts of this Bureau follow the model procurement contracts provided by the Public Construction Commission, and contain relevant legal norms and ethical regulations, including insurance, employer responsibility, the People with Disabilities Rights Protection Act, and the protection of specific ethnic groups' rights to work according to the Indigenous Peoples Employment Rights Protection Act, etc., and are 100% in line with human rights conditions. Winning bidders in 2021 are all companies registered in Taiwan. The procurement categories are divided into property, engineering, and labor services. The number of purchases in each category, the purchase amount, and the percentage of the total annual amount are shown in the following table:

Year	2019			2020			2021		
Item/ Category	Number of Procure-ment Projects	Amount (NT$1,000)	Ratio of annual total amount	Number of Procure-ment Projects	Amount (NT$1,000)	Ratio of annual total amount	Number of Procure-ment Projects	Amount (NT$1,000)	Ratio of annual total amount
Property	14	136,423	2.79%	18	73,845	2.25%	14	70,491	2.21%
Engi-neering	31	2,174,690	44.59%	26	2,352,598	71.52%	23	1,507,298	47.34%
Labor Services	68	2,566,488	52.62%	69	862,807	26.23%	58	1,606,145	50.45%

Contractor Environmental Inspection

All public projects of this Bureau are open to public tender and the contractors handle all the construction work. The contractor's construction plan and matters to be handled shall be checked before the construction begins according to the contractual division of powers and responsibilitiesas prescribed in the contract. To reduce issues related to responsibility violations of the competent authority during the construction period, reasonable expenses for environmental protection are listed in the contract by the Bureau.

During the construction period, the contractor shall conduct all environmental protection and water and soil conservation work in accordance with environmental regulations and water and soil

conservation laws and provisions in the contract, as well as in accordance with the principles of ecological engineering. In addition to the contract terms, the contractor shall follow the construction plan and construction schedule network diagram, and also regularly conduct construction reviews, safety health and environmental protection meetings, and coordination and organization meetings to control the progress and quality, safety and health, environmental protection, disaster prevention during flood season, emergency response, ecological conservation, maintenance of traffic, cultural heritage protection and other relevant issues on a monthly basis.

In order to strengthen the quality management of public works, this Bureau follows the three-tier quality management structure system of public works construction quality management. The project manager shall send personnel to the construction site from time to time to supervise the construction of the project. If there are any deficiencies, it is the responsibility of the contractor to improve the response and verify such by the contractor supervision unit, which is then archived for future reference after being assessed as acceptable. If the competent authority visits the construction site to perform supervision, assessment or various inspections, and imposes fines or suspends work in accordance with the Soil and water Conservation Act or other environmental protection and soil and water conservation related laws, the contractor shall be responsible for paying the fines and making improvements until the competent authority agrees.

Public Works Quality Management System

1 Quality Control Process

Tier 1:
Quality Control
Contractor

2 Sampling Inspection of Materials and Equipment

Tier 2:
Quality Assurance
CTSP Bureau,
Supervision Unit

3 Construction Quality Audit

Tier 3:
Quality Audit
Highest Authority,
Ministry of Science and Technology

Additionally, no matter whether it is the construction of a new plant or an expansion project for an existing manufacturer, both will involve construction site management operations. Therefore, to effectively control construction projects, it is required to standardize sites by properly installing appropriate pollution prevention and control facilities to ensure that the work site complies with the Water Pollution Control Act and various air pollution control regulations, in order to reduce the impact of the construction on neighborhood residents. This Bureau conducts inspections on public works construction sites in the Park and self-constructed factories from time to time every year. According to statistics, there were more than 1,500 inspections in 2021.

Contractor Service Related Regulations

Erlin Park Public Works

With the continuous development of Central Taiwan Science Park as a whole, the Erlin Park site project is continuously underway. Therefore, the Bureau attaches great importance to how to effectively control and standardize the construction projects and requires the installation of appropriate pollution protection facilities to reduce air pollution such as dust, and reduce the inconvenience the construction projects bring to the public. To this end, the Bureau cooperates with the Park development construction work and conducts inspections of construction sites from time to time. In accordance with the relevant provisions of the Water Pollution Control Measures and Test Reporting Management Regulations, the construction site shall check the Construction Site Runoff Wastewater Pollution Reduction Plan before construction and submit it to the competent authority for approval. For the Siangsihliao and Wanhe farm settlements, it shall cooperate with construction control to prevent the impact of long-term operation of high-noise machinery and tools.

The Park has adopted the Mobile Pollution Source Autonomous Management Plan to improve the control of exhaust emissions from diesel transportation vehicles used in transportation activities as an environmentally friendly measure. The Bureau requires all business units in this park to provide Stage 4 (inclusive) diesel or Stage 3 diesel vehicles with smoke filters used in transportation activities in the Park.

Key Management Projects

Construction site signage	Site perimeter fence	Material stacking and covering
Paved roads	Cover ground to prevent dust	Site entrances and exits
Exterior dust cover over construction structure	Upper level materials conveyance	Transportation vehicles with material securing and covering equipment

The structure is covered with dust nets in accordance with the regulations.

The bare surface of the work area is covered with a dust net to prevent dust.

Information security management

Security Policy

With the continuous introduction of new network skills and technologies, coupled with the implementation of working from home or remote places by many enterprises during the epidemic period, the CTSP, as a government agency, in order to strengthen information security protection, CTSP accepted the information security audit of the Ministry of Science and Technology on November 19 to ensure the implementation of the provisions of the Capital Security Management Law. And through the ISO 27001:2013 security verification and BS 10012:2017 personal information management system, regular security inspections, the holding of internal information security, social engineering education and training, annual information security seminars, etc., we continue to update on software and hardware equipment, implement relevant preventive measures. In the past three years, the Bureau has not had important information leakage.

Affected by the new crown pneumonia epidemic, in order to reduce the risk of infection in groups and commuting, we had to implement remote work or work-from- home measures in order to maintain maximum normal operation under the prevention of employee infection, so as to provide colleagues of the Bureau to use the VPN (Virtual Private Network) for remote office, and use open hours, accounts, system versions and other ways to control and reduce the risk of security. In cooperation with remote office to make communication between colleagues more convenient, U video software was also adopted as a tool for internal video communication with the Ministry of Science and Technology, other parks and other units, which meets a number of security certifications, supports point-to-point encryption, and data landing on local servers in Taiwan, reducing security concerns.

On 6 May 2021, the CTSP held a special "Information Security Protection in the Post-EPIDEMIC Era" Seminar to discuss how enterprises in industrial control sites can effectively detect and defend and deploy new types of security attacks under the integration of virtual and real conditions, and share with enterprises the experience related to new information security technologies and protection. Through the sharing of experience cases by the professional lecturer group and the exchange of personnel from various industries, the participants benefited a lot.

Information Security Protection in the Post-EPIDEMIC Era Seminar

The Ministry of Science and Technology audited the information security in CTSP.

Co-constructed machine room

The co-structured computer room of the Ministry of Science and Technology and its three parks (HCSP, CTSP, and STSP) was built in CTSP, and the project maintenance and operation team are responsible. On September 28, 2021, Vice Minister of Security Chen Zongquan of the Ministry of Science and Technology led Senior Analyst Li Dongyi, Director of the Information Department Xue Dayong, and other senior analysts to inspect the security business operations of the CTSP (critical infrastructure provider) to understand the security protection measures and maintenance and operation overview of the co-structured computer room. In order to maintain the security and the use of machinery and equipment, Mr. Chen instructed to avoid the use of software, components, services and outsourced manpower from mainland China, in addition to the hardware and Internet of Things (IOT) equipment.

Deputy Director Xu Zhengzong served as the Chief of Security, and led the first-level supervisor to welcome the Deputy Minister, and explained through the briefing on the promotion of security business that CTSP promotes the security business in accordance with 6 sub-laws such as the "Information Security Management Law" and the "Implementation Rules of the Information Security Management Law", and in order to strengthen information security and assist park manufacturers, CTSP will handle security protection measures, establish management systems and education and training, and jointly maintain asset security with the concept of regional joint defense. CTSP will also cooperate with administrative agencies to promote various units to strengthen the management of information and communications security, and hope to provide perfect and secure information services for the three parks.

The senior security officer and chief officer of the Ministry of Science and Technology inspected the co-structured machine room of the CTSP.

Information security-related approach discussion in the co-structured room.

Information Sharing and Analysis Center of Science Park

The Science Park Information Sharing and Analysis Center (SP-ISAC) as planned by the Ministry of Science and Technology is exclusively dedicated to the Hsinchu, Central Taiwan and Southern Taiwan Science Parks. Through research and analysis, the sharing of information security knowledge and integrating international information security technology, technical training, personnel training, services such as seminars and assistance in information security drills, park manufacturer's information security management personnel can grasp the latest attack methods and propose countermeasures, achieve early warning, improved assistance, emergency response and other protection targets, while strengthening the internal information security management and protection capabilities of the Park.

In recent years, Advanced Persistent Threats (APT) attacks are regarded by enterprises as the most difficult to defend, it is a complex and multi-faceted attack against a specific organization. To mitigate the risk of APT, we must implement a weakness scan, to assist enterprises to find vulnerabilities in the first place. We must immediately perform vulnerability patching to inhibit hackers. SP-ISAC also held the "Information Security Intermediate Course" system vulnerability detection and analysis practice on March 25, 2021. This course introduced the factors of weaknesses, discussed the recent weaknesses of security, and combined relevant detection tools and patching methods to strengthen the anti-virus system and protected enterprises from the impact of security threats.

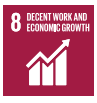
Source: National Center for High-performance Computing

Sustainable issue management

Active Implementation of Sustainable Development Goals (SDGs)

In 2015, the United Nations adopted a total of 17 Sustainable Development Goals (SDGs) and 169 specific targets, which are provided to countries as a reference guide for policy transformation. The CTSP Bureau follows the global trend, integrates with the world, and uses its core capabilities to respond to the SDGs and the 16 corresponding Sustainable Development Goals of Taiwan as well as specific practices, allowing interested parties to understand the sustainable business results of the CTSP Bureau.

UN SDGs	Corresponding Taiwan SDG Indicators	Actions Taken
	1.4.1 : Number of entrepreneurship training courses. 1.4.2 : Number of citizens assisted in consultation services.	▪ As of 2021, 19 startups have entered the field of innovation and entrepreneurship, 235teams have been cumulatively counselled in the From IP to IPO (FITI) program, while of those 97 have established new companies.
	3.9.1 : Improve air quality and protect public health.	▪ In Houli Park, a program was implemented to provide free health check-ups for residents who meet the requirements. A total of 316 publicity sessions, 6,660 telephone interviews and 4,918 health check-ups were conducted from 2011 to 2021. ▪ Epidemiological follow-up surveys (once every 5 years), and a total of 2,235 questionnaire surveys and blood biochemical tests have been conducted.
	4.3.1 : The participation rate of youth and adults in higher education during the past 12 months.	▪ Under the Professional and Technical Talent Training Plans the CTSP offered 36 training courses in 5 cate-gories, with a total of 811 trainees. ▪ In the 2021 academic year, the Talent Cultivation Subsidy Plan of the Science Park approved the subsidy for a total of 12 module courses and enterprise internship courses in 9 schools, with a subsidy amount of NT$8 million, and the total number of people is expected to be cultivated to reach 890 person-time.

UN SDGs	Corresponding Taiwan SDG Indicators	Actions Taken
	4.7.4 : The number of qualified educational environments and facilities.	▪ A total of 3 sewage plants under the jurisdiction of the CTSP as well as Park manufacturers TSMC and AU Optronics have obtained certification as Environ-mental Education Facilities and Venues.
	5.4.1 : Time gap of unpaid housework and family care between spouses (including cohabitation).	▪ In order to promote substantive gender equality, the CTSP Bureau has specially set up a Committee on Gender Discrimination and Gender Equality in Employment to hold a total of 3 related promotion meetings in 2021.
	6.4.3 : Process water reclamation ratio in science parks. 6.4.5 : Level of water stress.	▪ In 2021, the process water recovery rate (semiconductor and optoelectronic industries) in all parks under the Bureau will reach more than 85%. ▪ To mitigate the potential impact of water resources on the production of the park, the Bureau will continue to carry out water conservation and water recycling related counseling and publicity.
	7.2.1 : Cumulative installed capacity of renewable energy.	▪ The CTSP and park manufacturers jointly promote solar power generation. In 2020, the cumulative solar power generation 2021 of CTSP exceeded 52.88 MW.
	8.1.1 : Economic growth rate.	▪ Manufacturers in the Park continued to invest in the Park, with effective and promising results. In 2021, turnover reached NT$1,035.232 billion, an increase of 10.60% over the same period in 2020.
	8.6.1 : Number of young people participating in vocational training and employment rate after training. 8.6.2 : Public employment services institutions provide youth job placement.	▪ A total of 43 talent recruitment events were held in 2021, and the number of employees in December reached 52,888, an increase of 2.05 % from 51,827 in the same period in 2020.

UN SDGs	Corresponding Taiwan SDG Indicators	Actions Taken
	9.1.1 : The growth percentage of passenger volume of bus.	▪ The CTSP provides free shuttle bus service, and the total number of passenger rides in 2021 reached 87,944.
	10.3.1 : Promote public awareness of relevant laws and regulations on gender equality and elimination of employment discrimination.	▪ In 2021, 1 Employment Discrimination Evaluation and Gender Work Equality Committee meeting, and 3 labor law advocacy meetings were held.
	11.11.1 : Gbps Broadband Network Universal Deployment.	▪ In cooperation with the Ministry of Science and Technology and the Using ICT Technology for the Development of Smart Park Project, a total of 179 wireless network hotspots have been completed, with an achievement rate of 293%. The cumulative usage reached approximately 1,320,000 times (from December 2016 to the end of December 2021).
	12.1.1 : The number of passing the cleaner production assessment system of the green factory label.	▪ By the end of 2021, CTSP has obtained a total of 36 green building marks, 1 diamond-level smart buil-ding, 1 diamond-level ecological community and 4 have obtained the green factory label of the Ministry of Economic Affairs.
	12.4.3 : Proportion of industrial waste recycled in science parks.	▪ In the past seven years, the recycling rate (including resource recycling) of industrial waste in the Parks under the jurisdiction of the Bureau has increased from 71.26% to 94.4%.
	12.6.3 : Number of listed companies required to prepare and file CSR reports.	▪ As of the end of 2021, 52companies in CTSP have issued CSR reports.
	12.7.1 : Ratio of green procurement by government agencies.	▪ In 2021, the total purchase amount of environmental protection products by the CTSP Bureau was NT$4.265 million, accounting for 100% of the total purchase amount.

UN SDGs	Corresponding Taiwan SDG Indicators	Actions Taken
	13.1.1 : Identify climate risks, map out prioritized adaptation action plan and execute accordingly.	▪ In order to implement climate change risk manage-ment, in 2021, the CTSP Bureau will set up a Climate Change Identification Team to formulate relevant response measures.
	13.3.2 : Promote public behavior changes and implement local low carbon actions. 13.3.3 : Scientific capacity-building and service for climate change adaptation.	▪ Huwei Park operates electric shuttle vehicles, which provided 4,383 rides traveling 10,700 kilometers by the end of 2021. ▪ From 2018 to 2021, the energy-saving and carbon- reduction benefits of smart streetlights reduced CO_2e emissions by approximately 1,350 metric tons.
	14.2 : Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts.	▪ In 2021, The CTSP and the Community Develop-ment Association held beach cleaning activities, with a total of 132 participants.
	15.5.1 : Red list index of terrestrial vertebrate.	▪ In 2021, an ecological survey was conducted in each park, and 9 species of precious and rare conservation birds, 2 species of conservation birds, 4 species of birds' endemic to Taiwan, 3 species of reptiles, and 17 species of birds' endemic to Taiwan were found.
	16.4.1 : Corruption conviction rates.	▪ As a public agency, the CTSP Bureau should lead by example and follow various laws and regulations, make information public and transparent, and put an end to all corruption cases. There were no corruption cases in 2021.
	16.5.1 : The downloads of Government Open Data.	▪ In line with the Government's information disclosure policy, various data can be down-loaded from the official website of the Bureau. In addition, annual reports and monthly news-letters of the CTSP are published to provide the outside world with the latest developments of the Park.

UN SDGs	Corresponding Taiwan SDG Indicators	Actions Taken
	17.9.2 : Numbers of countries participating in environmental protection cooperation activities / meetings.	▪ As of the end of 2021, the CTSP has signed memoranda of cooperation with 16 foreign science parks and the Asian Science Park Association, and joined 3 international science park organizations such as ASPA, IASP, AURP, in addition to the International Forum of Agricultural Robotics (FIRA). The CTSP will continue foreign park communication, opening up potential cooperation opportunities.

Future Outlook

In 2021, COVID-19 continued to impact the world, but the CTSP was not affected by the epidemic, instead benefiting from the synchronous growth of the turnover of six major industries such as integrated circuits, optoelectronics, and machinery, overcoming challenges such as the epidemic and drought. As a result, the annual turnover hit a record high of NT$1.035232 trillion, reaching the trillion-dollar mark for the first time, and the Park will continue to develop and expand, to successfully playing the core leadership pioneer of high-tech development in the central Taiwan.

Looking forward to 2022, CTSP will combine the existing ICT, AI, 5G communications, big data and other technologies in the Park to assist in the upgrading of key industrial technologies, industry-academia cooperation, talent cultivation, innovation and entrepreneurship, industrial transformation, development of innovative service models, create a new blueprint for the industry, grasp the opportunity of global supply chain restructuring, and move towards the "Dual-Trillion Park vision". We hope to build CTSP as the world's most competitive science park through the following goals:

Carry out industrial innovation and transformation

In 2022, the "CTSP Precision Health Industry Cross-domain Promotion Plan" and "Accelerating the Industrial Intelligent Upgrading and Digital Optimization Plan in the Central Region" will be launched to drive manufacturers to invest in intelligent technology development and carry out precision health innovation technology and medical product development through cross-domain industry cooperation with research and medicine, so as to promote the development of industrial smart supply chain and the realization of precision health industrialization.

Create a diversified platform to cultivate talents

In order to promote the "Intelligent Robot Innovation Self-Built Base - Cross-domain Intelligent Ecosystem Alliance", CTSP invites Collaborative Operators to enter the company, with the goal of building the self-built base into a multi-service platform, providing field and professional technology, creating an environment for cultivation and exchange, and it can also combine professional consultant teams to develop in the direction of intelligent manufacturing technology service alliance.

Accelerate the development of the park and attract investment

We will speed up the development and investment promotion of Erlin Park, provide perfect infrastructure, and hope to expand the scale of existing science and technology industries in the central region through cooperation between the central and local governments, driveing upstream and downstream industrial chain manufacturers to enter and drive the development of the park, and continue to pay attention to potential foreign investment manufacturers in the future to seize the opportunity to attract investment.

Operate CTSP Sustainable Park

In order to build a sustainable park and responding to the government's circular economy policy with practical actions, We will actively promote reclaimed water development programs to reduce the impact of drought on the operation of the park besides providing a high-quality living environment and convenient living functions. With the goal of green management, we will fulfill our social corporate responsibilities and move towards a sustainable environment.

Appendix

Appendix Ⅰ：Verification statement

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By Royal Charter

INDE PENDENT ASSURANCE OPINION STATEMENT

Central Taiwan Science Park 2021 Sustainability Report

The British Standards Institution is independent to Central Taiwan Science Park Bureau, Ministry of Science and Technology (hereafter referred to as CTSP in this statement) and has no financial interest in the operation of CTSP other than for the assessment and verification of the sustainability statements contained in this report.

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

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

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

Scope

The scope of engagement agreed upon with CTSP includes the followings:

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

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

Opinion Statement

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

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

Methodology

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

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

Conclusions

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

Inclusivity

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

Materiality

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

Responsiveness

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

Impact

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

GRI Sustainability Reporting Standards (GRI Standards)

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

Assurance level

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

Responsibility

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

Competency and Independence

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

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan

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Statement No: SRA-TW-2021005

2022-06-06

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Appendix Ⅱ：Global Reporting Initiative (GRI) Index

The following content has been verified by an independent third-party and the result is published in the independent assurance report in Appendix II.

" * " indicates major aspects while "●" indicatesexternal verification.

GRI Category/ Material As- pects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
Organizational Profile						
GRI 102 General disclosure 2016	102-1	Name of the organization	●	About this Report	4	
	102-2	Activities, brands, products, and services	●	Introduction to Central Taiwan Science Park	24	
	102-3	Location of headquarters	●	Introduction to Central Taiwan Science Park Editorial Committee	42 152	
	102-4	Location of operations	●	Introduction to Central Taiwan Science Park	24	
	102-5	Ownership and legal form	●	Introduction to Central Taiwan Science Park	24	
	102-6	Markets served	●	Introduction to Central Taiwan Science Park	24	
	102-7	Scale of the organization	●	Introduction to Central Taiwan Science Park Personnel Structure	24 106	
	102-8	Information on employees and other workers	●	Personnel Structure	106	
	102-9	Supply chain	●	Park Supply Chain	121	
	102-10	Significant changes to the organization and its supply chain	●	About this Report Introduction to Central Taiwan Science Park	4 24	
	102-11	Precautionary Principle or approach	●	Anti-corruption Policy Risk Management	118 115	
	102-12	External initiatives	●	About this Report	4	
	102-13	Membership of association	●	Strengthening International Cooperation	74	
Strategy						
GRI 102 General disclosure 2016	102-14	Statement from senior decision-maker	●	Message from the Director-General	6	
	102-15	Key impacts, risks, and opportunities	●	Message from the Director-General	6	

GRI Category/ Material As- pects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
Ethics and Integrity						
GRI 102 General disclosure 2016	102-17	Mechanisms for advice and concerns about ethics	●	Anti-corruption Policy	118	
Governance						
GRI 102 General disclosure 2016	102-18	Governance structure	●	Introduction to Central Taiwan Science Park	24	
	102-40	Governance structure	●	Stakeholder Interaction	10	
	102-41	Collective bargaining agreements	●	Salary and Benefits	109	
	102-42	Identifying and selecting stakeholders	●	Material Topics Identification	15	
	102-43	Approach to stakeholder engagement	●	Stakeholder Interaction Material Topics Identification	10 15	
	102-44	Key topics and concerns raised	●	Stakeholder Interaction	10	
Report Profile						
GRI 102 General disclosure 2016	102-45	Entities included in the consolidated financial statements	-	-	-	CTSP is a government agency, and it does not contain ntities included in the consolidated financial statement.
	102-46	Defining report content and topic Boundaries	●	Material Topics Identification Material Topic Value Chain and Goals	15 17	
	102-47	List of material topics	●	Material Topics Identification	15	
	102-48	Restatements of information	●	About this Report	4	
	102-49	Changes in reporting	●	About this Report Material Topics Identification	4 15	
	102-50	Reporting period	●	About this Report	4	
	102-51	Date of most recent report	●	About this Report	4	
	102-52	Reporting cycle	●	About this Report	4	
	102-53	Contact point for questions regarding the report	●	About this Report	4	

GRI Category/ Material Aspects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 102 General disclosure 2016	102-54	Claims of reporting in accordance with the GRI Standards	●	About this Report	4	
	102-55	GRI content index	●	About this Report	4	
	102-56	External assurance	●	About this Report	4	
Topic-specific disclosure : 200 series (Economic topics)						
***Economic performance (Industrial upgrading)**						
GRI 103 Management approach of Economic Performance (Industrial upgrading) 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topics Identification Innovation Driven Industries	15 64	
	103-2	The management approach and its components	●	Innovation Driven Industries	64	
	103-3	Evaluation of the management approach	●	Innovation Driven Industries	64	
GRI 201 Disclosure of Economic Performance 2016	201-1	Direct economic value generated and distributed	●	Introduction to Central Taiwan Science Park	24	
	201-2	Financial implications and other risks and opportunities due to climate change	●	Climate Change Disaster Prevention and Adaptation	33	
	201-3	Defined benefit plan obligations and other retirement plans	●	Salary and Benefits	109	
Market Presence						
GRI 202 Disclosure of Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	●	Salary and Benefits	109	
	202-2	Proportion of senior management hired from the local community	●	Personnel Structure	106	
***Indirect Economic Impacts (Infrastructure in the Park)**						
GRI 103 Management approach of Indirect Economic Impacts (Infrastructure in the Park) 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Social interaction	17 88	
	103-2	The management approach and its components	●	Social interaction	88	
	103-3	Evaluation of the management approach	●	Social interaction	88	

GRI Category/ Material As- pects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 203 Disclosure of Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	●	Integration of Technological Creativity and Self-production Convenient Life in the Smart Park Good Neighborliness and Friendly Environment Cultivate Talents to Lay Out The Future	77 89 93 96	
Procurement Practices						
GRI 204 Disclosure of Procurement Practices 2016	204-1	Proportion of spending on local suppliers	●	Park Supply Chain	121	
***Anti-corruption**						
GRI 103 Management approach of Anti-corruption 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Integrity Governance	17 104	
	103-2	The management approach and its components	●	Integrity Governance	104	
	103-3	Evaluation of the management approach	●	Integrity Governance	104	
GRI 205 Disclosure of Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	●	Anti-corruption Policy	118	
	205-2	Communication and training about anticorruption policies and procedures	●	Anti-corruption Policy	118	
	205-3	Confirmed incidents of corruption and actions taken	●	Regulatory Compliance Anti-corruption Policy	117 118	
Anti-competitive Behavior						
GRI 206 Disclosure of Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	●	Regulatory Compliance	117	
***Innovation & Entrepreneurship**						
GRI 103 Management approach of Innovation & Entrepreneurship 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Innovation Driven Industries	17 64	
	103-2	The management approach and its components	●	Innovation Driven Industries	64	
	103-3	Evaluation of the management approach	●	Innovation Driven Industries	64	

GRI Category/ Material Aspects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
*Investment Promotion						
GRI 103 Management approach of Investment Promotion 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Innovation Driven Industries	17 64	
	103-2	The management approach and its components	●	Innovation Driven Industries	64	
	103-3	Evaluation of the management approach	●	Innovation Driven Industries	64	
Topic-specific disclosure : 300 series (Environmental topics)						
*Energy (Energy Saving, Renewable Energy)						
GRI 103 Management approach of Energy (Energy Saving, Renewable Energy) 2016	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Climate Action	17 32	
	103-2	The management approach and its components	●	Climate Action	32	
	103-3	Evaluation of the management approach	●	Climate Action	32	
GRI 302 Disclosure of Energy (Energy Saving, Renewable Energy) 2016	302-1	Energy consumption within the organization	●	Energy Resources Management	40	
	302-3	Energy intensity	●	Energy Resources Management	40	
	302-4	Reduction of energy consumption	●	Water and electricity saving measures Energy consumption	38 114	
*Water and Effluents						
GRI 303 Management approach of Water and Effluents 2018	103-1	Explanation of the material topic and its Boundary	●	Material Topic Value Chain and Goals Environmental management	17 47	
	103-2	The management approach and its components	●	Environmental management	47	
	103-3	Evaluation of the management approach	●	Environmental management	47	
	303-1	Interactions with water as a shared resource	●	Energy Resources Management	40	
	303-2	Management of water discharge-related impacts	●	Sewage management	54	
GRI 303 Disclosure of Water and Effluents 2018	303-3	Water withdrawal	●	Energy Resources Management	40	All water withdrawal is fresh water

GRI Category/ Material As- pects	No.	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
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