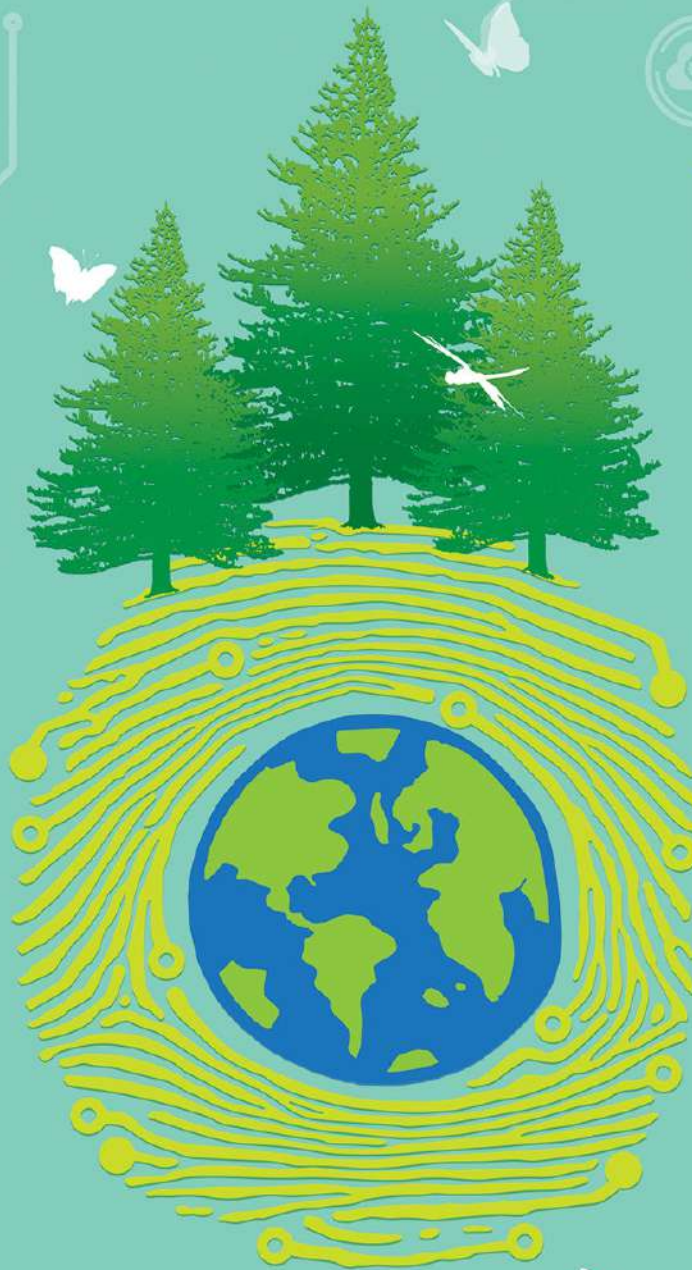




Southern Taiwan Science Park Bureau,
National Science and Technology Council



2023

**Southern Taiwan Science Park
Voluntary Department Reviews**

CONTENT

Message from the Director-General	2
Executive Summary	3
Sustainable Development Roadmap	9
Organizational Structure and Promotion Mechanism	12
Major core goals and results of promotion	20
Vision : Improving Industrial Strength and Growing Industrial Clusters	21
Core goal 1	21
Core Goal 4 and 8	40
Core Goal 17	67
Vision : Stabilizing STSP Resources for Sustainable Operations	77
Core Goals 6 and 12	77
Core Goals 7	94
Vision : A Sustainable Environment for Industry, Living, Life, and Ecology	100
Core Goal 11	100
Core Goal13	125
Future Outlook	133
Appendix	135
Appendix I : Explanation of Compilation Methodology	135
Appendix II : List of indicators tracking the promotion of T-SDGs	141
Appendix III : Communication with Stakeholders	143



Message from the Director-General

In 2023, faced with challenges such as global inflation, interest rate hikes, inventory overhang, and geopolitical influences, Southern Taiwan Science Park Bureau (STSP) demonstrated resilience against headwinds, and the overall revenue surged by more than NT\$ 100 billion compare with the previous year, reaching over NT\$ 1 trillion for three consecutive years. Moreover, industry investments have also shown numerous highlights. In 2023, 20 new manufacturers were introduced to the park, with an investment amount of NT\$ 30.169 billion. Furthermore, high-tech manufacturers in the park continue to invest resources to implement the investment plans in the park, enhancing the competitiveness of the industrial cluster.

The turnover continues to rise, the investment promotion has achieved remarkable results, and the construction of each park is also in full swing simultaneously. The third-phase expansion project of Tainan Science Park, the on-schedule progress of Ciaotou Park, the initiation of ground-breaking and investment solicitation progress of Chiayi and Pingtung Parks, the approval of the establishment of Nanzi Park, the continuous optimization of the hardware and software facilities of the existing parks are on-going. STSP is moving toward Taiwan's 2035 vision of "Forward-looking and Innovation, Democracy and Inclusiveness, Resilience and Sustainability"

In addition, STSP continues to actively promote sustainable resources. The total supply of reclaimed water from Yongkang, Anping Reclaimed Water Plants and the one within the park increased to 58,000 tons/day, accounting for 20% of the water use in Tainan Science Park, stabilizing the regional water supply. STSP's sustainability measures were recognized by 2023 TCSA (Taiwan Corporate Sustainability Awards) and the Sustainability Report won the highest Platinum Award in Government Agencies Voluntary Department Review of Sustainable Development and the Workplace Wellbeing Leadership Award. The Resource Recycling Center also actively improves the energy efficiency of facilities and promotes various energy-saving measurements. We also won the Silver Medal for Energy Saving Benchmark Award granted by MOEA in 2023.

Throughout the journey, STSP has been overcoming obstacles and laid a solid foundation for future success. The annual turnover exceeds NT\$ 1 trillion every year. Coupled with the subsequent expansion of the third-phase expansion project of Tainan Science Park, and the establishment of facilities in Ciaotou, Pingtung, and Chiayi as well as Nanzi Science Parks, it can be described as prosperity from multiple avenues, providing abundant momentum for industrial development. In the future, STSP will continue to promote innovation and transformation of the park, assist manufacturers and local respondents to prosper together in harmony. We look forward to working with all sectors to build a technology corridor in Southern Taiwan and create a science park of sustainability and livability.

局長 鄭秀絨

Director-General **Cheng, Hsiu-Jung**





Executive Summary

The establishment of the Southern Taiwan Science Park (STSP) is aimed to facilitate the development of high-tech industries in Southern Taiwan, construct complete software and hardware public facilities, and provide high-quality investment environment to attract domestic and foreign manufacturers. Southern Taiwan Science Park Bureau, National Science and Technology Council (referred to as STSP Bureau) attaches great importance to the integration of the four values of “Production, Living, Ecology, and Life” in the promotion of STSP to become a sustainable green park. In addition, STSP Bureau also helps achieve the country’s sustainable development goals. With the reference to Taiwan’s Sustainable Development Goals (T-SDGs), the blueprint for the sustainable development of the STSP has been drawn. The visions of the sustainable development of STSP is “Generating the kinetic energy in the park, Expanding the industrial cluster, Lean and high-quality services to ensure sustainable operation, Creating a friendly environment and Attaching importance to the value of Production, Living, Ecology, and Life”.

Relevant promotion work is carried out by the Environment and Labor Affair Division, which serves as the overall planning unit for the voluntary review report (VDR) of the sustainable development. Through the business inventory of all units, combined with the results of the questionnaire survey of stakeholders and senior executives in charge of decision-making, it was found in the comprehensive review of STSP Bureau’s various policies that specific contributions have been made in the cultivation resources in T-SDGs (1), economic development (4, 8, 17), environmental management (6, 12), renewable energy (7), urban and rural development (11), and climate action (13). STSP Bureau’s sustainable visions correspond to the major core goals of T-SDGs 1, 4, 8, 17, 6, 12, 7, 11, and 13. The Environment and Labor Affair Division and the ESG Editing Team handled the staff work and based on the results of identification mentioned above, the 5 major promotion directions and 17 major policy axes were formulated.

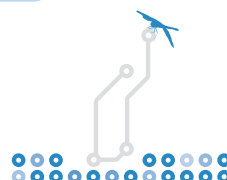
Aspect : Cultivation Resources

Material Goal



Linkage between the administration axes and the core goals

- ④ Assist manufacturers with R&D and innovation, foster startup teams, and accumulate the momentum for technical innovation in the park
- ④ Expansion of the Park Area, Driving Urban Transformation and Promoting Local Employment





Aspect : Economic Development

Material Goal



Linkage between the administration axes and the core goals

- ⦿ Key cultivation to reduce the gap between the industry and the academia
- ⦿ Promote Technological Upgrading Expand Industrial Clusters
- ⦿ Construction of a Safe and Friendly Workplace Environment



- ⦿ Domestic and Foreign Exchanges and Industrial Links
- ⦿ Joint Participation in International Exhibition

Aspect : Environmental Management

Material Goal



Linkage between the administration axes and the core goals

- ⦿ Implement environmental reviews 100% of wastewater and sewage is included in sewage pipeline
- ⦿ Reduce water intensity in the park and improve stability of water supply
- ⦿ Proper Treatment of Waste

Aspect : Renewable Energy

Material Goal



Linkage between the administration axes and the core goals

- ⦿ Installation of Renewable Energy Systems to stabilize power supply in the park

Aspect : Urban and rural development

Material Goal



Linkage between the administration axes and the core goals

- ⦿ Construction of a stable and convenient transportation system
- ⦿ Complete the park functions to create a LOHAS art and culture in STSP
- ⦿ Low-carbon ecological communities and buildings for environmental symbiosis and mutual benefit
- ⦿ Spreading awareness of ecological

Aspect : Climate action

Material Goal



Linkage between the administration axes and the core goals

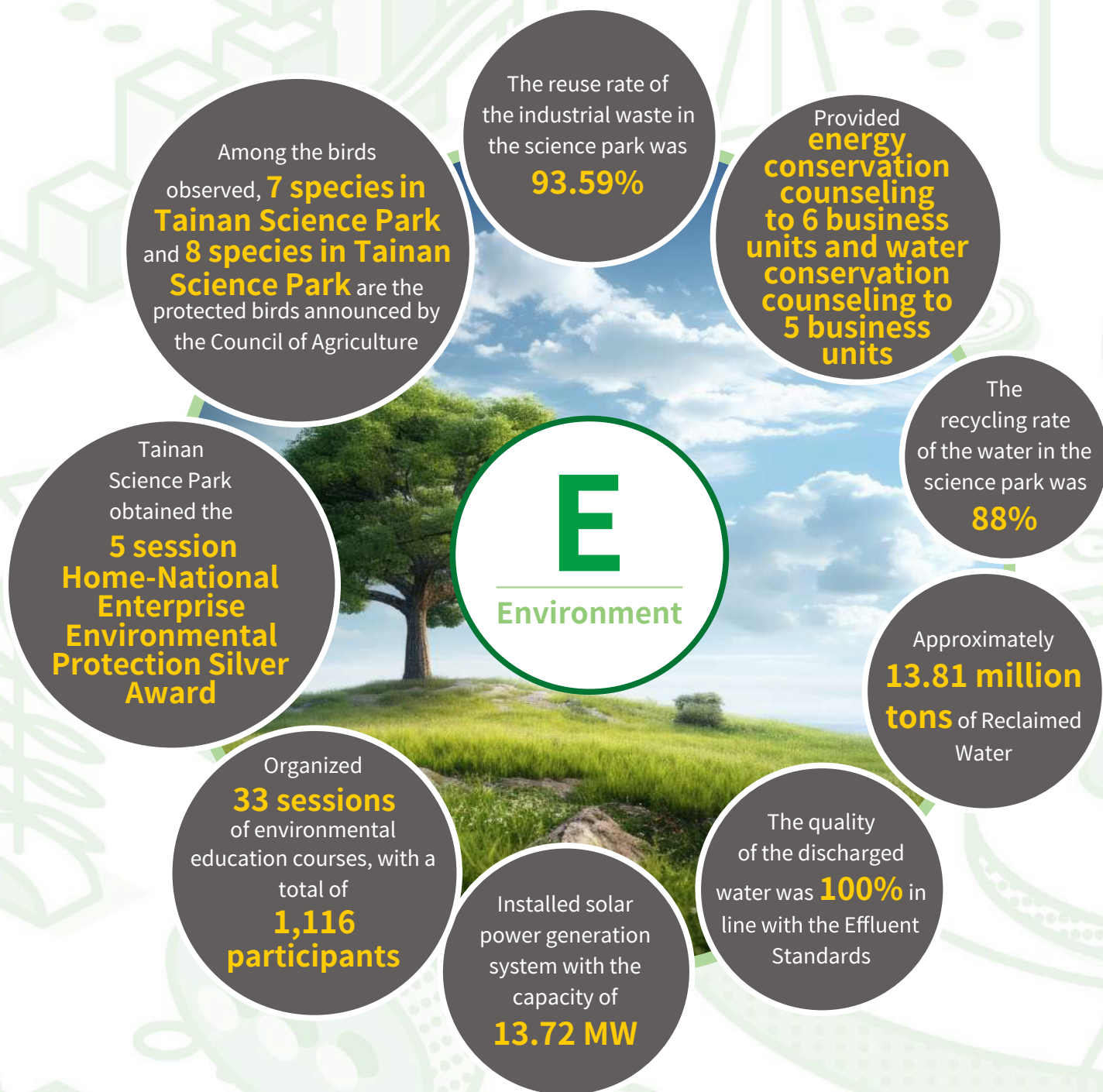
- ⦿ Intelligent disaster prevention response system to improve the resilience of the park area
- ⦿ GHG Management



This Report was compiled based on the blueprint for the sustainable development of the STSPB, the organizational structure and promotion mechanism, major contribution core goals and promotion results, and future prospects, and with the major core goals in the sequence of 1, 4, 8, 17, 6, 12, 7, 11, and 13 that correspond to the sustainable development visions, coupled with the explanation of the relevant implementation content and promotion results of the policy axes, the process of STSPB's contribution in the assistance with the promotion of T-SDGs is systematically presented.



Highlights of Performance in 2023







**Government
Agencies Voluntary
Department Review of
Sustainable Development
and the Workplace
Wellbeing Leadership
Award**

Awarded the TCSA Taiwan
Corporate Sustainability
Award

The annual turnover
of STSP in amounted to
NTD 1.5855 trillion,
a 6.88% increase

The cumulative validly
approved manufacturers
reached 271

G

Governance

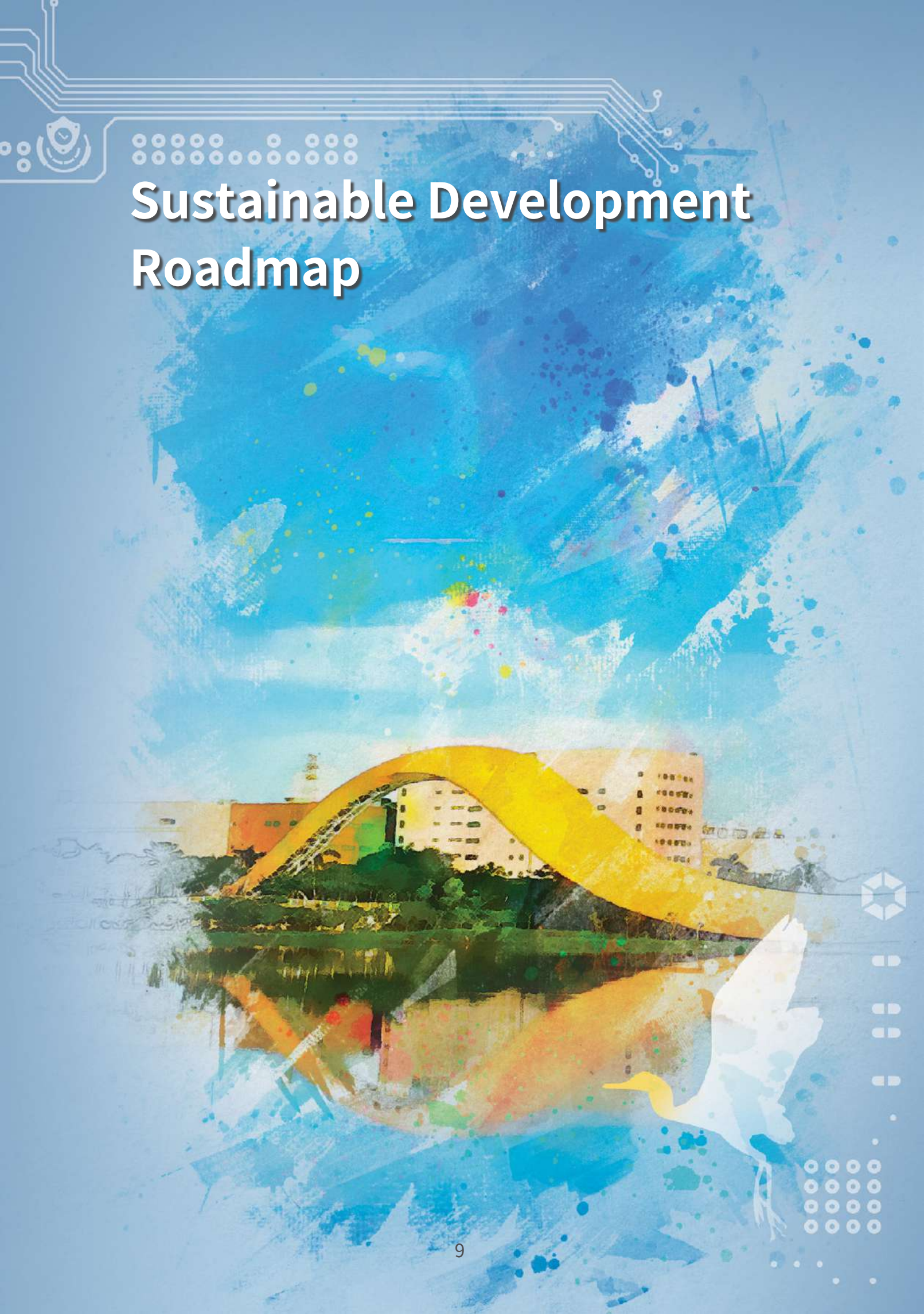
The total
training hours of the
STSP Bureau staff was
8,089 hours, and the
average training hours was
56 hours/person

**1 session
More than 100
participants**

anti-corruption and
integrity education

**20 new
manufactures**
were introduced to the park,
with an investment amount
of **NTD 30.169
billion**





Sustainable Development Roadmap



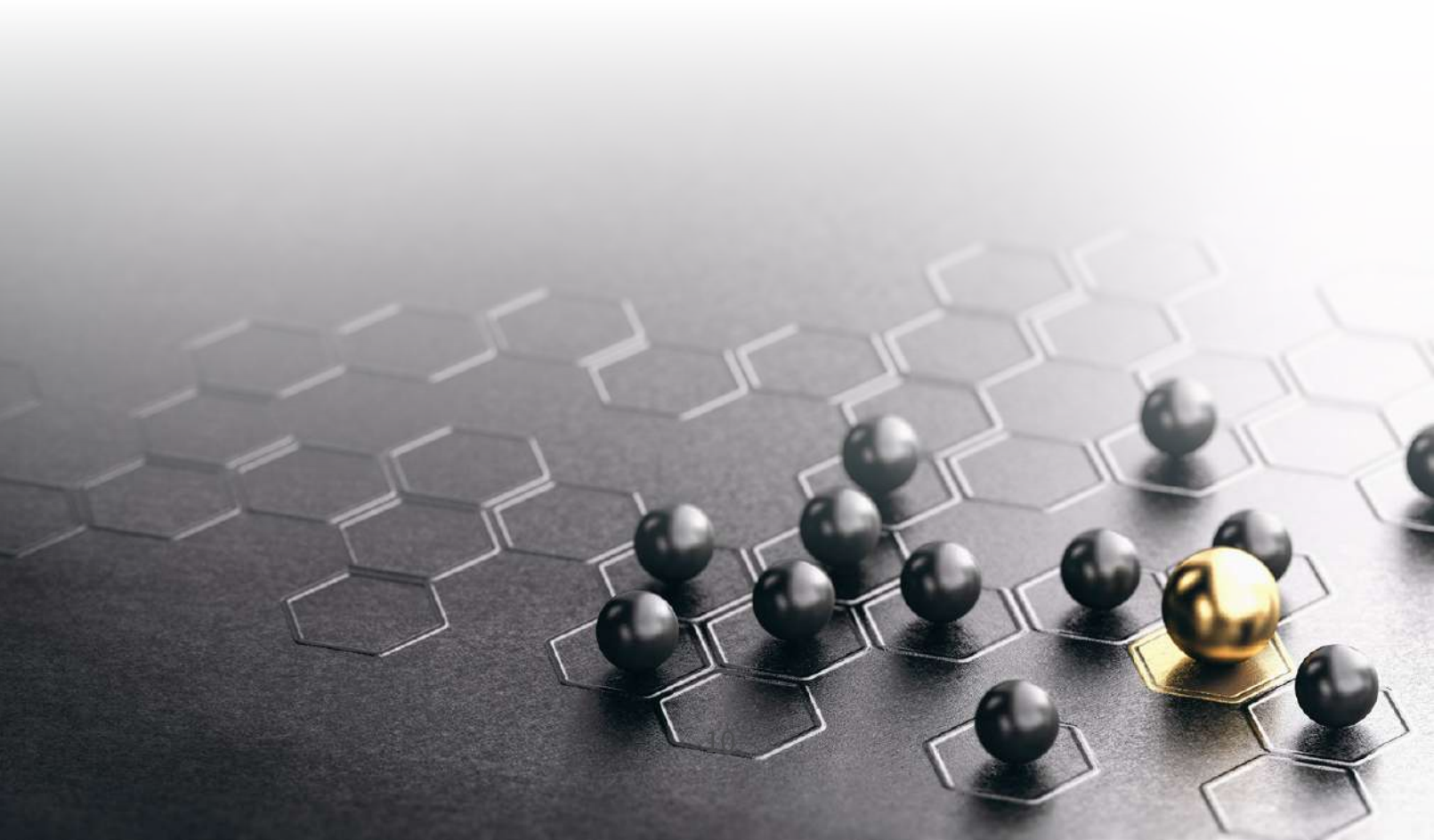


1. Vision(Establishment Purpose)

The purpose of the establishment of the science park is to establish a good development base for high-tech industry, balance regional development, and promote industrial upgrading. STSP Bureau regards “Promoting the high-tech industrial cluster in Southern Taiwan for the construction of a Center-Satellite System” as its mission, and further expands its influence outward, striving to promote the balanced development of different aspects of the society. The vision of sustainable development of STSP is “Generating the kinetic energy in the park, Expanding the industrial cluster, Lean and high-quality services to ensure sustainable operation, Creating a friendly environment and Attaching importance to the value of Production, Living, Ecology, and Life”, and stepping toward the goal of Net Zero Emissions by 2050, constructing innovative, inclusive, and sustainable technological visions.

2. Material Goal

The major contributions of STSP Bureau to T-SDGs are cultivation resources, economic development, environmental management, renewable energy, urban and rural development, and climate action, which corresponded to the core goals of 1, 4, 8, 17, 6, 12, 7, 11, and 13. Based on the specific policy content that corresponded to the goals, the 5 major promotion directions of “industrial upgrading”, “resources linkage”, “safe employment”, “carbon cap”, and “ecological community” were developed.



3. The 17 axes pf administration

Linkage between the administration axes and the T-SDGs core goals





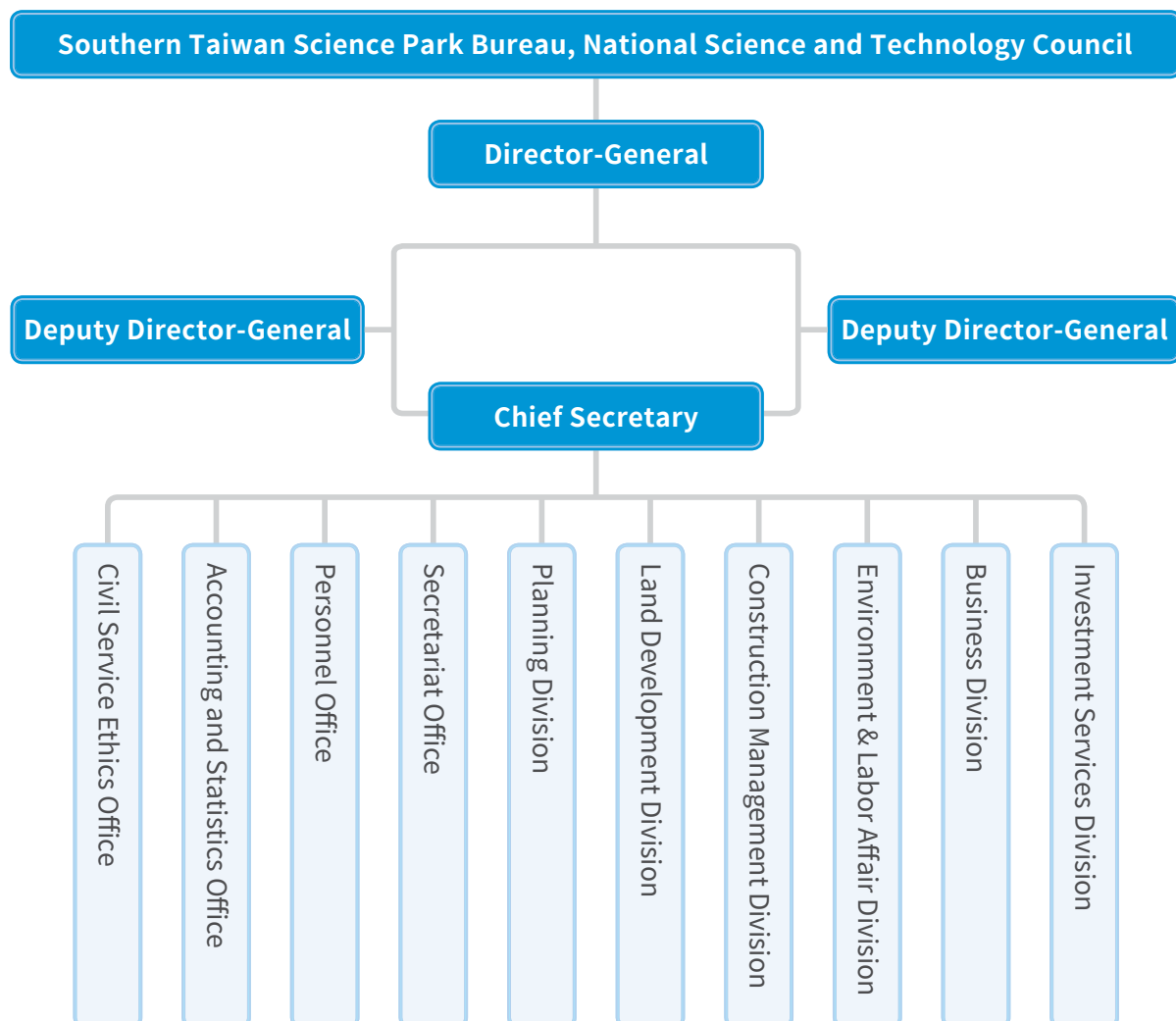
Organizational Structure and Promotion Mechanism



1. Organizational Structure, Composition of members

Southern Taiwan Science Park Bureau, National Science and Technology Council is the designated administrative agency located in the Tainan Science Park, Southern Taiwan Science Park in Tainan City, which is affiliated to the National Science and Technology Council. In accordance with the Organizational Act, the STSP Bureau shall have one Director-General, two Deputy Director-Generals, one Chief Secretary, and 10 divisions and offices, including the Investment Services Division, Business Division, Environment & Labor Affairs Division, Construction Management Division, Land Development Division, Planning Division, Secretariat, Personnel Office, Accounting and Statistics Office and Civil Service Ethics Office, and the functions of the divisions and offices cover all the affairs in the science parks.

Organizational Structure





Business responsibilities of each group

Division	Description of Service
Planning Division	Planning Section: In charge of the planning and promotion of park innovation, the entrepreneurial environment and important research on the development of science parks at home and abroad. Evaluation Section: In charge of the promotion of the administrative innovation and the service quality and the planning of the park development goals and strategies, as well as matters related to the selection and establishment of the park area. Financial Planning Section: In charge of the research and comprehensive planning of the public affairs and estimates of operating funds, and the management and financial analysis of the park operating funds.
Investment Services Division	Investment Affairs Section: In charge of the planning and promotion of the attraction of the investment in the science park, the incubation center and the preparation and approval of the application of units to be stationed in the science park. Industry-Academic Research and Development Section: In charge of the research and development of industry-academia cooperation in the science park and the promotion and contact affairs of talent training and cultivation as well as the business review of the grants of the R&D of innovative technology projects. Investment Promotion Section: In charge of the planning and promotion of the park image and the promotion of the exchanges and cooperation with international science parks and related organizations.
Environment & Labor Affair Division	Industry Safety Section: In charge of the planning and coordination of the disaster prevention and emergency response affairs in the science park, the operation management of the 24-hour emergency response center in the science park, the business guidance of the industrial safety promotion association, and the promotion of the health promotion in the workplace within the science park. Labor Relations Section: In charge of the counseling and assisting/inspection of labor relations in the science park and the handling of labor disputes. Environmental Protection Section: In charge of the planning and promotion of the environmental protection work in the science park, the monitoring and test, analysis and information management of the environment quality of the science park.
Business Division	Industrial and Commercial Services Section: In charge of the planning and implementation of the industrial and commercial registration of the park manufacturers (including company registration, factory registration and registration of chattel secured transactions), the deliberation and counseling management of the industrial and commercial services entering the science park, and the coordination of the business in relation to the experimental high school in the science park. Foreign Trade Section: The research and draft of the laws and regulations of the trade/bond and the collection of the park business management fees and the deliberation and counseling management of the life service industries entering the science park.



Division	Description of Service
Construction Management Division	Civil Engineering Section: In charge of the medium-to long-term annual budgeting of public construction projects and the establishment of park land development projects. Water, Electrical & Traffic Section: In charge of the management and rules of park transportation facilities maintenance, the overall planning, coordination and management of water and electricity in the science park, and the review of water and electricity plans as well as the issuance of electric technology license. Facility Maintenance Section: Maintenance and management of park/green landscape planting and the establishment and maintenance of the geographic information system (GIS) of the science park.
Land Development Division	Land Planning and Construction Management Section: In charge of the review and change of the urban planning in the park, the review and revision of non-urban land, and the planning, development and management of the ecological protection area in the science park. Land Acquisition and Rental Services Section: The acquisition, expropriation, appropriation, cooperative development and land management of the land in the science park. Architectural Section: The establishment and management of the public art in the science park.
Other	Secretariat: In charge of receiving and sending of official documents, the file application and procurement affairs services. Personal Office: In charge of personnel administration related affairs. Civil Service Ethics Office: In charge of the integrity services and other related affairs. Accounting Office: In charge of annual budget, accounting, and statistics affairs.

■ Scale of Budget

As a public agency, the funds needed are for STSP Bureau to promote administrative affairs, perform official duties and maintain park operations. The budgets are from the national treasure and self-fundraising.

2023 Budget scale of STSPB (NNIEHS excluded)

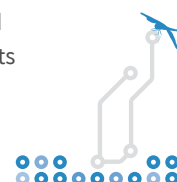
Item	Amount
The final amount of annual expenditure (including final amount of personnel expenses ^{Note 1})	NTD 0.357 billion (NTD 0.185 billion)
The final account of expenditure of the total business revenues	NTD 6.906 billion
The final account of the total business costs	NTD 5.43 billion
The final account of the fixed assets construction improvement and expansion plans	NTD 5.06 billion

Notes:

1. Personnel expenses include statutory remunerations for staff members, contracted employees and technicians and janitors, bonuses, other grants, overtime pay, retirement pension and insurance.
2. All the budgets and final reports are disclosed on the STSP official website in an open and transparent manner for all to download online.



STSPB budget,
monthly final and
accounting reports





■ Staffing

We know that genial services come from happy employees, so we attach great importance to the working environment, development, care for employees and labor rights. We have established multi-directional communication channels and provided equal treatment and respect, striving to create a safe workplace for our employees. The recruitment of personnel is fully protected by laws and regulations, and the personnel's due rights for appointment, rewards and promotion should not be affected due to differences in race, religion, skin color, political affiliation, age, gender, marriage status and physical and mental disabilities.

The total number of employees of STSPB was 136 in 2023. The Director-General is appointed by the Executive Yuan to be in charge of the overall affairs of the Bureau. Two Deputy Director-Generals and one Chief Secretary are appointed by the National Science and Technology Council. There are 36 supervisors in total (no one from the minority groups and no foreign employees serve as supervisors). Among the employees, there are 126 regular employees, 5 employed employees, 4 mechanics/ janitors and 1 contract employee. All the employees are residents in Taiwan, and no child labor under the age of 16 is hired. In addition, there are 34 non-employee workers in the Bureau, who are mainly to assist with the implementation of projects within the Bureau.

In accordance with Article 38 of the People with Disabilities Rights Protection Act, STSP Bureau has actively employed employees with physical and mental disabilities and promoted measures for a friendly workplace. In 2023, the Bureau hired 4 employees with physical and mental disabilities (2 are severely physically and mentally disabled; whereas the employment of a person with severe disabilities, the person shall be calculated as 2, so the employment rate was 4.4%).

Staff Profile of STSPB in 2023

Item	Female			Male		
	Under 30	30-50	50 and more	Under 30	30-50	50 and more
Supervisor	0	0	11	0	3	22
Non-supervisor	2	34	9	2	41	7
Hired	0	3	0	0	1	1
Total		59			77	

Notes: No child labor was used as contracted labor to perform heavy and dangerous work.



■ New Staff and Turnover

All the regular employees are civil servants and are protected by the Civil Service Protection Act and Civil Service Employment Act. When employees leave the position due to retirement, promotion or changes of the job positions, and when the supervisor of the unit or when the executive of the unit have arrangements for leave, change, retirement or resignation, the complementary relationship during the period should be handled in accordance with the “Directions for Agency in Duty in Government Agencies”. The contracted staff are hired on a yearly basis, and therefore do not apply to the minimum notice period stipulated in the Labor Standard Act.

Ratio of new staff and labor turnover in 2023

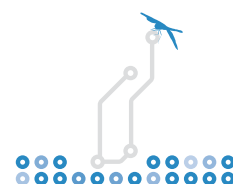
Item	Age	Under 30		30-50		50 and more	
	性別	Female	Male	Female	Male	Female	Male
New staff	Number of people	0	1	4	3	0	0
	Ratio*	0.00%	0.77%	3.08%	2.31%	0.00%	0.00%
Labor turnover	Number of people	0	0	4	0	0	2
	Ratio*	0.00%	0.00%	3.08%	0.00%	0.00%	1.54%

Notes:

1. Employment rate= Number of new staff/Total number of staff at the end of the current year.
2. Turnover rate= Turnover number/Total number of staff at the end of the current year.

2. Clear Division of Labor and Responsibilities

To implement the Taiwan Sustainable Development Goals (T-SDGs), STSP Bureau has been promoting various sustainable development work and expanded 3 visions to 17 items that clearly correspond to the major core goals involved in the business of STSP Bureau, and each division and office is in charge of the promotion work in accordance with the business relevance to each unit. Relevant implementation results are reported to the competent authority on a regular basis, and irregular meetings and exchanges of official documents are also used to discuss the implementation status.





Vision : Improving Industrial Strength and Growing Industrial Clusters

Axis of administration

- ④ Assist manufacturers with R&D and innovation, foster startup teams, and accumulate the momentum for technical innovation in the park.
- ④ Expansion of the Park Area, Driving Urban Transformation, and Promoting Local Employment
- ④ Promote Technological Upgrading and Expand Industrial Clusters
- ④ Key cultivation to reduce the gap between the industry and the academia
- ④ Construction of a Safe and Friendly Workplace Environment
- ④ Domestic and Foreign Exchanges and Industrial Links
- ④ Joint Participation in International Exhibition

Business related units

Planning Division,
Investment Services Division,
Industry-Academic Research and Development Section

Evaluation Section,
Civil Engineering Section

Industry-Academic Research and Development Section

Industry-Academic Research and Development Section
Industrial and Commercial Services Section

Labor Relations Section
Industry Safety Section
Industrial and Commercial Services Section

Investment Promotion Section
Industry-Academic Research and Development Section

Investment Promotion Section
Industry-Academic Research and Development Section

Vision : Lean and high-quality services to ensure sustainable operation

Axis of administration

- ④ Implement environmental reviews and 100% of wastewater and sewage is included in sewage pipeline
- ④ Reduce water intensity in the park and improve stability of water supply
- ④ Proper Treatment of Waste
- ④ Installation of Renewable Energy Systems to stabilize power supply in the park

Business related units

Environmental Protection Section

Environmental Protection Section,
Water, Electrical & Traffic Section

Environmental Protection Section

Architectural Section,
Water, Electrical & Traffic Section



Vision : Creating a friendly environment and attaching importance to the value of Production, Living, Ecology, and Life

Axis of administration

- ⦿ Construction of a stable and convenient transportation system
- ⦿ Complete the park functions to create a LOHAS art and culture in STSP
- ⦿ Low-carbon ecological communities and buildings for environmental symbiosis and mutual benefit
- ⦿ Spreading awareness of ecological
- ⦿ Intelligent disaster prevention response system to improve the resilience of the park area
- ⦿ GHG Management

Business related units

Water, Electrical & Traffic Section

Foreign Trade Section,
Labor Relations Section,
Land Planning and Construction
Management Section
Industrial and Commercial Services
Section

Facility Maintenance Section,
Civil Engineering Section,
Architectural Section

Land Planning and Construction
Management Section,
Environmental Protection Section

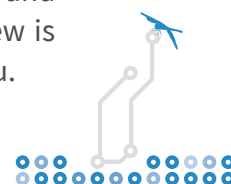
Water, Electrical & Traffic Section,
Industry Safety Section

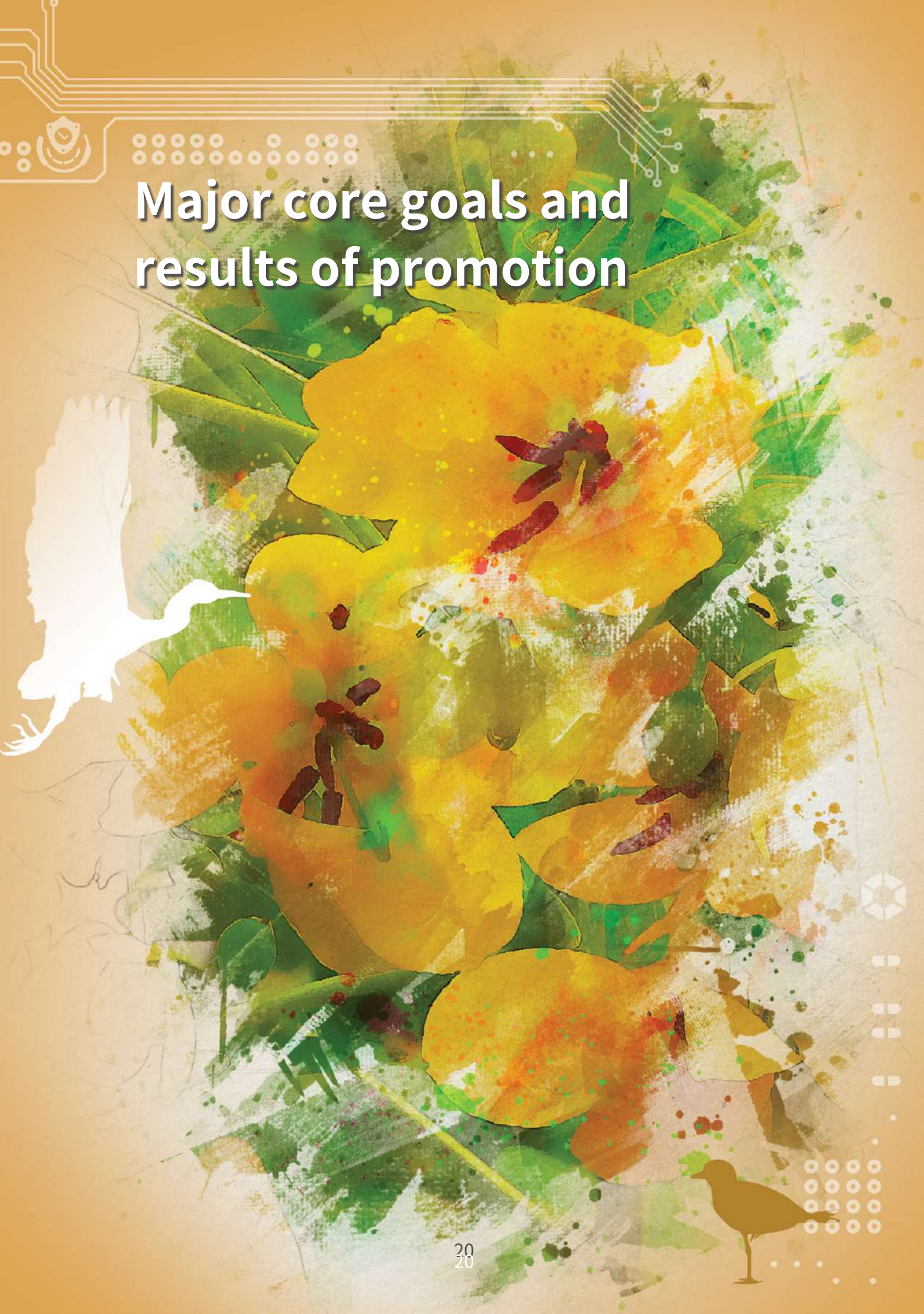
Environmental Protection Section

3. Promotion of T-SDGs decision-making, implementation, and monitoring process

STSP Bureau has been actively promoting sustainable development and has released 10 Sustainability Reports. To better demonstrate results related to T-SDGs, STSP Bureau compiled the Voluntary Department Reviews (VDR) for the second times to systematically collect the specific contributions of the activities in the science park to the sustainable development in Taiwan, which was also supported by the highest decision-making level (the Director-General, two Deputy Director-Generals, and the Chief Secretary). The Environment and Labor Affair Division and the ESG Editing Team jointly developed the details to implement the VDR and explained the VDR-related work to our associates in all units to concretely link T-SDGs with the normal daily businesses in the park. The Environment and Labor Affair Division then compiled relevant policies and promotion results provided by all units, followed by the review and check of the content in the VDR by the first-level supervisors of each unit and division. Finally, the VDR will be issued upon the signature of approval by the General-Director. This is to ensure that the decision-making level and the business execution units have consistent goals to jointly reach the vision of the sustainable development of STSP Bureau.

In the future, through the compilation of the VDR, the changes in the external environment and the attentive status of the self-defined indicators can be regularly reviewed. Rolling review is conducted to revise the content of sustainable development work promoted by STSP Bureau.





Major core goals and results of promotion



Vision : Improving Industrial Strength and Growing Industrial Clusters

The STSP Bureau(STSPB) incorporates industrial innovative development with the world's digital transformation trends, to strengthen industrial key R&D technologies and lead the way for industrial transformation and upgrading. By targeting specific investment recruitments, the STSPB works to close the gap between the supply chains of the IC, the medical device and aerospace industries, to continuously boost the competitiveness of industrial clusters at the STSP.



Core goal 1

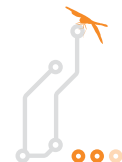


Goal 1 Strengthen social care services and economic security for the disadvantaged

Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 1.4 Enhance the protection and equality of all citizens, particularly the vulnerable, those impaired, in starting business, employment, loan, financing, housing, and land ownership.	The Start-up Workshop cultivates at least 2 start-up teams to establish companies every year.	5 companies	Planning Section
	To provide guidance to at least 4 start-up teams to participate in the From IP to IPO Program (FITI) and to enter the final selection.	6 teams	
	The target is to introduce 20 new manufacturers (including 4 start-up companies).	20 companies (7 companies)	Investment Affairs Section

Challenges/opportunities faced

To accelerate the growth of high-tech industries and balance regional development, STSP Bureau not only invites enterprise investors but also strengthens the cultivation of innovative high value-added enterprises, encourages start-ups to invest in the development and self-manufacturing of AI robot industry and products. We provide resources such as entrepreneurship





counseling, professional instructors from the industry, linkage with the industry and capital matching to foster cross-field innovative talents and introduce new start-ups into the science park to deepen the root of technology in the science park and revitalize the development of STSP.

In addition, due to the fact that the existing land lease rate at STSP has reached the upper limit, we now make use of the spillover effect of the semiconductor industry in Tainan and reserve industrial land by handling the third-phase expansion project of Tainan Science Park and the preparatory work for the establishment of new facilities in Ciaotou, Pingtung, and Chiayi Science Parks as well as the preparatory work of the Nanzi Science Park to construct a science and technology corridor in Southern Taiwan and strengthen regional economic resilience.

Specific actions and promotion highlights **Expansion of the Park Area, Driving Urban Transformation, and Promoting Local Employment**

Other core goals involved



Implementation content and promotion results

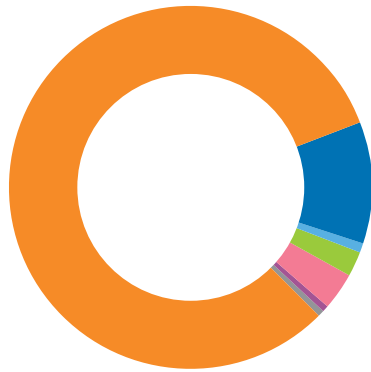
1. Overview of Development

The types introduced into STSP are mainly divided into seven major industries, including integrated circuit, precision machinery, optoelectronics, computers and peripherals, communications, biotechnology and others. Continuing the great operating performance in 2022 and benefiting from the solid support of the integrated circuit industry's 3-nanometer advanced process production, the overall turnover in 2023 reached NTD 1.5855 trillion, a 6.88% increase compared with 2022, exceeding NT\$ 1 trillion for three consecutive years.

In addition, driven by the magnetic attraction effect of industrial clusters, the number of approved manufacturers in 2023 reached 273, and among them, 22 are from newly established Ciaotou, Chiayi, and Pingtung Science Parks, showing that the investment appeal continues to grow.

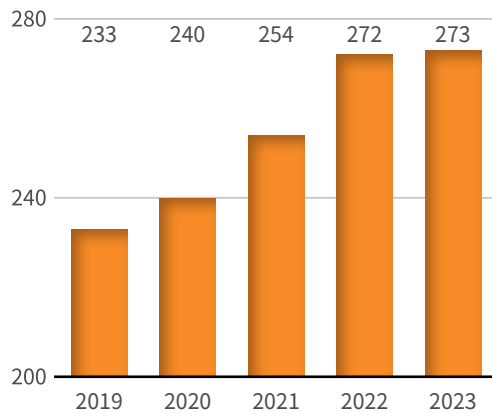


2023 turnover by industry Unit : \$1 Billion NTD

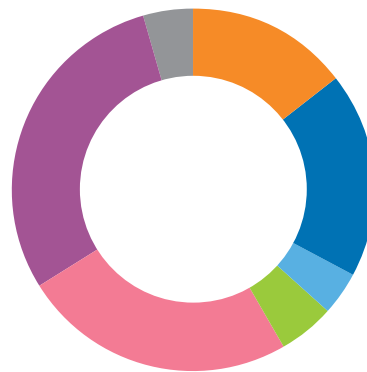


Integrated circuit	12,960.34	81.7%
Optoelectronics	1,742.04	11.0%
Computer and Peripherals	146.84	0.9%
Communication	327.89	2.1%
Precision Machinery	510.81	3.2%
Biotechnology	120.61	0.8%
Others	46.47	0.3%

Number of validly approved manufactures



Number of validly approved manufactures in 2023 by industry

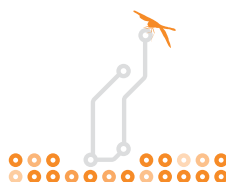


Integrated circuit	14.7%
Optoelectronics	18.3%
Computer and Peripherals	3.7%
Communication	5.1%
Precision Machinery	24.5%
Biotechnology	29.3%
Others	4.4%

In 2023, 20 manufacturers (including 7 start-up companies) were introduced into STSP, with an investment amount of approximately NTD 30.169 billion. Among the new manufacturers, 6 have the unit output value per hectare more than NT\$ 1 billion. There were 9 plant construction projects in the same year.

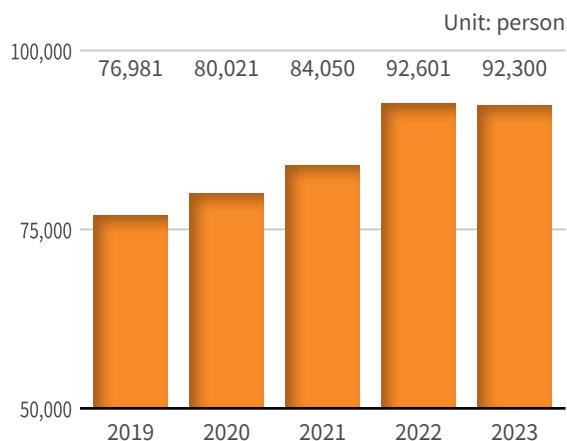
2. Growth in Employment

The industrial clusters in STSP are thriving. To assist the park manufacturers in finding good talents and help the job seekers with employment opportunities, STSPB works with the local government and other business units to co-organize a number of talent recruitment activities every year. As of December, 2023, the total number of employees in STSP has reached 92,300. We hope to attract more excellent talents to join STSP and bring vitality to the science park.

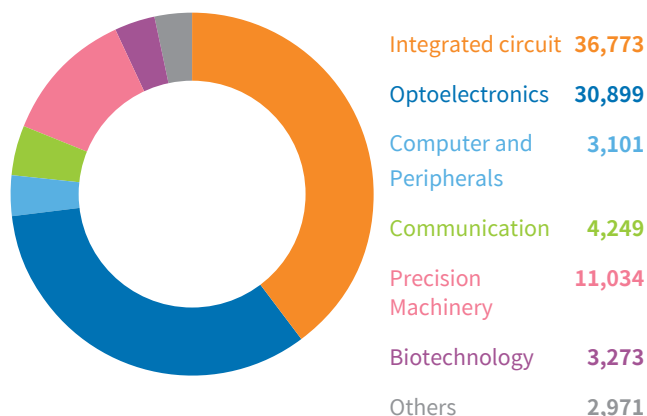




Employed population



Employed population in 2023 by industry



Winter Camp- A Visit to STSP

Activities for 2023 College Student Summer Camp were rich and diverse, and the summer camp was divided into Tainan Session and Kaohsiung Sessions. In addition to visiting the world's oldest chemical and pharmaceutical factory from Germany, Merck, the heavyweight manufacturer ranking the second in the global semiconductor wafer fab market, UMC, the Zacros Group established by Fujimori Kogyo, the largest supplier of EUV Pod, Gudeng Precision, and other heavyweight manufacturers in the park were all in the visiting list. The itinerary also included environmental education facilities, including TSMC Southern Taiwan Science Park Reclaimed Water Plant, wastewater treatment plant, Resource Recycling Center, National Center for High-performance Computing, and so on. The participating students could not only have the change to visit top global enterprises firsthand, they also had a better understanding of the efforts these companies make in environmental protection and sustainable development.

The Tainan Session also included a visit to Museum of Archaeology, Tainan Branch of National Museum of Prehistory to explore the 5,000-year history of the land where STSP is located. Students participating in Kaohsiung Session were led to visit the newly completed Occupational Safety and Health Multi-somatosensory Extended Reality (XR) Simulation Training. Through the advanced technologies such as VR, AR, MR, and AIoT, these college students could receive interactive and immersive occupational safety training in a playful way.



Visit TSMC Southern Taiwan Science Park Reclaimed Water Plant



Exchanges between the manufacturers and the visiting students



Visit waste water treatment plant



Salary takeoffs, the Charm of Kaohsiung

STSP Bureau and Labor Affairs Bureau of Kaohsiung City Government co-organized the 2023 large-scale on-site job fair, Salary takeoffs, the Charm of Kaohsiung, with 50 manufacturers providing 1,500 job opportunities. Seven well-known manufacturers in STSP Kaohsiung Science Park, including Passive System Alliance, Ares Green Technology Corp., Magnate Technology Co., Ltd., GARUDA TECHNOLOGY CO., LTD., and others were also invited to the job fair and were well received by the job applicants on site. In addition to providing on-site job interviews, the Career Personality Aptitude System (CPAS) was also arranged to help the job seekers find a good job.



Many new graduates came to apply for jobs.

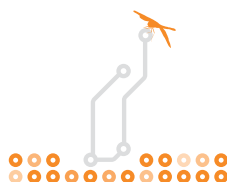
Living and Working in Tainan Job Fair

STSP Bureau and Labor Affairs Bureau of Tainan City Government co-organized the 2023 Living and Working in Tainan Job Fair on March 18 in Shanhua Community Center.

There were 80 manufacturers providing 4,000 job opportunities, and among them, 1,409 job opportunities were provided by the manufacturers in the science park. Many well-known manufacturers, including TSMC, UMC, InnoLux, Wiwynn, and Wistron NeWeb Corp. (WNC) also participated in the event to recruit talents, attracting talents from various fields to settle down and work at STSP.



distinguished guests commonly wished the event a great success.





3. Expansion of the Park Area

The Southern Taiwan Science Park (STSP) consists of the Tainan Science Park, the Kaohsiung Science Park, the Ciaotou Science Park, the Pingtung Science Park, the Chiayi Science Park, and preparation for the Nanzih Science Park. According to the land lease statistics, as of the end of December, 2023, the lease rate of Tainan Science Park was 99.63%, Kaohsiung Science Park was 98.97%, and Ciaotou Science Park was 71.06%.

To cope with the challenges of industrial development, the Bureau has prepared the industrial layout in advance to prepare land for industrial development and gather resources for industrial development. In addition, the development thinking incorporated with innovation, sustainability, inclusion is introduced to assist in the upgrading of local industries, promoting of newly established expansion parks, expanding the existing effect of industrial clusters, driving innovation of local industries by integrating software and hardware resources, strengthening regional economic resilience, and completing the technology corridor in southern Taiwan.





Tainan Science Park

The number of validly approved

Manufacturers reached 146

Main industries: optoelectronics, integrated circuits, precision machinery, biotechnology and green energy, etc.

Progress of Tainan Science Park Phase III Expansion Project.

2023.06.14 Announcement and implementation of changes to urban plans.

2023.06.29 Groundbreaking for blessings and investment promotion activities; groundbreaking for public works in the park and land was provided to manufacturers to simultaneously construct plants.

2023.11.9 Groundbreaking of Marketch International Corp.



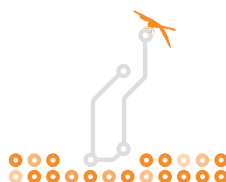
Groundbreaking for Blessings and Investment Promotion Activities for Tainan Science Park Phase III

Kaohsiung Science Park

A total area of 566.98 hectares

The cumulative validly approved manufacturers 100.

Major industry : semiconductor, 5th generation mobile networks, Optoelectronics and Medical materials ,and so on.





Ciaotou Science Park

A total area of
262.39hectares

163.94 hectares for
plant establishment

The cumulative
validly approved
manufacturers 21.

Main industries:
Plan to introduce
semiconductors,
aerospace, smart
machinery, precision
health and emerging
technologies, etc.

Processing progress

2023.06.10 International Groundbreaking of ATP Electronics,
the first groundbreaking manufacturer in Ciaotou Science
Park

2023.08.01 Established the Preparatory Office of National
Experimental High School at Kaohsiung Science Park

2023.11.03 Groundbreaking Ceremony of Digital Innovation
Complex Buildings in Ciaotou Science Park

2024.04.11 Groundbreaking Ceremony of Foxtron Vehicle
Technologies

2024.05.09 Groundbreaking Ceremony of E&R Engineering
Corp.



Shovel Ceremony of Digital Innovation Complex Buildings in Ciaotou Science Park



Groundbreaking Ceremony of Digital Innovation Complex Buildings in Ciaotou
Science Park



Nanzi Science Park(Preparation)

A total area of 175.3 hectares

89.37 hectares for plant
establishment

Major industry : Semiconductor
supply chain, Emerging technologies

Processing progress

2023.7.14 Executive Yuan approved the
preparatory project.

2024.6.1 The first phase (29.83 hectares) is
included in the Science Park

Pingtung Science Park

A total area of
73.83hectares

38.17 hectares for
plant establishment

The cumulative
validly approved
manufacturers 2.

Main industries:
Plan to introduce
smart agriculture
and medicine,
green materials,
space technology
and emerging
technologies, etc.

Processing progress

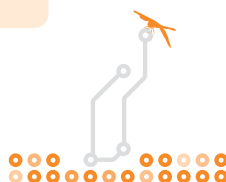
2023.2.22 Passed the review of environmental impact
assessment

2023.5.19 The development project and detailed plan are
approved by Ministry of Interior

2023.5.19 Groundbreaking for blessings and investment
promotion activities; groundbreaking for public works
in the park and land was provided to manufacturers to
simultaneously construct plants.



Groundbreaking for blessings and investment promotion activities of Pingtung
Science Park





Chiayi Science Park

A total area of
88hectares

36.53 hectares for
plant establishment

The cumulative
validly approved
manufacturers 4.

(A expansion of
factory)

Main industries:
Plan to introduce
precision health,
smart vehicles,
smart agriculture
and emerging
technologies, etc.

Processing progress

2023.2.22 Passed the review of environmental impact
assessment

2023.5.19 The development project and detailed plan are
approved by Ministry of Interior

2023.5.22 Groundbreaking for blessings and investment
promotion activities; groundbreaking for public works
in the park and land was provided to manufacturers to
simultaneously construct plants



Distinguished guests praying for the groundbreaking ceremony of
Chiayi Science Park

Data as of April, 2024

**Assist manufacturers with R&D and innovation,
foster startup teams, and accumulate the
momentum for technical innovation in the park**

**Other core goals
involved**





Implementation content and promotion results

1. The Start-up Workshop

STSP set up the Start-up Workshop to guide start-up teams to participated in the From IP to IPO Program (FITI), and fruitful results were achieved in 2023. The NCKU Center for Genomic Medicine developed the “intelligent cOMputing Noble Embryo” (icONE), which integrates preimplantation genetic screening data with maternal physiological features to predict probability of pregnancy with an accuracy of 92%, wining the Outstanding Entrepreneurship Award. In addition, there are five teams wining the Startup Potential Award, including “Natural Plant Product Development Team”, “Oxygen Cube”, “Crunchbase Company”, “Tricuss”, and “Vasscan”.



Group photo of award-winning teams of the 2nd session FITI led by STSP Start-up Workshop

In addition to tutoring and coaching startup teams to participate in FITI program, STSP Start-up Workshop also provides analysis and guidance to new startup teams in different fields and development phase, and assists the teams in linking various experts, funds, subsidies, and industry resources. On September 7, 2023, the Optimal Overall Professional Service (OOPS) the Start-up Workshop guided, Taiwan Occupational Therapy Association, Showba, Service Corporation Taiwan and others from industry, academia, and research institutions jointly set up an exhibition at the Cares Expo Taipei 2023 with the theme of “Oops! My Life, My Pavilion (Management)” and joined hands with new start-up teams such as aiFREE, KG MedTech Co., Ltd., IAMNITIOM TECHNOLOGU CO., LTD., and others in this exhibition. The concept of “Life Journey Station” was used to integrate various resources for the exhibition, and the four teams mainly displayed innovative products that combined technologies and long-term care concept in the fields of Remote life optimization system services and care aids, Rehabilitation treatment with smart knee pads and nostalgic games, Intelligence feedback lightweight activity training system, and Innovative smart assistive AI care sensor system, attracting many to participate in and experience.



“Oops! My Life, My Pavilion (Management)”- Interdisciplinary Exhibition of Industry, Academia, and Research resources integrating life and healthcare.





To assist startup teams in raising funds and linking cooperation resources, STSP Startup Workshop organized the Exchanges of Startups and Briefing Session of NDF's Business Angel Investment Program. Three startup teams, including LeXiang Wash, Environmental and Human Technologies, and Loopick shared their stories on the road to new ventures. Manager of Bridging Ventures was also invited to give advice concerning fundraising to new startup teams from the perspective of venture capital. The event created a chance for face-to-face communication for startups and venture capital investors. The director from Taiwan Venture Capital Association was also invited to explain the latest content of NDF's Business Angel Investment Program and provided one-on-one consultations with 7 teams with fundraising needs to clarify their questions and provided suggestions. Federal Intelligence CO., LTD that actually received investment in recent years was also invited to the event, and the chairman shared the successful case of applying for national development fund (NDF) from the perspective of a startup company.



12 startup teams and 7 institutional units participated in the Exchanges of Startups and Briefing Session of NDF's Business Angel Investment Program



From IP to
IPO Program
(FITI)





STSP Start-ups Assisting in Zero Carbon Emissions

Zero carbon emissions have become an increasingly important global issue in recent years. With many countries incorporating carbon taxes into their regulations, there is also a proactive effort to regulate carbon emission domestically. Taiwan Carbon Solution Exchange (TCX) has been officially established. In the future, carbon credits will become tradable commodities, promoting businesses to adopt carbon reduction initiatives and measures beyond simply increasing expenditure costs.

STSP Start-up Workshop held “Start-up Companies x Matchmaking Meeting” on July 21, 2023, inviting KIND Consulting to introduce circular economy and technology trends in energy efficiency and carbon reduction. In addition, three start-up teams, including Flamrok Energy Co., Ltd, GoodLinker, PackAge+ demonstrated their service solutions for energy conservation and carbon emission issues, attracting participation from numerous businesses. After the meeting, one-on-one exchanges and discussions with the STSP teams were also arranged. We look forward to successful integration of the ESG technology of STSP start-up companies and manufacturers in industrial zones and the science parks to assist them in carbon reduction in the manufacturing process and jointly contribute to environmental protection.

2. AI_ROBOT Base at STSP

With the advantages of the smart machinery in STSP, combined with the park manufacturers and surrounding scientific research institutions, STSP's AI_ROBOT Base focuses on AI, robotics, and other related technologies, using the self-production field and facilities to assist with development.

With the concept of sharing resources, the well-constructed sites and multiple equipment instruments are shared with manufacturers in need. We are also committed to promoting talent development, and our programs include individual participation, corporate-sponsored and campus-based courses, assisting businesses to address talent shortages, enhance their competitive edges, and provide pathways for aspiring entrepreneurs.

(1) Prompting 5G technological innovation

On August 3, 2023, STSP Bureau led the associates of the AI_ROBOT Base and STSP Start-up Workshop to visit the Startup Terrace Kaohsiung established by MOEA for the promotion of the development of startup industry. The two parties exchanged and negotiated on topics such as 5G, AIoT, startups, and traditional industries, shared their respective resources, and discussed the vision of cooperation to build STSP's AI_ROBOT Base focusing on the platform of providing technical guidance, which will be equipped with 3D design, AI application and relevant equipment, assisting start-up companies to upgrade and integrate at technical level through technological value-addition.



STSP Bureau, STSP's AI_ROBOT Base, and the STSP Start-up Workshop held seminar discussing topics such as 5G, AIoT, start-up and traditional industries



STSP's AI_ROBOT Base conducted exchanges with Startup Terrace Kaohsiung with technological highlights

The start-up achievement presentation and exchange meeting were held on September 26. The themes of exchanges were on 5G, AIoT, and Net-zero carbon emissions. Experts in different fields from National Science and Technology Council, enterprises and corporations, as well as academia gathered together to share cases of using the nature of 5G to assist traditional industries to eliminate abnormalities through real-time monitoring



equipment and increase production to further transform into smart manufacturing. Issues concerning net-zero emissions was also covered. Relevant technical platform concerning carbon inventory and ESG that enterprises would face was also proposed to serve as a key driver for businesses to engage in sustainable development through guidance and resource integration. Startup Terrace Kaohsiung and global accelerators were especially invited to participate in the exchanges to inject international resources into the team and drive industry prosperity through mutual cooperation and resource sharing.



Group photo of the “5G Leaps into a New Future of Net-zero Carbon Reduction” start-up achievement presentation and international matchmaking and exchange meeting

(2) Promotion of Talent Cultivation

“Net zero emissions by 2050” is a global goal. To response to the trends and the EU's Carbon Border Adjustment Mechanism (CBAM), Taiwan has also joined the global climate action movement. To assist metal industry operators to rapidly grasp the carbon emission status in the factories, MOEA's Industrial Development Bureau held a 3-day related courses in STSP's AI_ROBOT Base, with about 40 participants.



Consultants from Center for Sustainable Development of Industry, National Cheng Kung University explained the internal verification promotion process and techniques in the lecture

The Kiss Science theme activity guided by National Science and Technology Council focused on opening a scientific field and allowing young students to experience technology in an interesting way. This event was held in STSP's AI_ROBOT Base on November 4th, 2023. The base not only provided DIY activities, talent cultivation, technology value-added services, there were also equipment and interactive tools. The guided tour allowed participants of all ages to understand the context of technological





trends and further understand the equipment in the AI_ROBOT Base. Through the 3D pen, they could actually make 3D glasses and learn the technological principles in it. The final VR paragliding experience enabled them to enjoy the sense of flying by wearing the VR helmet. The half-day experience allowed participants to gradually understand, engage with, and experience technology, leading them through a progression to appreciate the development and mysteries of technology, and was widely acclaimed.



Group photo of participants at the theme wall in the AI_ROBOT Base

STSP's AI_ROBOT Base



Introduction



FanPage

3.STSP's TAIRA Accelerator

STSP Bureau and StarFab Accelerator jointly created the TAIRA (Taiwan AI Robotics Accelerator), an international accelerator that integrates AI smart application, and starts from the advantageous industries in southern Taiwan, focusing on manufacturing, medical care, agriculture, and other related fields. The TAIRA Accelerator uses the cooperation mode of large-scale businesses working with small scale corporations, and the provision of R&D subsidies and business cooperation opportunities attract high-quality start-ups to Southern Taiwan for co-creation of innovation with businesses, linking with international resources to access to the international cooperation network, assisting these entrepreneurs with rapid growth in the most direct way.

Five start-up teams under TAIRA, including New Ip Innovation Technology Corp., MedFluid, Nuwa Robotics, Singular Wings Medical, and Ubestream participated in the largest Consumer Electronics Show (CES) in the United States and have achieved fruitful results.



Singular Wings Medical is committed to providing intuitive and convenient physiological monitoring equipment



Nuwa Robotics develops robots for home companionship, education and learning, business services and other multi-scenario application

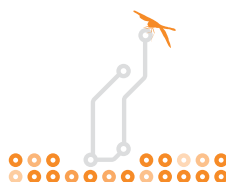
Kitakyushu City, Japan, is one of Japan's "startup ecosystem base cities". It has incubation facilities, and an accelerator program is implemented. Its Regional Economy Revitalization Division for Start-up Business Promotion, Kitakyushu Bureau of Economy, Trade and Industry visited Taiwan. The visiting units included Accelerators (TAIRA) in Taipei, Tainan, and Kaohsiung, government departments and new ventures in Taiwan. Exchanges were also made with new start-up companies interested in developing in Japan, which further expanded cooperation opportunities with science parks and start-up businesses in Taiwan.



Group photo of the distinguished guests from Regional Economy Revitalization Division for Start-up Business Promotion, Kitakyushu Bureau of Economy, Trade and Industry.

4. Academia-Industry Exchange in Newly Established Science Parks

To plan future industrial development of the newly established science parks in advance, STSP Bureau has set smart agriculture and medicine and precision health as the base to develop Pingtung Science Park and Chiayi Science Park, integrating related industrial resources. Two forums were held in cooperation with the National Pingtung University of Science and Technology and Puzi Hospital in Chiayi on April 10 and April 12 respectively in 2023, inviting sectors of industry, government, academia, research institutions, and medicine to participate and jointly discuss the strategies and prospects for industrial transformation and upgrading in southern Taiwan.





April 10

Pingtung
Science Park

In response to the demand for medication and medical equipment for commercial animals and companion pets, STSP manufacturers and local academic research institutes and hospitals in Pingtung cooperated together to accelerate the launch of animal & pet medical products.

April 12

Chiayi
Science Park

Communications among representatives from all sectors conducted idea exchanges in the aspects of medical care, academic and research talents, technology matching, smart long-term care, telemedicine, and key biotechnology technologies. The discussions also explored precision health care with Chiayi's local characteristics and connected the cross-domain synergy of the biomedical and semiconductor industries in STSP.



Group photo at Pingtung Smart Agriculture and Medicine Forum

On September 23, 2023, the Smart Agriculture and Medicine Forum was held in Pingtung Digital Youth Center to share successful experiences of the application of AI technology to agricultural production and create a new model for future agriculture. Most of the participants were local high-tech agricultural companies and young farmers who plan to introduce AI technology into agricultural products. Through the exchanges among the participants, the cross-domain forward-looking technologies will be introduced into the innovative development of local industries.

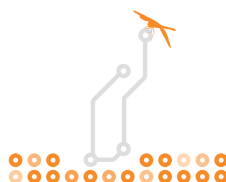


STSP Bureau held a lecture on Smart Agriculture and Medicine

Advanced Planning

STSP mainly focuses on the fields of biomedicine, innovative technology and design and information application and services to assist and train the start-ups to bridge the gap between innovation and entrepreneurship and also tutor them to participate in the From IP to IPO Program (FITI). However, despite the excellent results achieved by the participating teams over the years, there are only a relatively small number of teams that can withstand the challenges in the market to successfully expand the scale and become resident businesses in the science park. Therefore, STSP Bureau is aware that nurturing start-ups requires long-term efforts. It is hoped that over time, the quantitative changes will facilitate the qualitative changes so as to foster another emerging industry that will be the leading industry in the future.

With the development of the industrial clusters, STSP will continue to link relevant resources and prepare industrial land to expand to Chiayi, Pingtung and Nanzi areas. In addition to bringing employment opportunities, industries such as precision health, intelligent vehicles, smart agriculture, green materials, space technology, and other emerging industries are planned to be introduced to drive the upgrading of local industries and strengthen the resilience of the regional economy. In addition, other science parks can be connected to create a science and technology corridor in Southern Taiwan to facilitate co-prosperity of technology and the environment, creating an exquisite, diverse, high-quality, energy-saving and sustainable smart science park.





Core Goal 4 and 8



Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all

Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 4.4 Enhance youth's obtainment of information and communications technology (ICT) skills, and increase the opportunities of youth to gain relevant professional techniques and vocational skills. Target 8.6 Realize knowledge-action integration and training to strengthen youth employability.	Continue to handle the subsidies for industry-university collaboration training courses (Science Park Talent Cultivation Subsidy Program), subsidizing at least 10 modular courses annually.	12	Industry-Academic Research and Development Section
	Continue to organize training for technical talents in the park (Professional and Technical Talent Training Plan), offering at least 300 hours of courses every year.	440 hours	
Target 8.2 Increase the value addition of industries and promote the high-value development of the IoT and digital economy.	Continue to promote the review of subsidy of innovative technology and R&D projects (Science Park Emerging Technology Application Project) and provide subsidies to at least 6 projects every year.	7 projects	Industry-Academic Research and Development Section
Target 8.7 Promote work environment safety and protect the right to participation in labor unions of women workers.	Implement at least 3 sessions of propaganda on gender equality publicities.	3 sessions	Labor Relations Section
	Implement at least 70 sessions of labor condition inspections	97 sessions	
	Implement at least 400 sessions of occupational safety and health inspections.	1,025 sessions	Industry Safety Section
	Promote at least 10 sessions of on-site counseling of occupational safety and health a year.	71 sessions	
	The death rate per million of major occupational accidents remains at 20 and lower.	10.87	



Challenges/opportunities faced

To assist with the development of industrial clusters, STSP Bureau cooperates with the National Science and Technology Council's development plan and actively assists with the upgrading of industries. In addition, we also assist the manufacturers in linking the international market and resources by constructing a high-quality environment for R&D to facilitate the application of the scientific research results in the industries to meet the industrial needs to give full play to the synergy of the integration of the resources in the industry, government, academia, and research institutions, promoting the industrial innovation and enhancing the international competitiveness with a sound and innovative ecological environment.

During the process of industrial transformation and upgrading, the capacity of talents can facilitate the stable operation of an enterprise, and it is even a key resource for sustainable management. Therefore, STSP Bureau also actively assists with the cultivation of high-tech professionals. At the same time, we also encourage enterprises to establish a safer and more stable labor conditions through counseling and inspections so as to attract more talents to work in STSP.



Specific actions and promotion highlights

Key cultivation to reduce the gap between the industry and the academia

Implementation content and promotion results

1. Science Park Talent Cultivation Subsidy Program

To assist park manufacturers with the cultivation of talents, the Science Park Talent Cultivation Subsidy Program was held to encourage the collaboration between the surrounding universities and park manufacturers. The school can propose to establish professional courses that provide guidance for students to participate in corporate internships. Each project can subsidize 6 students, with a total of 240-hour corporate internship allowance per person.

In terms of professional courses, industry instructor guidance fees and hourly fees in schools are subsidized to allow students to grasp the latest industrial technology and trends in schools. In terms of corporate internship, this program has not yet provided opportunities for park manufacturers that started corporate internship to find suitable talents. These manufacturers

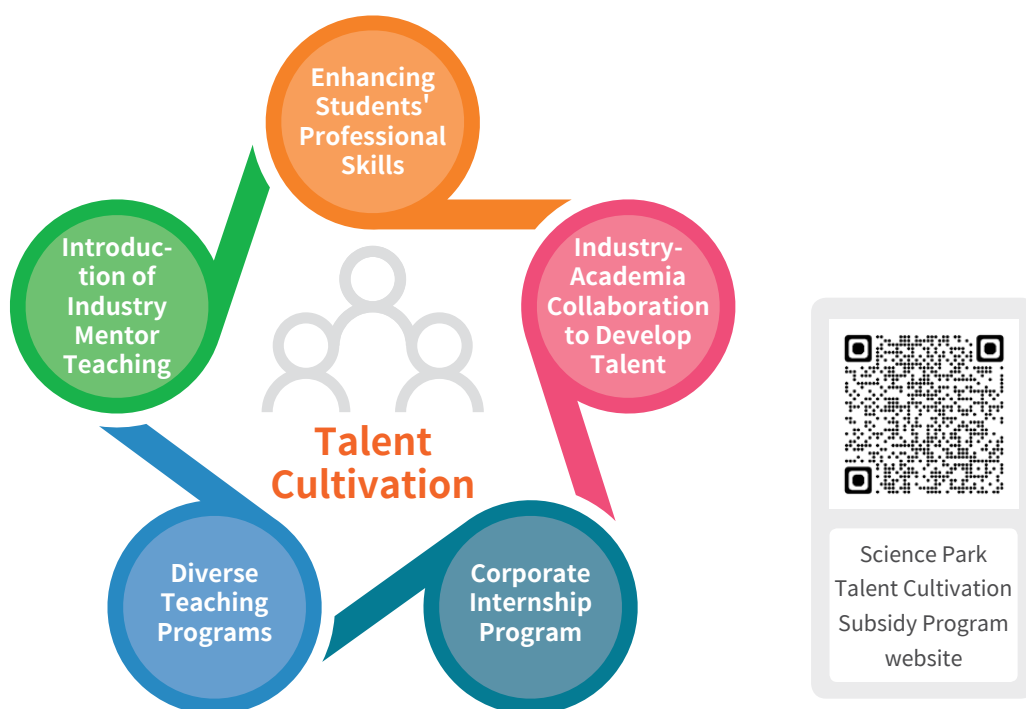




can combine this program with their existing internships to provide students with more generous internship subsidies. Manufacturers can use this program to prioritize the recruitment of outstanding talents meeting the company's needs and establish an effective industry-academia matchmaking mechanism for park manufacturers.

This program promotes industry-university cooperation and exchanges to conduct teaching and research in the industry, thereby increasing employment opportunities for students. In 2023, a total of 12 projects received subsidies from STSP Bureau, including modular courses and corporate internship programs, with the total subsidy amount of NT\$ 8.599 million. There were 10 training schools in total and it is estimated to train 876 students. Relevant training results include: participation in 6 competitions, obtaining 4 categories of certifications and licenses with a total of 66 certificates, 4 achievement presentations, and 4 industry-university collaborations.

Objectives of the project



Internship for students from Cheng Shiu University at
TSEC Corporation



Internship for students from Cheng Shiu University at
TSEC Corporation



Internship Recruitment Matchmaking Briefing at National
Kaohsiung University of Science and Technology

Development and Training of Space Talents in Pingtung Science Park

To promote the industrial development in Pingtung Science Park, STSP Bureau worked together with Pingtung County Government and colleges and universities in Kaohsiung and Pingtung regions to organize 8 talent training courses in space technology, green materials and so on from October 14 to November 11, 2023, and a total of 480 students participated. In addition to university professors delivering theoretical knowledge, we also invited industry representatives from Taiwan Space Agency (TASA) and United Microelectronic Corp. (UMC) to serve as industry instructors. The graduation ceremony was held in Pingtung Digital Youth Center on November 11, 2023. Among them, there were the first batch of seed trainees for Pingtung Space industry. On the day, the Director of TASA gave a keynote speech on “My Space Dream” to share the current development status and opportunities for the Space Industry in Taiwan, attracting talents to gather and pursue their dreams.



Graduation ceremony for the weekend preparatory course on Space Technology



2. Professional and Technical Talent Training Program

To improve the professional and technical knowledge and capabilities of the park employees and to reserve the capacity of talents for the future advancement of the park, multiple professional courses in the fields of semiconductor, optoelectronics, precision machinery, information communication, and management that are needed for park employees and the exchange and matchmaking events were held to reserve all kinds of talents needed by the park industries and enhance the park employees' competitiveness, the innovative management thinking, and the R&D capacity. Through the construction of an exchange platform for industry-academia services at STSP, various resources of industry, government, academia, and research institutes can be more effectively utilized and integrated to give full play to the maximum benefit of resource sharing to serve the park.

Assisted park
manufacturers in setting
up **440 hours** of
training courses

Development and training
of **1,931** future industry
talents

5 matchmaking and exchange activities were held, with 34 park manufacturers, 47 colleges and universities, and 788 participants, facilitating 5 industry-university collaboration projects.

We held the large-scale talent matchmaking event entitled "Pursuing the dream in STSP, northern youth drifting to the south" in northern Taiwan for the first time. Through the sharing of female leaders in the high-tech industry, sharing of senior fellows, demonstrating academic and research capacities and achievement and other diverse activities, we assist enterprises to find talents.



Held the large-scale forum and matchmaking event entitled "Pursuing the dream in STSP, northern youth drifting to the south" in National Yang Ming Chiao Tung University



Corporate class: Practical Foundations of Stamping Die Design



Graduation ceremony and achievement presentation of the summer interdisciplinary course "My encounter with semiconductor Industry"



Female leaders in the high-tech industry activity in Wenzao Ursuline University of Languages

3. Take Roots Downward in Education

To provide a high-quality education environment for the STSP employees' children and to lay an educational foundation for the local development, STSP Bureau has actively preparing the experimental high schools which include the senior high school department, junior high school department, primary school department, bilingual department, and kindergarten. This is a rare system in Taiwan, cooperation the expansion of the park, we have also carefully planned for the establishment of new park facilities, and the curriculum focuses on the 12-year continuity, combining the park and social resources with the adaptation of innovative teaching model for the development of a forward-looking and internationalized benchmark school focusing on science education based on humanistic foundation, attracting international talents through the establishment of the bilingual department and the cradle of nurturing talents.

(1) The experimental high schools in Pingtung and Chiayi Technology Corridor Belt for the Nurturing of Talents

To cope with the development of the science park, the newly constructed Pingtung Science Park and Chiayi Science Park will attract investment, and a large number of technology talents at home and abroad will be attracted to the science parks, promoting the sustainable development of high-tech industry and the science parks, facilitating the prosperous development of local industries, which will greatly increase the demands for living functions and at the same time cultivate high-tech talents of the country for the future. STSP Bureau included the promotion of the experimental high schools within (or outside) the newly constructed science park to create a sustainable living and educational environment. Plan the National Experimental High School construction projects at





Pingtung Science Park and Chiayi Science Park, and the schools are scheduled to start enrollment in 2024. The bidding and construction of the new projects is scheduled in 2023, with the first and second phase of school buildings scheduled to be completed in 2026 and 2027 respectively.

The location of the experimental high school was initially chosen to be on the north side of Pingtung Science Park with about 8-10 hectares that is close to the future sports and leisure industrial park in the high-speed rail special zone, with residential and commercial and station functions for National Experimental High School At Pingtung Science Park; for National Experimental High School At Chiayi Science Park, it is in the south side of within Chiayi Science Park base with about 8-10 hectares in area, with the Gugong Blvd. in the south, close to the services functions of the county-level special district, both with very good location conditions.



Simulation diagram of Chiayi Park School Building



Simulation diagram of Pingtung Park School Building

(2) The plaque unveiling of National Experimental High School at Kaohsiung Science Park

As the “Semiconductor S Corridor” leads the industrial transformation of Kaohsiung City, technology talents will be stationed in Luzhu, Nanzi, Ciaotou Science Parks. The establishment of the National Experimental High School at Kaohsiung Science Park will fully meet the schooling needs of the employees’ children in the park, and it also provides abundant learning resources for students returning to Taiwan from abroad and the neighboring school-aged students. The Preparatory Office of the National Experimental High School at Kaohsiung Science Park held the plaque unveiling ceremony on August 2, 2023, inviting the Deputy Minister of NSTC, Kaohsiung City Mayor, Deputy Director of the K-12 Education Administration, Ministry of Education, the Director of the Preparatory Office of the National Experimental High School at Kaohsiung Science Park, Director of the STSP Park Office of the Allied Association for Science Park Industries, legislators, Kaohsiung City Councilors and pioneers in the education sector to join this grand occasion.



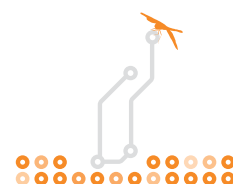
The director of the Preparatory Office of the Experimental High School at Kaohsiung Science Park was selected. The school is located in the Kaohsiung New Town, including elementary school department, junior high school department, senior high school department, bilingual department, and kindergarten, and it is expected to enroll 61 classes for approximately 1,819 students. Then enrollment schedule is planned for the first batch of elementary school freshmen to enroll in 2026, and full enrollment will start in 2028.



Plaque unveiling ceremony of National Experimental High School at
Kaohsiung Science Park

(3) AI Robotics Talent Cultivation

With the support of STSP Bureau, National Nanke International Experimental High School (NNKIEH) continues to promote a 12-year AI robotics talent cultivation program to enhance the cultivation of national technology talents. In addition to the implementation of AI robot talent cultivation program, it also promotes STEM education, fulfill the spirit of the 2019 Curriculum for the common good, and establishes the FRC (FIRST Robotics Competition) course exchange platform. It not only signed an MOU with Taipei Municipal Chien Kuo Senior High School, and jointly established an international FRC, FTC, and FLL robotics exchange platform with Stafford STEM Municipal Academic School in Houston, USA.





FRC simulation competition on February 18, 2023

On February 18, 2023, the FRC simulation competition was held in the stadium of NNKIEH, which was the only large-scale simulation competition in southern Taiwan. The fully simulated competition venue was constructed to provide high school teams preparing to go abroad with the most realistic simulated competition activities. This simulation competition gathered teams from 8 schools in the northern, central, and southern regions, creating a grand and lively atmosphere.



Great success of the STSP FRC Simulation Competition in 2023

RFC (FIRST Robotics Competition) on April 17, 2023

The NNKIEH junior high school team FTC19207 Nkshrimp and the high school team FRC6998 stood out in the FTC and FRC regional competitions, and represented Taiwan to attend the RFC (FIRST Robotics Competition) in Houston, USA. Team FRC6998 participated in the RFC (FIRST Robotics Competition) and stood out among 78 strong contenders, and was honored with the Industrial Design Award.



NNKIEH Team FRC6998 was honored with the Industrial Design Award



STSP FRC Technology Forum

After the competition season ended, to continue the promotion of the FRC technology and the professional academic development, we held the STSP FRC Technology Forum with the theme focusing on academic, technical, and practical contents related to FRC. The students benefited greatly from participating in activities, exchanging ideas, and receiving guidance and feedback from the professors as well as sharing their experiences in submitting contributions. This helped achieve the goal of advancing robotics research.



Interested students from various schools were invited to the forum and professors from universities were invited to provide instruction

STSP FRC Summer Training Camp from Aug. 7 to 11, 2023

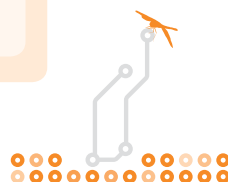
To effectively root down AI robotics and achieve STEM education objectives, the 5-day STSP FRC Summer Training Camp was organized, with excellent teams from Taipei, Tainan, and Kaohsiung, including NNKIEH's FRC6998, Chien Kuo Senior High School's FRC8020, I-Shou International School's FRC9126, Nan Kwang Senior High School's FRC8805, and so on. Through the enriching and fulfilling curriculum of the summer training camp, participants felt the journey was worthwhile and returned home full of knowledge and experiences.



STSP FRC Summer Training Camp



Group photo of the 2023 STSP FRC Summer Training Camp





Promote Technological Upgrading and Expand Industrial Clusters

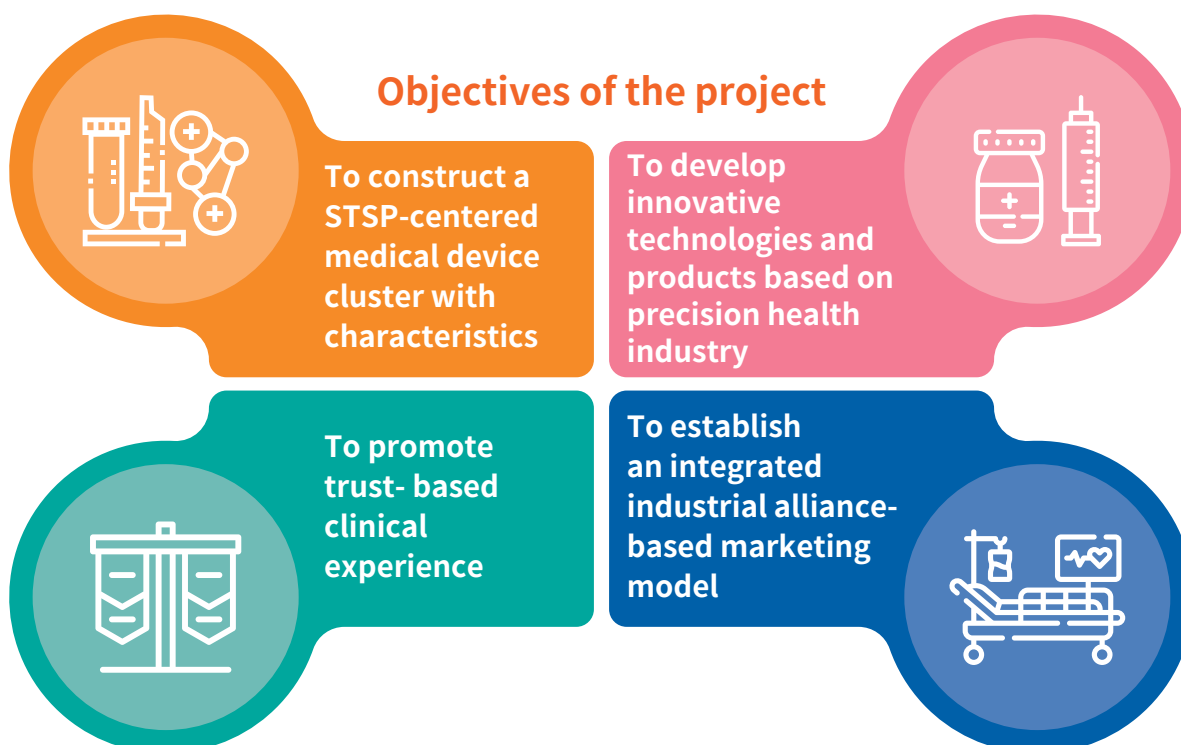
Other core goals involved



Implementation content and promotion results

1. Precision Health Industrial Cluster Promotion Project in Southern Taiwan

There are currently around 80 manufacturers stationed in the Precision health industry in STSP, which is one of the domestic the Precision health industry for key development. During the past decade of development, the biomedical manufacturers at STSP have been successively assisted to pass the verification of Taiwan Food and Drug Administration (TFDA) and Medical Device Quality Management System (QMS), and also obtained the Association of Southeast Asian license, the FDA and CE certification. In order to support manufacturers to continue to take root locally and grow steadily, and to lead the Precision health industry to step toward the international stage, it is imperative to assist manufacturers to break through the marketing difficulties.





The Precision Health Industry Cluster creates more than NT\$10 billion in the output value every year, and the turnover in 2023 was NT\$ 12.061 billion. To promote the cluster development, STSP Bureau continues to promote guidance through the Precision Health Industrial Cluster Promotion Service Platform in Southern Taiwan for six park manufacturers to obtain 7 regulatory certifications, including Swiss pharmaceutical certificate, Malaysian (MDA) marketing authorization, ISO 13485 certification, TFDA inspection registration, medical device manufacturer quality management system (QMS), etc., assisting park manufacturers to accelerate product launches. In 2023, the manufacturers we provided guidance to included Genovior Biotech Corporation, MED Dental, ARIX CNC MACHINES CO., LTD., TAICEND Technology Co., LTD., Quen Lin Instruments Co., Ltd., and Viarich Biotechnology, Co., Ltd.

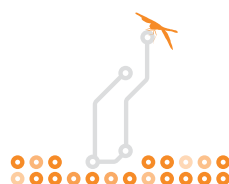
STSP Bureau continues to promote domestic medical materials and cooperated with Tungs' Taichung MetroHarbor Hospital in the established of the Digital Dental Demonstration Clinic, introducing 10 dental products from 6 park manufacturers, increasing clinical use opportunities, and strengthening doctors' trust in domestic products. Moreover, we even assisted park manufacturers in linking up with international distributors to sign three letters of intent for agency cooperation in 2023.

- (1) Assisted Huang Liang Precision Enterprise Co., LTD. to expand into the Southeast Asian market.
- (2) Facilitated Biomdcare to introduce AI-assisted screening software for osteoporosis, cervical cancer and bladder cancer in local hospitals in Vietnam.
- (3) Facilitated ACRO Biomedical Co., Ltd. to conduct human trials and obtain certification of corneal transplantation in Vietnam.

In addition, STSP Bureau also actively assisted park manufacturers to participate in domestic and international exhibitions and organized product marketing and promotional activities, and received orders of approximately US\$ 1.124 million.



Opening ceremony of the Tungs' Taichung Metro Harbor Hospital's Oral Precision Medicine Innovation Center and STSP Digital Dental Demonstration Clinic



STSP Medical Material Accelerator

Since STSP Bureau launched TransMdx Accelerator in 2019, the precision health innovation ecosystem has been gradually established at STSP. To show the achievements of STSP's innovative medical materials, STSP Bureau worked together with Metal Industries Research & Development Center and the Development Center for Biotechnology and organized the at NTUH International Convention Center, inviting multiple domestic venture capital firms and renowned corporations to participate. Keynote speeches were given by a professional manager from the American professional consulting company, Frost & Sullivan, and the deputy director of the Biotechnology Center to analyze the global biomedical market and application cases.



Venture Capital Matchmaking and Results Presentation

STSP's startup

TransMdx Accelerator provides diverse guidance, listens to the needs of startups, accurately matches them with domestic and international expert consultants and resources, assists with the R&D, and expands market channels, fundraising, and international connections, facilitating cooperation opportunities with domestic and international venture capitalists and large corporations. It helps startups expand from domestic market to international ones, which results in fruitful outcomes.

Cumulative counselling outcomes of STSP TransMdx Accelerator

Introduced **2** new startups to enter STSP

Facilitated **5** MOUs with international cooperation agencies and distribution channels

Counseled **5** international clinical trial certificates and international regulatory certifications
innovative products for clinical use in domestic medical institutions

Counseled **5** international clinical trial certificates and international regulatory certifications



2. Science Park Emerging Technology Application Project

To implement the main axis of the high economic efficiency and industrial innovation policy to encourage scientific businesses to form alliances with different industries or the academic circles to jointly engage in the R&D of emerging technologies, STSP Bureau started the promotion of Science Park Emerging Technology Application Project in 2021 to introduce the energy from academic and research institutes while forming industry alliances based on industrial needs to facilitate the joint engagement in the development of industrial integration and key technologies. The aim is to promote talent cultivation for innovative technology, solve market problems, nurture start-ups and create talent value to achieve the win-win situation for innovative transformation of industries and the synergy of derivative industries.

The final decision was made to approve subsidies to the 2023 R&D projects of 7 manufacturers in biotechnology and precision machinery, with a total subsidy amount of NTD 34.85 million.

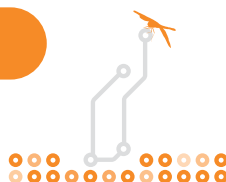
Number of journal papers (including technical reports)	Number of talents cultivated by academic and research institutions	Number of derivative patents		Number of technical transfers
		Number of application	Number of patent obtained	
92	51	43	3	0

Interdisciplinary Technology Forum

STSP Bureau and the STSP Park Office of the Allied Association for Science Park Industries co-organized the Interdisciplinary Technology Forum at STSP, focusing on topics of AIoT x XR and net-zero emissions. The director of Southern Taiwan University of Science and Technology and chairman of Jorjin Technologies, inc. shared the development trends and practical case studies of digital transformation of AIoT combined with XR, and the division director of ITRI and the project manager of Molicel shared the relevant net-zero emission policies and market layout. President of the Asia-Pacific ESG Action Alliance and representatives from other units were gathered in this event, looking forward to promoting new cross-domain opportunities in the science park.



Group photo of the Deputy Director General, Sheng, Siou-Rong of STSP Bureau and experts and scholars from various fields





Construction of a Safe and Friendly Workplace Environment

Other core goals involved



Implementation content and promotion results

1. Advocacy on Gender Equality in Employment

The number of employees in STSP has reached 92,300 by the end of 2023, including 58,044 males and 34,256 females, with the ratio of male to female at about 6:4. To promote gender equality at work and establish a more stable working conditions and environment, the park manufacturers' knowledge and understanding of the Act of Gender Equality in Employment and the prohibition of employment discrimination are strengthened. In addition to making gender equality promotion short films, STSP Bureau also organized workshops inviting professionals to have lectures on the Act of Gender Equality in Employment and Case Study of Sexual Harassment in the Workplace and Employment Discrimination. These workshops can be useful for HR personnel to handle related issues in the future. The publicity was also strengthened in large-scale events with promotional posters and publicity materials provided. Business units were also encouraged to actively participate in publicity briefings to further assist them to build a friendly workplace and facilitate labor-management harmony.

- (1) Relevant propaganda and materials about gender equality in employment and a friendly workplace are posted on Facebook Fanpage and published in the Southern Taiwan Science Park Newsletter.
- (2) Materials are made for the promotion of gender equality cases to provide HR staff in the science park with materials for law propaganda targeting at labors and basic-level management for them to abide by the laws and regulations. In 2023, 8 sessions of playing the propaganda short film on gender equality before the movies were arranged on STSP Movie Night, and the contents of the short film included parental leave without pay, childcare allowance and CEDAW promotion to strengthen the promotion of the gender equality concept.



- (3) In 2023, the Cheering Station for Gender Equality in Employment was established in 2 sessions of large-scale events(1/14, 3/18), and questionnaire was designed to interact with the public on the spot, coupled with explanations of laws and regulations concerning gender equality in employment and employment discrimination (approximately 400 copies of questionnaire were completed in total).
- (4) Movies on gender equality issues were played in the Nanke Cinema. Self-made film promotion posters were used to help the public eliminate the gender stereotypes. In 2023, there were two sessions of the movie “Everything Everywhere All at Once”.
- (5) Organized 2 sessions of Workplace Equality and Sexual Harassment Prevention Seminar”, on September 12 and July 10 in Tainan Science Park and Kaohsiung Science Park respectively. In addition, the briefing session for Gender Equality in Employment Act and Sexual Harassment Prevention Act was organized on December 13, and representatives from 140 manufacturers participated in this briefing, with a total of 160 attendees. During the briefing session, lawyers were invited to lecture on relevant laws and prevention of sexual harassment through practical case analysis, aiming to enhance the professional knowledge of business personnel and promote workplace equality.



Nanke Cinema played movies on
gender equality issues



Propaganda on the friendly workplace on
the Facebook Fanpage



STSP Newsletter published
reports on gender equality in
employment



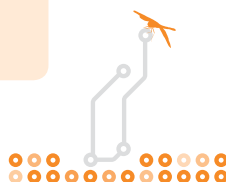
Cheering Station for Gender Equality in
Employment



Workplace Equality Zone



Briefing session for Gender Equality
in Employment Act and Sexual
Harassment Prevention Act





📍 Promotion of Recognition of Workplace Equality in the Science Park

To safeguard labor rights, promote a friendly working environment, facilitate harmony between labor and management to reduce labor disputes, and to commend park employees for their contribution to the construction and economic development of STSP, the Bureau organizes the Award-Giving for Promotion of Work Equality in the Workplace for excellent business units and Excellent Employees in Southern Taiwan Science Park to encourage enterprises to actively implement labor laws and regulations and construct a harmonious working environment.

A grand commendation ceremony and music tribute was held on May 6, 2023. A total of 6 manufacturers won the “Excellent business unit for promoting workplace equality” and 61 employees won the “Excellent employees in STSP” in 2023.



📍 Gender Discrimination Cases

To provide legal assistance for employees or job seekers who are in gender equality lawsuits, the STSP Bureau has set a fund of NTD 50,000 for legal assistance in gender equality lawsuits and set up a review team for legal assistance of gender equality cases. The committee is composed of 7 committee members, with 4 female and 3 male representatives, including 4 external experts, and is in charge of reviewing relevant subsidies of lawsuits. There was no application for the fund in 2023.

In 2023, the Bureau convened 3 sessions of Gender Employment Equality and Employment Discrimination Review Committee to discuss issues concerning Act of Gender Equality in Employment, discrimination cases violating Employment Service Act and complaints of sexual harassment in the workplace as well relief channels to safeguard the rights and interests of the complainants. Among them, the reviewing process of 3 cases of sexual harassment in the workplace, 1 case of sexual harassment at a workplace, 1 case of gender discrimination and 1 case of employment discrimination filed by individuals were completed to safeguard the rights of the complainant to promote a friendly workplace and environment in the science park.



2. Family Care and Support

The establishment of the childcare facilities is conducted in accordance with the amended Act for Establishment and Administration of Science Parks. It is open to childcare institutions outside the science park to establish appropriate childcare facilities in the science park. The STSP Bureau provides the venue for rent at preferential rates for the childcare facilities to enable the employees to arrange childcare so that they can concentrate on their work while working, achieving a balance between work and the family.

The STSPB also provides counseling for the park business units to provide childcare measures and breastfeeding rooms to implement a friendly workplace. A total of 34 park manufacturers received the counseling in 2023. In addition, subsidies for childcare facilities and measures are also budgeted every year to assist business units to handle these measures, encouraging them to create a safe workplace and family life for the workers.

◎ High-quality education and childcare setting the employees' mind at peace

To create a friendly working environment in the park, Tainan Science Park and Kaohsiung Science Park have set the Little Bear Baby Care Center specially designated for the growth and learning of 0-2-year-old babies. In 2022, with the provision of friendly preschool education services as the starting point, it is expected to further provide parents with kindergarten childcare services for children aged 2-6 years old. The parents will pay NT\$2,000 for 1 child per month, NT\$1,000 for the second, and free of charge for the third child or above or children from low-income families. Extended childcare services are also provided to reduce the burden of parental childcare.

Currently, there are 8 childcare facilities, including 1 public and 2 private baby care centers, 1 private kindergarten, 2 manufacturer-operated kindergartens, and 2 commissioned non-profit kindergartens in the science park areas, with the enrollment rate reaching 90%. Among them, the STSP Non-Profit Preschool at Lianyuan participated in the “2023 workplace childcare facility competition within the public sector” organized by the Directorate-General of Personnel Administration and won the “Outstanding Award” in the Kindergarten Group among 37 agencies (institutions).

Tainan Science Park



Nonprofit Kindergarten for Children of
Community Center Employees

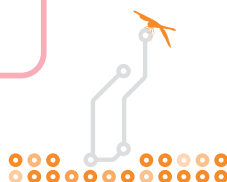


Lianyuan Employee Children Non-
Profit Kindergarten

Kaohsiung Science Park



Luer Childcare Center





Basic Life-Saving Skills for Childcare

To enhance the first aid capabilities of kindergarten staff, STSP Bureau held the “Child Health and Care-Basic Life Support (BLS) Training” in STSP Non-Profit Preschool at Lianyuan on June 3, 2023. Physicians from the Emergency Department of Kaohsiung Veterans General Hospital were invited to serve as lecturers, and participants were faculty members from STSP Bureau and 2 non-profit kindergartens. Trainees were led to perform first aid chest compression drills. Through practical drills on basic first aid skills, it is expected to improve the early childhood educators’ emergency response capabilities to respond effectively during critical emergencies, and equip them with knowledge and protective skills to handle emergency, and thereby reducing accidents involving young children, making them guardians of life.



Trainees conducted CPR chest compression under the guidance of the instructor

3. A Safe and Healthy Park

The STSP Bureau is devoted to creating a safe and healthy science park and developing high-quality labor force to enhance the employees’ attention to and efforts for a safe and healthy working environment in the workplace. In terms of the occupational safety and health, STSP Bureau focuses on creating a sustainable working environment of a healthy and safe smart park.

🕒 Increase health care penetration rate

The Employee Clinic of Southern Taiwan Science Park is the first medical service team from private medical center to be introduced among government-developed industrial zone and science parks, providing medical services and health consultation for employees of park manufacturers and the neighboring residents. The Employee Clinic of Southern Taiwan Science Park provides timely professional consultation and epidemic prevention guidance for park manufacturers from pulmonary tuberculosis in the past, to SARS, H1N1, H5N1 and even to the outbreak of the COVID-19 pandemic. It provides a full range of medical services, successfully playing the role of family physician in the big family of STSP.



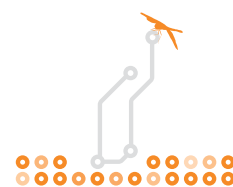
The firstly established workplace ecosystem in the health park combines the strengthening of workplace safety and health of the Occupational Safety and Health Administration of Ministry of Labor, the Healthy Workplace Certification of the Health Promotion Administration of Ministry of Health and Welfare, and Sports Enterprise Certification of the Sports Administration of Ministry of Education. In 2018, the “Health Park, The First Year of Sports” was promoted to establish a healthy workplace ecosystem in the science park. We invited Tai Tzu-Ying as the spokesperson from the year 2018 to 2023 and organized neighborly ball games and night runs to create a healthy and sporty atmosphere at STSP.

In addition, according to the statistics of the Labor Health and Protection Management Reporting Information System of the Health Administration of Occupational Safety and Health Administration of Ministry of Labor (as of the end of December, 2023), the overall health service rate of the science parks within STSP has reached 100 % (the number of manufacturers that should employ or contract medical personnel was 113 to serve a total of 86,403 employees. Among them, 113 manufacturers completed system filing, serving 86,403 employees. The service rate was $86,403/86,403 = 100\%$).

🕒 Improvement of the Safety of Working Environment through On-site Counseling

The STSP Bureau has been devoted to the disaster prevention and relief work through actively counseling and on-site inspection of the park manufacturers, which will effectively reduce the occurrence of occupational disasters and will be of great help in the protection of the life, safety and health of the employees in the science park.

The more business units stationed in the park, the more plants are built. STSP Bureau has integrated resources from industry, academia, and government to establish an industrial safety guidance group to promote “on-site counseling on workplace safety and health”, targeting at the construction firms and manufacturers in the park, and high-risk places with high frequency of occupational accidents in the park, Category A and C workplaces, and construction projects in the entire region. In addition, the STSP Safety and Health Guidance Group has been established in accordance with Article 22 of the Occupational Safety and Health Act. The members of this group include doctors from park clinics, senior nurses from park manufacturers, and experts in the academia to provide on-site counseling on the management and protection of workers’ physical and mental health in the manufacturing and construction industries in the park, and assist high-risk places to implement autonomous management of occupational safety and health to reduce the occurrence of occupational accidents.





In 2023, a total of 71 sessions of counseling were conducted

1. **6 sessions** of on-site counseling of occupational safety and health in Class A and C dangerous workplaces.
2. **10 sessions** of on-site counseling for physical and mental health management and protection.
3. **5 sessions** of on-site counseling of occupational safety and health in the manufacturing industry.
4. **50 sessions** of on-site counseling of occupational safety and health in the construction industry.



On-site counseling in Class A and C dangerous workplaces



Manufacturers' new construction project/ Mental and physical health management and protective counseling



Counseling of manufacturing industry



Counseling of manufacturing industry



Manufacturing Industry/ Tien Hong Technology New Construction Project



Manufacturing Industry/ TSMC Fab 18 P9 Demolition Project (Counseling of manufacturing industry)

A total of 3 sessions of propaganda meetings were held, focusing on not only the explanation of the key points of on-site counseling but also tower crane safety standards and temporary electrical safety that are prone to hazards in construction sites, manufacturing local exhaust design regulations and outlines, and illegal infringement prevention in the workplace.

It is hoped that through the comprehensive propaganda meetings, the quality of the business units and the employees in the science park can be enhanced, their self-health management can be improved and the occupational accidents in the science park can be reduced, reaching a win-win situation.



Occupational Safety and Health
Promotion Seminar



Propaganda meeting of park
construction site management and
safety and health promotion



Health promotion/ Illegal
infringement prevention propaganda
meeting

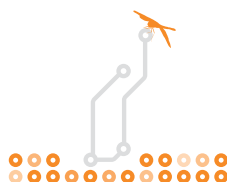


Promotion of Maintaining Safety During the Spring Festival at STSP

STSP Bureau cooperated with the Ministry of Labor to strengthen inspection for Maintaining Safety during the spring festival from December 27, 2022, to February 5, 2023. In addition, the Promotion Meeting of Safety during the Spring Festival held on January 6, 2023 was hosted by the Director-General of STSP Bureau, and attended by more than 60 units from park businesses and construction sites. Common labor inspection deficiencies and occupational accidents in the past three years were analyzed in the promotion meeting, along with proposed measures to improve the accident prevention awareness of the park business partners. Businesses units were urged to implement various disaster prevention mechanisms and enhance inspections, promotion, and counseling measures to ensure employees' safety.



STSP's Promotion Meeting of Safety during the Spring Festival



○ **Excellent Industrial Safety Unit (Personnel) Award**

The STSP Bureau promotes occupational safety and health in the science park through advocacy, guidance, and implementation of labor inspections to effectively improve the safety and health standards in the science park. Through the pre-assessment mechanism, the business units' self-management can be enhanced and the full participation mechanism can be expanded to promote the efficiency of the labor health and labor inspection so as to construct a safe, healthy and humanized working environment. To publicly commend the business units and employees with excellent occupational safety and health management to encourage the improvement of workplace safety standards and promote labor health and safety so as to carry forward the diligent and sociable spirit and the excellent tradition of moral character, we commend excellent employees and business units every year. In 2023, 4 manufacturers and 10 employees in the science park won the award.



Group photo of the winners

4. Maintaining the death rate per million workers in major occupational disasters at 20 and lower (reaching Japanese standards)

We have been devoted to the promotion of various disaster reduction plans and investigations to have thorough grasp of the high-risk places in the science park and advocate the importance of occupational disease prevention. To ensure the occupational safety of the workers, we further help the construction sites implement the establishment of self-management, which effectively reduces the potential disasters in the park while on the other hand improves the industrial safety standards in the science park.

In 2023, a total of 1,122 labor inspections were completed (including 1,025 sessions of occupational safety and health inspections and 97 sessions of labor condition inspections), The occupational disaster rate per thousand people in the science park in 2023 was 1.64‰ .



Item	2019	2020	2021	2022	2023
Occupational disaster rate (per thousand people)	1.14	1.08	1.09	1.33	1.64
Disabling Frequency Rate (FR)	0.55	0.55	0.55	0.68	0.84
Disabling Severity Rate (SR)	7.80	5.30	44.80	11.4	51
Death rate of major occupational disaster (per million people)	0	0	11.9	0	10.87

Note:

1. Disabling frequency rate (FR) and disabling severity rate (SR) were calculated based on the announcement stipulated by Occupational Safety and Health Administration.

(1). $FR = (\text{Total number of people injured} \times 1,000,000) \div \text{total hours worked}$

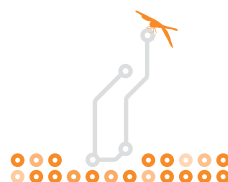
(2). $SR = (\text{number of work days lost} \times 1,000,000) \div \text{total hours worked}$

2. Data was reorganized for the unified figures (excluded data in the construction industry) since workers in the construction industry do not belong to the business unit in STSP



Labor inspection

In 2023, there were accidents where object collapsed and the worker was crushed, and accidents where workers were hit and fell in the park ,STSP Bureau dispatched personnel to the site for labor inspection and demanded that the work suspended in accordance with the emergency response procedures for major disaster accidents in the park, followed by relevant procedures for notification of workplace disaster and related investigation and punishment in accordance with the Occupational Safety and Health Act. Business units were also advised to strengthen works for occupational safety and health protection as well as management of various operations.





1. Analysis of the causes of accidents

Collision of machine	The worker was performing maintenance work of the automated warehouse system. When the handling machine of automated warehouse system was shut down, the machine unexpectedly collided with and injured the worker, resulting in death despite emergency treatment at the hospital.
Fall in elevator shaft opening	A worker fell from the 5th floor to elevator shaft opening on the 1st floor underground during elevator installation operations.
Earthwork collapse	When a worker was working on the underground telecommunication pipeline pre-burial joint operation, fatal collapse of earthworks due to failure to install soil support during vertical excavation happened. The worker was pronounced dead due to central nervous system failure after being hospitalized.
Scaffolding collapse	A worker died after falling during the installation of fall protection nets, despite attempts to rescue and medical intervention.

2. Follow-up improvement measures

- (1) Collect and prepare information of the disaster cases in the park and strengthen the key points in labor inspections and publicity meetings for relevant business units to prevent similar accidents from happening again.
- (2) Regularly arrange experts and scholars to assist in occupational safety and health inspections of the park factories and construction projects and strengthen the guidance for manufacturers that had occupational accidents for improvement, such as planning the traffic flow and guiding the personnel, adding a rear-view camera to the forklift to assist with the drivers' visual blind spots.

5. Advanced Disaster Education and Training Center

To enhance the workers' occupational safety and health knowledge and the ability to identify hazards, the Occupational Safety and Health Administration of Ministry of Labor and STSP Bureau jointly promote the "Occupational Safety and Health Multi-somatosensory Extended Reality (XR), Disaster Prevention Simulation Training Field Project". On April 14, 2023, witnessed by the Deputy Minister of Ministry of Labor and the Minister of National Science and Technology Council, a declaration to promote collaboration was jointly signed. The existing buildings of Kaohsiung temporary storage site was used and refurbished, and it took 3 years to build the first-class Disaster Prevention Simulation Training. With the utilization of advanced technology to simulate various high-risk operations, the trainees can receive the interactive and immersive training in a safe environment, with the expectation that trainees can work safely in their workplace after the training.



In the training field, MR, VR, and AR technologies, coupled with the AI intelligent recognition system equipment familiarize trainees with standard operating procedures. If the safety measures are not implemented perfectly, corresponding occupational accidents will occur. Through the simulation of sensory experience of occupational accidents, safety awareness can be strengthened. In 2023, the establishment of electromagnetic induction operation for electrical hazard, mobile cane operations, confined space work, chemical spraying operations, open excavation operations, scaffolding and roof work, and machinery operation was conducted. We also looked into the types and media of domestic industrial safety incidents and selected and analyzed cases of occupational accidents with high severity and frequency for the compilation of training materials. After designing and comprehensive review of safety accident simulation courses, we provided 8 occupational accident simulation training courses in total, and combined with the dynamic equipment built in the field, the trainees can deeply experience the potential dangers in the workplace.

XR Field Space Planning





A total of 61 sessions of education and training were organized in 2023, and the cumulative number of trainees was 1,681. There were 74 sessions of labor visit experiences, and the number of trainees totaled 1,873, with a cumulative of 3,554 trainees. There were 18 sessions of visits from schools and government agencies, with a total of 437 visitors. As for the occupational accident simulation training course, in addition to the review of industrial accidents, 7 sets of digital teaching materials were developed. Different from traditional digital materials that solely feature video and audio instructional content, the content of the simulation training we developed integrates interactive games to add joy in the learning process, aiming to achieve effective learning through educational entertainment.

In addition, the establishment of the Virtual exhibition hall entrance of XR CENTER provides trainees with the experience of visiting the XR CENTER site through internet connections. Trainees can use different devices, including cell phones, tablets, and computers to enter the XR CENTER Virtual Exhibition Hall to create their own virtual avatars to interact with other trainees online or operate various simulation training systems.



Virtual Exhibition Hall Entrance of XR CENTER



Multi-device cross-platform operation screen



Advanced Planning

STSP Bureau is dedicated to creating high-quality investment and employment environment. Through rewarding innovative research and development and deepening industry-academia collaboration, the output value of the park and quality of talents have increased. With the improvement of the public's quality and labor awareness, workers not only pay attention to their career development aspects, but also the conditions such as occupational safety, labor rights, education, health care and others when they make overall consideration of employment. Therefore, STSP Bureau also actively promotes gender quality in the workplace, labor inspections, occupational safety and health counseling, and training of disaster prevention to make STSP a smart, innovative, and healthy park.

In addition, to solve the problem of schooling for employees' children, in addition to the existing NNKIEH and the National Experimental High School at Chiayi Science Park and National Experimental High School at Pingtung Science Park that are still under planning, STSP Bureau also responds to the government's policy of encouraging childbirth by opening appropriate locations for childcare institutions outside the park to set up childcare facilities in the park area to assist employees in the park achieve a balance between work and family.

Core Goal 17



Goal 17 Establish diversified partnerships and work together to advance the vision of sustainability

Self-defined tracking indicators

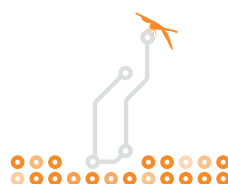
Exchanges and sharing are made through receiving visitors at home and abroad and participating in various large-scale exhibitions

Performance in 2023

74 groups
1,319 visitors

Authority

Investment
Promotion
Section,
Industry-
Academic
Research and
Development
Section





Challenges/opportunities faced

To enable the park to achieve sustainable operation and assist the development of industrial clusters, STSP Bureau attaches great importance to establishing close relationships with partners in all sectors, linking international markets and resources, participating in international exhibitions and fairs, as well as having exchanges with overseas enterprises to understand the development trends of the industry and the latest technologies and discuss possibilities for cooperation opportunities and common development, so as to attract more foreign enterprises to enter the park, facilitating the internationalization of the park and promotion of the park development.

Specific actions and promotion highlights Domestic and Foreign Exchanges and Industrial Links

Implementation content and promotion results

The semiconductor and biomedicine industries in the park continued to show strong development momentum, attracting many visiting groups to STSP for exchange. According to statistics, a total of 74 groups with 1,319 visitors visited STSP in 2023, demonstrating the importance and influence of STSP in the industry and successful extension to the international societies with the science park development experience. STSP Bureau will continue to strengthen cooperation and exchanges with all parties to promote the innovative development and upgrading of the park.

Feb

Distinguished guests from Regional Economy Revitalization Division for Start-up Business Promotion, Kitakyushu Bureau of Economy, Trade and Industry visited STSP

Delegation led by Gintautas Jakštas, Deputy Minister of the Ministry of Education, Science and Sports of Lithuania



Delegations led by Torrance City Mayor George Chen, and Sheng-Wei Peng, CEO of NCKU Innovation Headquarters



Mar

Delegation visit led by Torrance City Mayor George Chen, and Sheng-Wei Peng , CEO of NCKU Innovation Headquarters

Iain Stewart, President of the National Research Council of Canada and Director Ed Jager of Trade and Investment Canadian Trade Office in Taipei led the visiting team.



Iain Stewart, President of the National Research Council of Canada and Director Ed Jager of Trade and Investment Canadian Trade Office in Taipei led the visiting team

Apr

Delegation Visit led by Suresh Rajaraman, Senior Vice President of Merck Group in Taiwan

Delegation Visits led by Hung Wei, Mayor of Cupertino, CA, USA



Delegation Visit led by Neil Richards, Senior Vice President, Global Operations, Supply Chain, and Quality

May

Delegation Visit led by Neil Richards, Senior Vice President, Global Operations, Supply Chain, and Quality

Visit by Jack Lambert, AIT Kaohsiung Deputy Branch Chief



Delegation visit led by the Representative Director, Eishi Fuyama of Fujimori Kogyo Co., Ltd

Jul

Delegation visit led by the Representative Director, Eishi Fuyama of Fujimori Kogyo Co., Ltd

Delegation visit from Cardiff University and National Taipei University led by Dr Justin Spinney

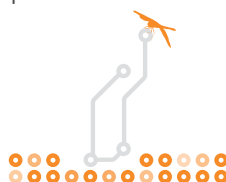


Delegation visit led by Daniel Bowman, Executive Director, Economic and Policy Section, Australian Office in Taipei

Oct

Delegation visit led by Daniel Bowman, Executive Director, Economic and Policy Section, Australian Office in Taipei

Prof Ng Kee Chong, Director of Changi General Hospital of the Sing Health Healthcare Group and Prof Teo Eng Kiong, Director of Sengkang General Hospital led a group and visited STSP iBIOMED FLAGSHIP HALL





Nov

Delegation of U.S. federal and state labor executives led by Fitzgerald Washington, President of National Association of Government Labor Officials visited STSP

Delegation of permanent representatives to the United Nations from Taiwan's allies led by H.E. Amb. Inga Rhonda King visited STSP

Remus Li-Kuo Chen, Vice Minister of Ministry of Foreign Affairs and Tzong-Chyuan Chen, Vice Minister of National Science and Technology Council visited STSP



Delegation visit from Cardiff University and National Taipei University led by Dr Justin Spinney



Delegation of permanent representatives to the United Nations from Taiwan's allies led by H.E. Amb. Inga Rhonda King visited STSP

📍 **Representatives from Lithuanian visit STSP to promote tech diplomacy**

Gintautas Jakštas, Deputy Minister of the Ministry of Education, Science and Sports of Lithuania led delegation and visited STSP on February 7, 2023 to learn about the park and industrial development. Lithuania's main industries include electronics technology, financial technology (fintech), biomedicine technology, electric vehicle manufacturing industry and others, and Lithuania is also known as the Baltic Tiger. The delegation included many experts and scholars from Vilnius University, who showed great interest in STSP's collaboration models among industry, government, academia, and research institutions, the startup cultivation capacity, park environmental construction, funding sources and others. Finally, they went to iBIOMED FLAGSHIP HALL and 3R LIFE SCIENCES LTD. to observe biotechnologies such as artificial hearts and learned about the development of the precision health industry in the park. Close exchanges were made between both parties, creating new opportunities for collaboration.



Group photo of the distinguished guests from Lithuania at STSP



Startups Learning from Israel

To enhance the competitiveness of industrial innovation and stimulate the transformation of industrial clusters in the science parks in Taiwan, Hsinchu Science Park Bureau, CTSP Bureau, and STSP Bureau organized a group to visit Israel, renowned as the “Startup Nation”, targeting startups and entrepreneurship institutions, aiming at learning from Israel’s successful experience in promoting new startups. This can serve as a reference for industrial transformation of science parks and the promotion of R&D innovation.

This time, we visited Israel’s Ministry of Innovation, Science and Technology, which sets priority areas for R&D (such as relatively advantageous technologies, technologies with significant economic potential, addressing specific challenges, etc.), develops talents, establishes infrastructure, and promotes international cooperation. A visit was also paid to Israel’s Ministry of Environmental Protection. Israel’s

sewage recovery rate is as high as 87%, and it applies advanced technology to solve the natural water shortage problem caused by environmental factors, which is worthy of reference for Taiwan. In addition to government agencies, we also visited Ben-Gurion University technology-transfer companies and companies like Mobileye and Chain Reaction to learn the operating mechanism of promoting startups and learn from the successful experience as a reference for the industrial transformation of science parks to facilitate R&D innovation.



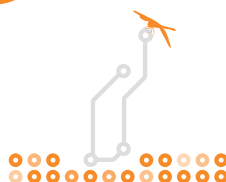
Visited Mobileye, a startup developing computer vision self-driving cars and advanced driver assistance systems (ADAS)



Visited Israel Innovation Authority, received by Avi Luvton, the Executive Director of International Cooperation Programs



Exchanges with chief scientist of Israel’s Ministry of Innovation, Science and Technology





📍 IASP World Conference Focuses on Global Technology Trends

International Association of Science Parks (IASP) is the most important international science park organization, attracting science parks and innovation park managers, policymakers, experts, and scholars from all over the world to attend this conference every year to share the latest scientific and technological trends and park management experience.

Director-General, Dr. Su Chen-Kang of STST Bureau led a team to Europe from September 9 to 17 in 2023 to attend the IASP World Conference. Participants were from 55 countries. The theme of the conference this year was “Megatrends in Innovation Ecosystem: What are the impacts for STPs & AOIs? Case studies were used to explore future challenges science parks may face and serve as a reference for policymaking.

In addition, with the assistance of the Taipei Representative Office in the EU and Belgium, Science and Technology Division and the Wissenschaftsabteilung, Taipeh Vertretung in der Bundesrepublik Deutschland, the team was arranged to visit Tech Lane Ghent Science Park, the economic development agency IDELUX, and the automated valet parking in the parking garage at Stuttgart airport. In addition to learning about supporting startups and constructing technological facilities as reference for the operational planning of the industrial area, STST Bureau Director-General also introduced to the visiting units the current industrial development of STSP based on the semiconductor industry, and the development direction toward Beyond 5G, the next generation of mobile communication systems, low-earth orbit satellites and other fields.



The three science park bureaus jointly attended the IASP World Conference



IASP World Conference arranged a tour to Goodyear Innovation Center Luxembourg



Group photo of the participants and the economic development agency IDELUX



Relevant experts and scholars in the field of world science and innovation parks visited the automated valet parking in the parking garage at Stuttgart airport

Joint Participation in International Exhibitions

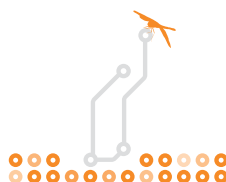
Implementation content and promotion results

1. Eye-catching Biomedical Corridor at STSP

The 2023 Bio Asia-Taiwan Exhibition started from July 27, 2023, and STSP Bureau, together with Hsinchu Science Park, CTSP, and Taiwan Instrument Research Institute jointly created the science-park-themed pavilions to showcase the latest development and innovative technologies in the biotechnology and medical fields. A total of 12 STSP manufacturers participated in the exhibition. Based on the existing strong industries such as semiconductors, biotech and medical materials, precision machinery, and photoelectric green energy, STSP continues to focus on precision health and industrial innovation that is combined with technologies such as AIoT and 5G and the integrated with the industry-university-research and medical research and development forces in Chiayi, Tainan, Kaohsiung, Pingtung and other regions to create a biomedical industry corridor and promote cluster development.



Yi-Juang Chern, Deputy Minister, National Science and Technology Council, visited the science-park-themed pavilions



In addition to the park manufacturers, STSP Start-up Workshop also led 4 startup teams and 4 colleges and universities of the GLORIA 2.0 X South Platform to showcase innovative technologies at this exhibition and displayed the cutting-edge medical materials and biotechnology products at STSP.

In addition, STSP Bureau also teamed up with 5 park manufacturers (Choice Biotech, Quen Lin Instrument, EPED, HUANG LIANG Biomedical Technology, and Dentall) to participate in Dental Implant Education and Training Workshop with Product Experience in Malaysia and also the MIDS 2023 Malaysia International Dental Show from May 20 to 26, 2023. In addition, Malaysian dental association, MDIA, was also linked up to conduct product distributor matching activities, holding on-site negotiations with 34 dealers and distributors, and 90 doctors to actively assist park manufacturers to expand their sales to Southeast Asian markets.



Group photo of manufacturer representatives



Manufacturer representatives introduced products at the exhibition

2. SEMICON Taiwan- Insights into the Future Technology

Taiwan's semiconductor industry enjoys world acclaim. STSP plays a crucial role in the fields of manufacturing and equipment components. To continue the expansion of Southern Taiwan Technology Corridor and assist park manufacturers in entering international markets and capturing orders, STSP Bureau led 13 park manufacturers to the 2023 SEMICON Taiwan. The participating manufacturers included Chung Yo Materials Co., Ltd., LiveStrong Optoelectronics, PentaPro Materials Inc., AMETEK Taiwan Corp., LTD., Huang Liang Precision Enterprise Co., LTD., APOGEE Optocom Co., Ltd., Coalition Technology Co., Ltd., ThinTech Materials Technology Co., Ltd., Jumbo Laser, Green Power Engineering Corp., Streber-Tech Co., Ltd., Microcosm Technology Co., Ltd., and Taiwan Aerogel Technology Materials Co., Ltd. This strong lineup of exhibitors also attracted visiting delegations including Vietnam National Innovation Center, Taiwan-Japan East Asian Economic Association, German Trade Office Taipei, Tainan City Government, Department of European Affairs, MOFA, and so on to the STSP Image Pavilion, demonstrating STSP's strong strength in the fields of manufacturing and equipment components.



STSP Bureau Director-General, Dr. Su Chen-Kang (middle) encouraged the exhibitors and wish them a good harvest of order during the exhibition



STSP Bureau Director-General, Dr. Su Chen-Kang (7th from left) took a group photo with the exhibitors

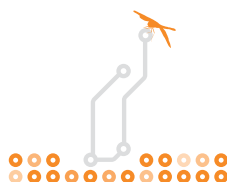
3. Tainan International Green Industry EXPO

The 2023 Tainan Green Industry EXPO took place in ICC Tainan from May 24 to 26, 2023. The exhibition covered areas including zero carbon and plastic reduction, green energy generation, smart energy storage applications, green building materials, electric vehicles and batteries, circular economy, energy efficiency, and environmental protection equipment, with up to 80 manufacturers participating.

Participating manufacturers from STSP included Taiwan Aerogel Technology Materials Co., Ltd. exhibiting fire-resistant thermal insulation aerogel composite materials, ADAT Technology displaying AI/AR coaches, Green Power Engineering Corp. displaying widely applied micro turbines, and Jumbo Laser showing their self-developed and manufactured intelligent laser marking machine. In addition, Foxtron Vehicle Technologies, a subsidiary of Hon Hai Technology Group, brought the latest Model T electric bus and Motel C electric car, attracting much attention in the EXPO. Environmental awareness and net-zero carbon emissions have become global trends. STSP continues to root itself in the green industry and stay in line with the trends of the times.



Distinguished guests from industry, government, and academia attended the opening ribbon cutting ceremony





Advanced Planning

STSP Bureau has been dedicated to the promotion of the internationalization process of STSP, and an important part is to participate in international exhibitions and fairs. By participating in the fairs and exhibitions, park manufacturers can have exchanges and communication with international enterprises and institutions, grasp the latest industrial trends and technological development, and increase their exposure. This is the most important channel to open up international markets. Therefore, STSP Bureau actively helps the park manufacturers participate in various international exhibitions, and continues to communicate with these manufacturers to know their needs and opinions so as to provide more effective support and services. With the continuous efforts in leading the park manufacturers to participate in international exhibitions and fairs, Southern Taiwan Science Park and the manufacturers will further flourish.





Vision : Stabilizing STSP Resources for Sustainable Operations

We constantly review the opportunities of expansion or establishment of a new science park to ensure the supply of industrial land. In the meantime, the STSPB has added new tap water resources, introduced recycled water and gradually complete power supply strategies for the short term and long term. This will ensure stable water and power supply, so as to attract the presence of high-tech industries, create economic value and job opportunities, and to achieve the vision of sustainable operations at the STSP.



Core Goals 6 and 12



Goal 6 Ensure environmental quality and sustainable management of environmental resources



Goal 12 Ensure sustainable consumption and production patterns

Specific corresponding goals

Self-defined tracking indicators

Performance in 2023

Authority

Target 6.3 Improve the living hygiene of citizens by optimizing river water quality; enhance the implementation of sewage and wastewater treatment; enhance water reusability and reduce the demand for tradition resources development through the innovative use of secondary effluents from public sewage treatment plants; tighten the audit and control of industrial wastewater discharge and track down suspicious pollution sources to stop water quality pollution; optimize river water quality to protect the national health and maintain the ecosystem; and strengthen the chemical flow tracking to improve management performance.

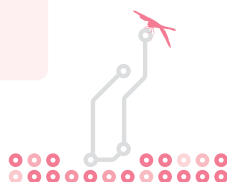
Implement the management of permits for cap control application, and the sewage from the park factories is 100% collected by the sewer pipeline.

100%

The discharged effluent from the sewage treatment plant was 100% in line with the Effluent Standards, and the water quality of the surface water body is inspected on a regular basis.

100%

Environmental Protection Section





Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 6.4 Promote water conservation and enhance water efficiency to reduce substantial increase in average water consumption; encourage the water recycling rate of industrial park enterprises; enhance the process water recycling rate of science park enterprises; and ensure no substantial annual increase in freshwater withdrawals by enhancing water conservation and diversifying water sources, such as water reclamation and seawater desalination.	Continue to implement counseling of water conservation for park manufacturers, and the recovery rate of all manufacturers in the park is aimed to reach more than 80% in 2031.	88%	Water, Electrical & Traffic Section
	In 2023, the park used or exchanged industrial reclaimed water of 8,000 tons/day, and the amount will reach 28,000 tons/day by the end of 2023.	38,600 tons/day	
Target 6.e Enhance recycling of industrial waste for proper waste disposal; implement total quantity control in science parks to guide park enterprises to reduce waste production and enhance waste recycling. Target 12.4 Reduce waste production with green production, enhance the technical capabilities for the recycling and disposal of waste, promote high-efficiency development of the resources recycling industry, and achieve the management of chemicals and all wastes in accordance with agreed international frameworks.	Implement the waste permit for cap control application, and the reuse rate of Resource Recycling Center maintains at more than 90%* (higher than the indicator 6.e.3 and 12.4.3).	93.59%	Environmental Protection Section

Challenges/opportunities faced

The development of each park must comply with the content of the Environmental Impact Assessment (EIA) documents, review conclusions and commitments. STSP Bureau requires enterprises to submit an estimate of the total amount of pollution before entering the park in the form of cap control and permit review so as to grasp the impact of the investment behavior on the overall park in advance. Besides, through the on-site inspection and tracking, STSP Bureau further requires manufacturers to conduct self-management of the pollution control and



prevention equipment, operating procedures and environmental protection work, as well as regular environmental monitoring, striving to reduce the environmental impact to the minimum.

With the development to industrial clusters, the overall water demand in the science park is also increasing every year. STSP Bureau makes active management of the water consumption in the park in accordance with the Guidance and Control Measures for Water and Electricity in Science Parks of National Science and Technology Council to ensure the compliance with the cap approved by the EIA. In addition, measures for water source development, scheduling, counseling of water conservation and drought response are also carried out, striving to improve the overall water use efficiency and strengthen the stability of the water supply system in the park.

Specific actions and promotion highlights

Implement environmental reviews and 100% of wastewater and sewage is included in sewage pipeline

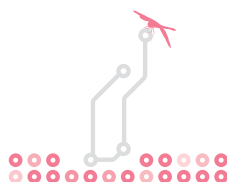
Other core goals involved

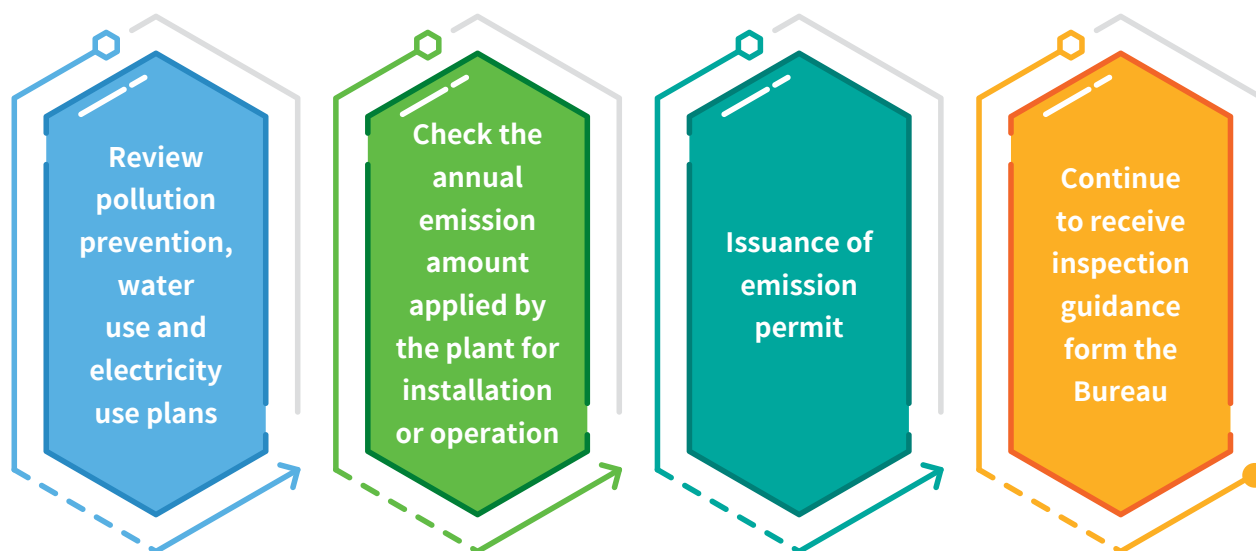


Implementation content and promotion results

1. Environmental Review

STSP Bureau plays the role of a keeper to maintain the sustainable environment of the science park. In addition to knowing whether all business units actually fulfill the content of the permit, the Bureau also needs to conduct on-site inspections and follow-up the improvement so as to further review the blind spots of the system. By regulating all business units to operate in accordance with the content of the permit through feasible methods, the Bureau can thus implement the management of permits and promotion of the cap control of various types of pollution to promote favorable environmental quality and sustainability.





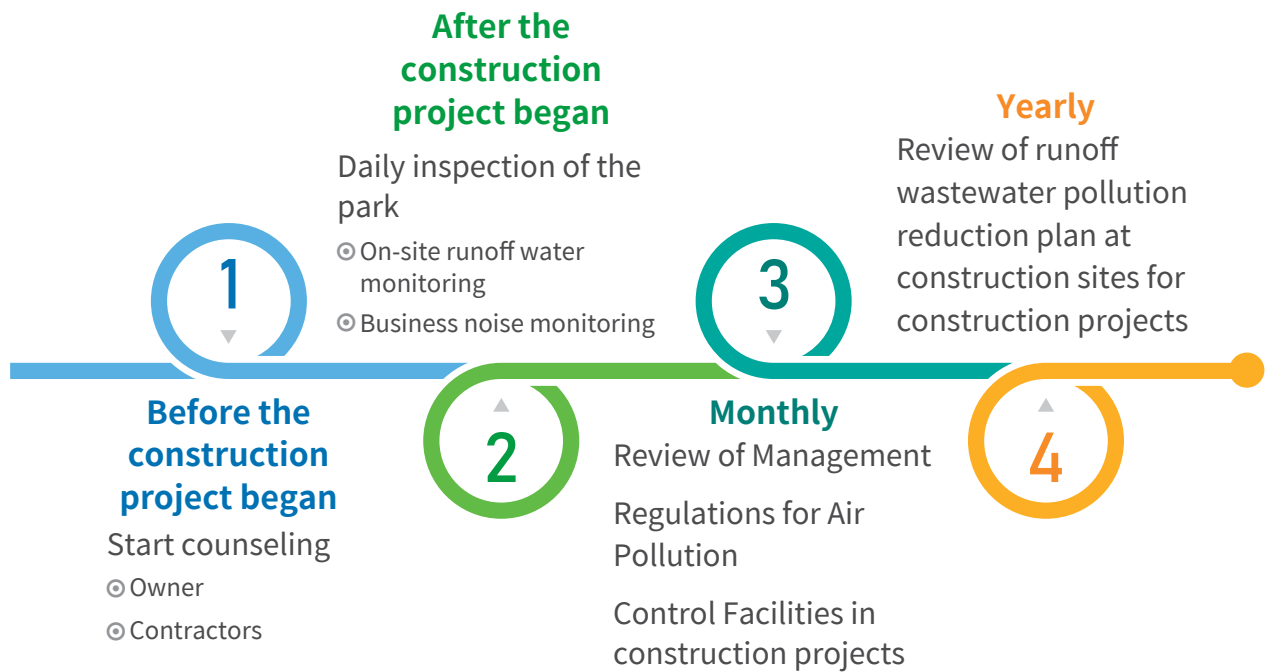
Environmental permits in 2023

132 permits for fixed pollution source	174 permits for waste
157 water pollution permits	6 permits for waste recycling

Note: Relevant service information and qualification for application are all available on STSP Bureau's official website to provide open and transparent service information.

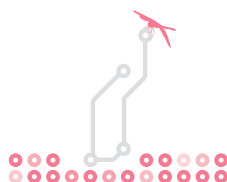
To accurately grasp the environmental impact the pollutants cause during the construction period, STSP Bureau has actively worked on the environmental impact assessment commitments and improvement of the review conclusions and continued to entrust professionals to handle the “Environmental Monitoring Plan During Construction Period at STSP”, focusing on the investigations and tracking of the surrounding environmental quality of the park area under construction, so as to grasp the level of impact every project has on the quality of the environment, make timely adjustment of the construction method and take effective preventive measures to achieve the goal of taking care of the construction and maintaining the environment quality at the same time. Meanwhile, through the collection and analysis of the background data of the environment, a long-term environmental monitoring system and database can be established to meet the requirements of environmental tracking control.

In addition, the review of Management Regulations for Air Pollution Control Facilities and review of runoff wastewater pollution reduction plan at construction sites for construction projects in Tainan and Kaohsiung Science Parks were made. Regarding the environmental protection facilities in the science park, in addition to random inspection and monitoring by dispatched personnel, environmental protection authorities such as the EPA, the Environmental Protection Bureau of Tainan City and Kaohsiung City would also carry out inspections from time to time since the sewage treatment volume and waste disposal volume both reach a certain scale.



2. Wastewater Treatment

All the wastewater generated in the whole science park was properly treated and met the influent standards of the science park before being discharged into the sewage system. After treatment, the quality of all discharged water meets the effluent standards and the discharged water eventually flows to the sea. Part of the treated effluent is recycled for cleaning equipment in the wastewater treatment plant, irrigation of plants, and filling landscape ponds. The inclusion rate was 100% in 2023.





2023 Overview of wastewater treatment at STSP

Unit: million liters

Item	Tainan Science Park Sewage Treatment Plant	Kaohsiung Science Park Sewage Treatment Plant	Sum
Amount of tap water	7.155	2.27	7.382
Amount of influents	6,404.559	337.806	6,742.365
Amount of effluents	5,612.788	314.657	5,927.445
Amount of water recovery	893.187	9.660	902.847
Total dissolved solids average monitoring value (mg/L)	3,820	3,550	-

Note: The influent is the wastewater discharged by park enterprises to park sewage treatment plant, while the effluent is the sewage from the park sewage treatment plant discharged to the sea.

Overview of water recovery at STSP

Item		2021	2022	2023
Recycling rate of wastewater	Tainan Science Park Sewage Treatment Plant	1.20%	3.30%	13.95%
	Kaohsiung Science Park Sewage Treatment Plant	1.94%	2.52%	2.86%
Usage rate of recycled water	Tainan Science Park Sewage Treatment Plant	87.11%	95.69%	99.21%
	Kaohsiung Science Park Sewage Treatment Plant	96.06%	97.44%	97.70%

Note:

1. Wastewater recycling rate= recovered water/influents.
2. Usage rate of reclaimed water= reclaimed water usage/ (reclaimed water usage+ tap water usage).
3. Spring rain was relative less in 2021, and the orange drought alert (reduced water supply) was issued, so recycled water was used for suppressing dust on the ground of Tainan Science Park Sewage Treatment Plant.
3. Spring rain was relative less in 2021, and the orange drought alert (reduced water supply) was issued, so recycled water was used for suppressing dust on the ground in Tainan Sewage Treatment Plant. In 2022 and 2023, due the commencement of Reclaimed Water Plants, the discharged effluent from the sewage treatment plant was recycled for use. Therefore, the wastewater recycling rate and reclaimed water usage rate both increased.



Tainan Science Park Sewage Treatment Plant



Since the operation of Tainan Sewage Treatment Plant, it has undergone several expansion projects in response to the increase of the volume of wastewater in the park. Currently, its permitted capacity of sewage treatment has reached 235,000 cubic meters per day. Sewage is treated through Secondary (Biological) Process and trinary filtration and the treatment of the sludge adopts mechanical thickening and dewatering. The amount of waste sludge in 2023 was 15,917 tons, which was handed over to the Resource Recycling Center for

incineration treatment and to qualified treatment companies for heat treating. At the same time, to ensure the water quality of the park, a water quality inspection room has been established, and the testing and evaluation of the testing capabilities of the inspection room is implemented through an impartial and independent third party.

In response to the increase of sewage volume from the factory expansion projects of park manufacturers and the quality control of ammonia nitrogen in the discharged water, Tainan Sewage Treatment Plant added the Phase 3-stage AO+MBR project, which was completed in February, 2024 (designed average daily processing capacity of 65,000 cubic meters), and currently is undergoing acceptance inspection. The processing capacity will be increased.

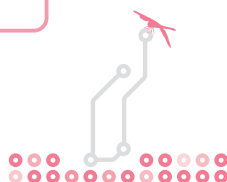
Kaohsiung Science Park Sewage Treatment Plant



Kaohsiung Sewage Treatment Plant is located in the east side of the science park, with an area of 7.79 hectares. The designed water treatment capacity in Phase I is 45,000 tons daily and the current permitted sewage treatment capacity is 16,500 tons daily. Sewage is treated through Secondary (Biological) Process and trinary filtration and the treatment of the sludge adopts mechanical thickening and dewatering. The amount of waste sludge in 2023 was 941.22 tons, which was handed over to the Resource Recycling Center for incineration

treatment and to qualified treatment companies for final treatment.

There is Ministry of Environment Certification in the plant, and the water quality of each unit in the factory and from the manufacturers is regularly analyzed. In addition, A/O treatment system has also been added for ammonia nitrogen treatment to reduce the discharge of nitrogenous substances, reducing the load of the sewage treatment system and environmental impact.





3. Monitoring of the Environment

The major monitoring items in the science park all met the legal requirements. Detailed indicators and data of monitoring are regularly disclosed on the official website of the STSP Bureau. Please go to the “Environmental Monitoring Data” section for details.

In 2023, STSP Bureau received 1 complaint of white smoke in the park area, and 1 complaint of excessive waste accumulation, which were investigated and handled immediately.



Environmental
monitoring data query

Monitoring item	Tainan Science Park	Kaohsiung Science Park
Monitoring of air quality	✓	✓
Monitoring of environmental noise	✓	✓
Monitoring of environmental vibration	✓	✓
Monitoring of surface water quality	✓	✓
Monitoring of traffic	✓	✓
Monitoring of the Resource Recycling Center	✓	There is no Resource Recycling Center.
Monitoring of water quality of effluents in the wastewater treatment plant	✓	✓
Monitoring of groundwater quality	✓	✓

In accordance with Air Pollution Control Act, in addition to GHG, STSP Bureau also takes regular inventories of various air pollutants, including nitrogen oxides, sulfur oxides, volatile organic compounds and particulate matters to reduce environmental burden.

Unit: tons

Item	Tainan Science Park	Kaohsiung Science Park
Nitrogen oxides (NOx)	425.2	64.2
Sulfur oxides (SOx)	133.3	12.0
Volatile organic compounds (VOCs)	1,117.3	242.3
Particulate matters (Par)	43.5	8.4

Note: The figures in the table were the permitted emissions of pollutants in Tainan and Kaohsiung Science Parks as of the end of 2023 (tons/year).



Reduce water intensity in the park and improve stability of water supply

Other core goals involved



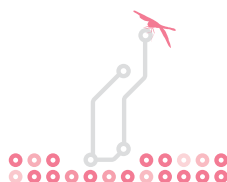
Implementation content and promotion results

1. Stabilize water supply

The annual rainfall in 2023 was close to 90% of the climate average, but the rainfall from February to April and November was relatively less. STSP worked in line with the Water Resource Agency and relevant units in advance and started various water-saving and scheduling measures from August, 2022. In August, 2023, STSP Drought Response Team was set up and 6 meetings were convened to launch the water meter inspection targeting high-volume water users to cooperate with Water Resource Agency's standards to achieve the 5% to 8% water conservation target. In addition, we also prioritized the use of reclaimed water and continue to promote efforts in source control, conservation, scheduling, and contingency planning to mitigate the impact of droughts.



- (1) Cross-departmental cooperation for the review of the water supply condition on a rolling basis.
- (2) Set up an emergency response team, strengthen communication of water conditions, and strictly control the goals for water conservation.
- (3) Strengthen guidance and inspection.
- (4) Coordination for responses among park manufacturers.





Completion of Tainan Science Park's Sixth Water Distribution Pool

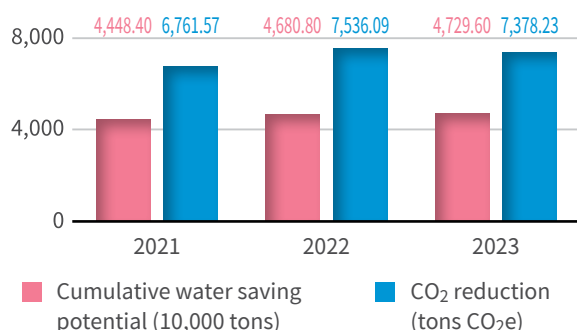
In response to the gradual increase in the average daily water consumption in Tainan Science Park, the existing design capacity of the water distribution pools is no longer sufficient to meet the demand in the park. The construction of the sixth distribution pool of Tainan Park was commenced on January 22, 2021 in Tainan Park Phase II base, and the construction project was completed on October 17, 2023, with the design capacity of 45,000 m³. The water intake pipe is shared with the adjacent fourth water distribution pool. Vertical turbine pumps (VTP) were installed in the pool to stabilize the water supply pressure. After the completion of the project, the distribution pool can meet the daily water demand of 75,000 CMD and the maximum daily supply of 90,000 CMD for the advanced manufacturing processes in the park. In case of emergencies, mutual backup with the fourth and fifth distribution pools is also available.



Schematic diagram of the location of the sixth water distribution pool project in Tainan Science Park

Counseling of water conservation

To reduce the water consumption in the science park to solve the urgent water problems to meet the EIA requirements and to cooperate with the promotion of energy conservation and carbon reduction policies, the Bureau has actively engaged in the counseling of water saving and energy conservation. In 2023, we handled water conservation counseling for 5 park business units in 2023, and have completed counseling for 135 park business units so far since the implementation of the counseling service, with the water recovery rate in the area reaching approximately 88%. According to the survey on actual water conservation results, the total water conservation effect of the entire park was about 47.296 million tons/year, equivalent to a reduction of 7,378.23 metric tons CO₂e a year.



TSMC factory (14P5) visit

Note: In 2023, the carbon dioxide equivalent (CO₂e) emissions per unit of water consumption were calculated based on the announcement by the municipal water company for the year 2022, which estimated approximately 0.156 kilograms of CO₂e per cubic meter of water used.



Reclaimed Water for Drought Resistance at STSP

In the face of the challenges of extreme climate change and the widening gap between rainfall and drought, the situation of water shortage intensified in Tainan in 2023, making the injection of reclaimed water even more important to mitigate the impact on industry and people's livelihood. STSP Bureau actively encourages park manufacturers to give priority to the use of reclaimed water. Based on the reclaimed water resources strategy, we have planned two directions of reclaimed water use and water source exchange, making STSP the very first science park to use reclaimed water in Taiwan. Development and utilization of water resources are moving toward the direction of diversity and sustainability.



Reclaimed water use and drought resistance

STSP Bureau has worked with Tainan City Government, Construction and Planning Agency of Ministry of the Interior and park manufacturers and started to plan three reclaimed water plants to supply water for the park. From 2022, the reclaimed water plants in Yongkang and the park started functioning, and the Anping Reclaimed Water Plant was launched in 2023, providing additional 20,000 CMD reclaimed water from April. What is more, under the coordination of the Construction and Planning Agency, the RO modules purchased from abroad were transported by air, which greatly advanced the unit installation schedule, enabling the realization of the water supply target of 37,500 CMD by the end of July. The total maximum usage reaches 58,000 tons/day, accounting for about 23.7% of the water consumption of Tainan Park. In the future when Rende Reclaimed Water Plant joins the water supply, the reclaimed water amount for park use will increase year by year. The amount of reclaimed water use in the park is estimated to reach 93,000 CMD by 2030, accounting for about 30% of total water use in Tainan Park of STSP.

Yongkang Reclaimed Water Plant:

It started operation from December 30, 2022, and is the first high-end water treatment plant providing water for high-tech water use in Taiwan.

Anping and Park Reclaimed Water Plants:

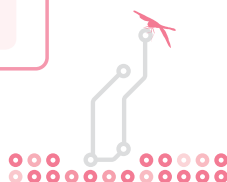
The two water plants were completed at the end of March in 2023.



Anping reclaimed water plant

Park Reclaimed Water Plant:

STSP Bureau announced that it was soliciting manufacturers to invest in the construction of a reclaimed water plant in the park. TSMC secured the contract, overcame the complexity of wastewater treatment, and enabled the cleanliness of the reclaimed water to meet the requirements of the wafer process. The inauguration ceremony for water distribution was held in 2022, making it the very first reclaimed water source in Taiwan to be reused for semiconductor processes, and the water supply reached 20,000 CMD from April, 2023.





Water source exchange

STSP actively promotes water source exchange and diversified water allocation plans. Reclaimed water will be used by nearby reclaimed water plant and the original tap water will be provided to park manufacturers through “water source exchange”, and the park manufacturers will pay the difference, saving a lot of pipeline construction and operating expenses. It is expected to be completed in 2024, which will be an emerging water supply model for the four parties of supply and demand (the city government, the party whose water source is replaced, the party that exchanges the water source, and the park). This model is to be expanded to new parks to achieve the comprehensive benefits through flexible water resource utilization.

The supply schedule of recycled water from various plants in the STSP Bureau

Category	Water supply (CMD)	Estimated water supply schedule
Yongkang	First phase: 8,000	-
	Second phase: 15,500	May, 2025
Anping	First phase: 10,000	-
	Second phase: 37,500	April, 2025
Rende (water exchange)	10,000 (Chimei: 6,000)	June, 2025
Science Park	First phase: 5,000	-
	Second phase: 20,000	December, 2023
	Third phase: 30,000	2026

STSP has obtained support and assistance from multiple partners to recycle and covert the domestic and effluent in the park into high-quality reclaimed water for park use, setting a domestic model and reducing the pressure of traditional water source development. In the future, we will continue to work with Water Resources Agency, Construction and Planning Agency, and local governments to promote the use, exchange and diversified allocation of the of reclaimed water, enhance water resource management resilience, reducing reliance on tap water and achieving mutual prosperity for industry and the environment.



2. Water Consumption of park manufacturers

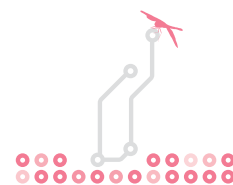
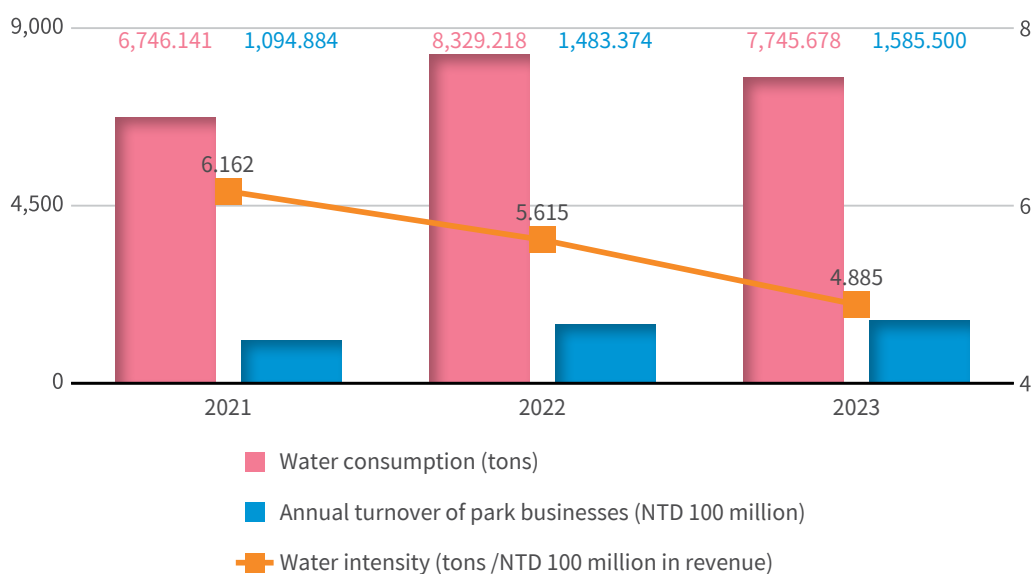
The park adopts a cap control of water consumption, and review of the manufacturers' water consumption is made on a rolling basis. The tap water consumption of the park in 2023 was 77.45678 million tons, and the intensity of tap water use dropped by 10% compared with 2022, making a consecutive annual decline.

The Bureau assists park businesses to understand their overall water use status. Based on the Water Risk Atlas of the World Resources Institute, it shows that Tainan Science Park and Kaohsiung Science Park belong to Low - Medium (1-2), indicating that the water intake of park businesses does not cause a major impact on the ecological environment.

Meanwhile, STSP strives to promote the sustainable use of reclaimed water resources in 2023 through substantial increase in revenue and expenditure reduction. The consumption of reclaimed water reached 14.14 million tons, approximately 38,600 tons/day. Combined with relevant energy-saving results, it is expected to reduce the consumption of water resources.

Item	2021	2022	2023
Water intake (tons)	6,746.141	8,329.218	7,745.678
Water discharge (tons)	4,889.168	6,099.534	5,927.445
Water consumption (tons)	1,856.973	2,229.684	1,818.233
Annual turnover of park businesses (NTD 100 million)	1,094.884	1,483.374	1,585.500
Water intensity (tons /NTD 100 million in revenue)	6.162	5.615	4.885

Note: Water consumption = water intake – displacement; water consumption in 2023 does not include reclaimed water.





3. Water Consumption of STSP Bureau

We understand the importance of water resources, and STSP Bureau starts cherishing water by setting an example of promoting water conservation measures to improve the water consumption efficiency in all units and strengthen water management and water recovery to achieve the purpose of sustainable usage of water resources.

In 2021, STSP Bureau included the water consumption of Kaohsiung Administration Building. In 2022, all the water-consuming equipment has been changed to water-saving devices, achieving 100% installation rate of water-saving equipment. Tainan and Kaohsiung Administration Buildings reduced water consumption by 19.90% in 2023 compared with 2022, showing the effectiveness of strengthened water management.

Item	2021	2022	2023
Water consumption (tons)	1.061	1.074	0.897
Floor area (m ²)	54,407.70	54,407.70	54,407.70
Water intensity (tons / m ²)	0.0000195	0.0000197	0.0000165

Note:

1. Water intensity is calculated with the floor area of the administration building of the Bureau serving as the denominator.
2. Starting from 2021, the water consumption data reported to STSPB of Energy will include the customer number of Kaohsiung Administration Building so that comparison between the two administration buildings at STSP can be made when the statistics are complete to facilitate the promotion of water conservation measures.

Proper Treatment of Waste

Implementation content and promotion results

1. Overview of Waste Treatment

As the park businesses develop, the industrial waste in the science park also increases year by year. STSP Bureau actively provides counseling to park businesses to implement source separation and recycling to reach the goal of resource recovery, waste reduction and no secondary pollution. The 2023 reuse volume of the industrial waste in the science park reached 503,463.07 tons, with the reuse rate of 93.59%.



Science Park \ Item	2023		
	Production volume (tons)	Reuse volume (tons)	Reuse rate (%)
Tainan	517,387.92	485,499.10	93.84
Kaohsiung	20,585.53	17,963.97	87.27
The whole park	537,973.45	503,463.07	93.59

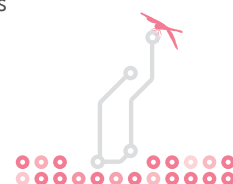
In addition, to cope with the diverse types and characteristics of waste produced in diverse industries in Tainan Science Park, the Bureau has established a well-equipped Resource Recycling Center with waste removal equipment and treatment facilities to properly remove and dispose waste in the park. The process of waste transfer is entrusted to legal operators for removal, incineration, and a real-time tracking system (GPS) is installed on the removal and transportation equipment for management. In 2023, the Resource Recycling Center properly processed 27,998 tons of waste.

Unit: tons

Composition of waste		Hazardous waste		Non-hazardous waste		Remarks
Method of treatment		On-site	Off-site	On-site	Off-site	
Transfer during disposal	Other disposal operations	-	-	-	40	The Resource Recycling Center removes and transports the recyclables in the dorm area, and Sinshih Cleaning Squadron does the recycling and disposal
	Subtotal	-	-	-	40	
Direct disposal	Incineration (including energy recovery)	5,232	-	20,032	50	Off-site (transfer to large incineration plant during the annual overhaul period)
	Landfill	-	-	2,627	-	bottom ash, fly ash, etc.
	Other disposal operations	3	-	14	-	Physical/Chemical Treatment, solidification
	Subtotal	5,235	-	22,723	-	
Temporary stored in the plant		5,235	-	22,763	-	
Total amount of waste		27,998				

Note:

1. "On-site" refers to the area within the physical boundary or administrative control of the reporting organization; "off-site" refers to the area outside the physical boundary or administrative control of the reporting organization.
2. Part of the industrial waste in Tainan Science Park is transported to the treatment agencies by the park manufacturers themselves; all industrial waste in Kaohsiung Science Park is transported to the treatment agencies by the park manufacturers themselves.





Launch the Anti-corruption Platform for Project Expansion

STSP Bureau held the launch ceremony of the establishment of the agency procurement anti-corruption platform for the Lump Sum Contract Work for the Expansion of STSP Tainan Park Resource Recycling Center on June 19, 2023. The Director-General of STSP Bureau hosted the ceremony, and about 40 people were invited, including Vice Minister of National Science and Technology Council, heads of the Ministry of Justice's anti-corruption agencies at all levels and representatives from manufacturers, showing the determination and sincerity in promoting integrity in procurement for STSP Bureau. This platform is the first anti-corruption platform launched in the NSTC's Science Park Bureau, focusing on prevention and establishing four mechanisms of "cross-domain cooperation, public-private collaboration, administrative transparency, and nationwide oversight", allowing the anti-corruption investigation units to participate in project management processes collaboratively, control project risks, safeguard the rights of public officials and contractors, and maintain public trust.

As the waste output of park manufacturers increases every year, the processing capacity of the existing facilities becomes insufficient. We hope to help manufacturers process waste nearby by adding the second phase of processing facilities of the resource recycling center. This not only reduces carbon footprint, but also avoids the risks that may be caused by waste transportation while taking into account the future development needs of the park.



Launch ceremony of the establishment of the agency procurement anti-corruption platform for the Lump Sum Contract Work for the Expansion of STSP Tainan Park Resource Recycling Center



Park Manufacturer's Circular Economy & Recycling Innovation Center

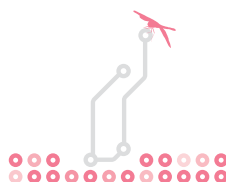
STSP public-private partnership works together on net-zero transition. UMC responds to the national circular economy strategy and set up a "Circular Economy & Recycling Innovation Center" in Fab 12A, and the groundbreaking ceremony was held on March 17, 2023. The total investment amounted to NT\$ 1.8 billion, and the latest mature technology is put into it. It is estimated to reduce about 15,000 metric tons of waste every year and produce about 6,000 metric tons of regenerated products with an output value of nearly NT\$ 100 million. This will greatly reduce the extraction of natural resources and also create about 230 job opportunities.



Schematic diagram of EMS'S 「Circular Economy & Recycling Innovation Center」

Advanced Planning

To respond to the expansion of investment scale of the science park and manufacturers, STSP Bureau continues to increase the treatment capacity of the sewage treatment plant and the Resource Recycling Center and grasp the environment quality within and around the science park through automatic continuous monitoring and manual batch monitoring. To reduce the negative impact of economic activities on the environment, we encourage park businesses to effectively recycle resources for reuse to promote circular economy. In terms of water resources, we assist park manufacturers to reduce water consumption for unit production through counseling on water conservation. At the same time, the reclaimed water sources are introduced to not only lower the burden on ground water sources but also improve the stability of water supply in the park. In addition to using the cap control as a means to control pollution, we will also pay attention to the advancement of recycling technology and adjust the management measures in accordance with laws and regulations to gradually step toward a sustainable green park.





Core Goals 7



Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all

Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 7.2 Increase the installed capacity of renewable energy.	Continue to increase the installed capacity of solar PV power equipment in the park. The capacity of the solar PV devices installed in the park is expected to reach 84 MW in 2023.	77.39MW	Water, Electrical & Traffic Section

Challenges/opportunities faced

The park area of STSP continues to expand, and the number of stationed manufacturers and energy demands increase simultaneously. In accordance with the Guidance and Control Measures for Water and Electricity in Science Parks of National Science and Technology Council, STSP Bureau checks the statistics and controls the energy consumption status on a regular basis to ensure the compliance with the cap approved by EIA. To stabilize the energy use of the park businesses, the Bureau actively coordinates with Taiwan Power Company for the improvement of the power supply equipment and strengthens the overall power network of the park. In addition, the Bureau also responds to the Green Roof Plan Policy of the central government and work with park manufacturers to promote solar power generation to not only increase the amount of self-sufficient power supply, but also contribute to environmental protection.

 **Specific actions and promotion highlights**
Installation of Renewable Energy Systems to stabilize power supply in the park

Other core goals involved





Implementation content and promotion results

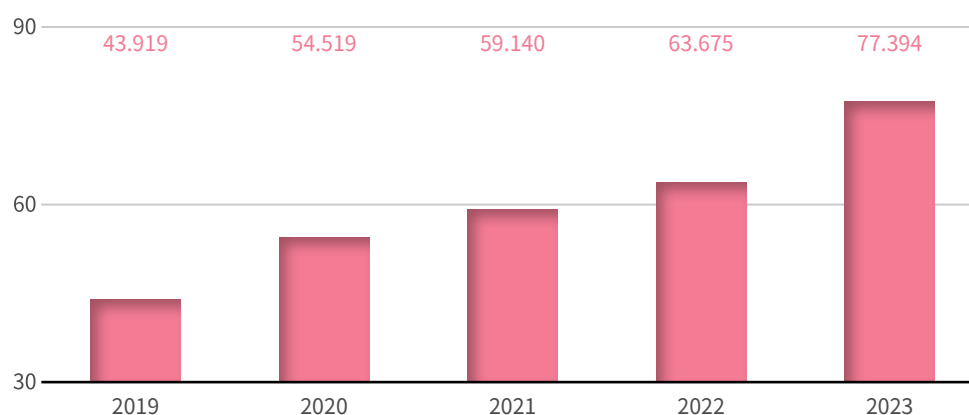
1. Installation of roof-type renewable energy system

STSP Bureau has actively installed solar panels in the science park (on the roofs of NNKIEH, Administration Building of the Bureau, Police Building, STSP Commercial Center, flood control pumping station, wastewater treatment plant, Resource Recycling Center, and standard factories in the science park). Statistics are in the table below. In 2023, the solar panels installed in the science park generate 13.72 MW of electricity, with the cumulative power generation of 77.39 MW, reducing 48,941 tons of CO₂e/year. The capacity of renewable power generation and carbon reduction increase year by year to achieve the effect of environmental protection.

Item	2019	2020	2021	2022	2023
Installation of solar panels (kW)	43.919	54.519	59.140	63.675	77.394
Annual power generation (10,000 kWh)	4,969	6,965	7,555	8,134	9,887
Reduction in carbon dioxide emissions (tons/year)	25,292	35,452	38,455	40,263	48,841

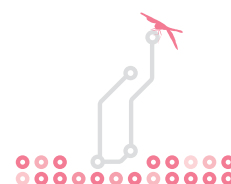
Note: In accordance with the table of GHG emission coefficient management v. 6.0.4 released by Environmental Protection Administration, the power coefficient used for calculation for 2023 was 0.494 kgCO₂e/kWh as announced by Energy Administration, MOEA.

Installation of solar panels (MW)



2. Strengthen the power network

STSP Bureau continues to work closely with Taiwan Power Company. Currently, the expansion of the ultra-high voltage substation is ongoing to meet the overall power supply needs in the science park. In 2023, due to the expansion of factories, the power consumption increased.



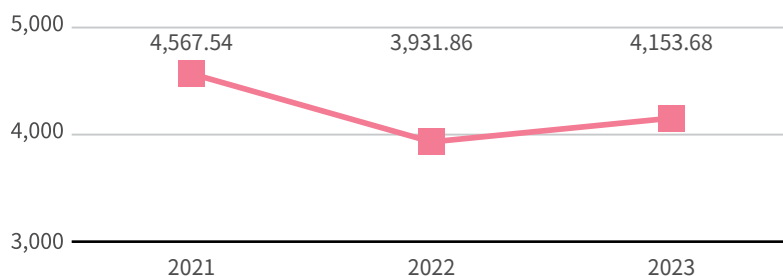


Item	2020	2021	2022	2023
Electricity use (kWh)	13,200,148,196	13,891,455,793	16,201,180,704	18,293,505,199
Energy consumption (GJ)	47,520,533.51	50,009,240.85	58,324,250.53	65,856,618.72
Annual turnover of park businesses (NTD 100 million)	8,477.31	10,948.84	14,833.74	15,855.00
Energy intensity (GJ/NTD 100 million in revenue)	5,605.61	4,567.54	3,931.86	4,153.68

Note:

1. Every 1 kilowatt-hour of electricity=1kWh=3,600 kilojoules.
2. The energy intensity was calculated with the total turnover of the STSP businesses for the current year as the denominator.
3. The source of electricity in STSP is from Taiwan Power Company.

Energy intensity (GJ/NTD 100 million in revenue)



When a power incident (such as voltage drop and power outage) that affects the power supply for park manufacturers, the Bureau will immediately coordinate with Taiwan Power Company to find out the cause and restore it as soon as possible. In addition, through the mechanism to understand the impacted status of the park manufacturers and the power quality improvement meetings convened by the Bureau with park association, Taiwan Power Company and park manufacturers, the cause of the incident will be discussed for improvement measures to reduce the impact of power supply incidents.

3. Electricity Consumption of the Bureau

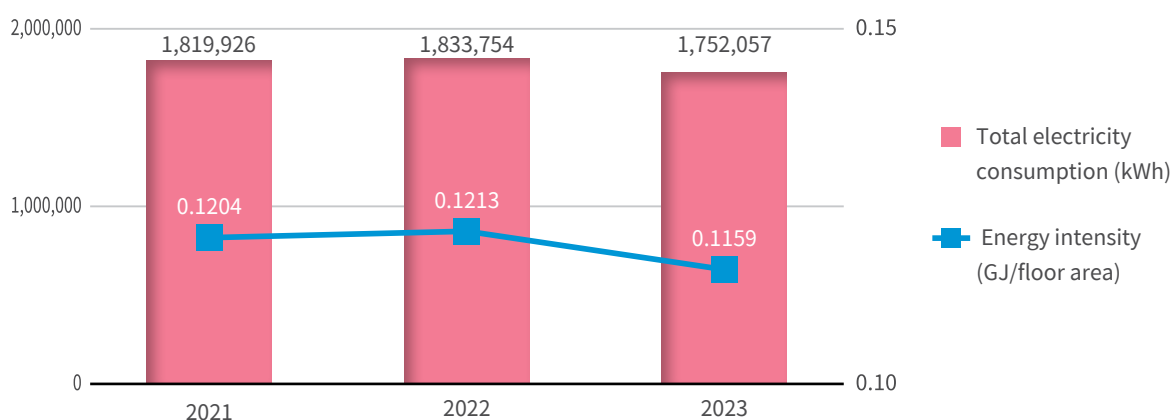
Through active response to and promotion of energy saving and carbon reduction policies, the Bureau effectively implements sustainable management through joint efforts through education and has integrated green management into daily operation. The target of electricity consumption management at STSP Bureau is to consume less electricity compare with the previous year, the electricity consumption in 2023 reduced by 4.46% compared with 2022, and STSP will continue to strengthen power management and implementation of energy conservation measures.



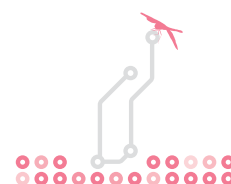
Item	2021	2022	2023
Electricity consumption (kWh)	1,807,396	1,824,764	1,740,148
Solar power consumption (kWh)	12,530	8,990	11,909
Total electricity consumption	1,819,926	1,833,754	1,752,057
Energy consumption (GJ)	6,551.73	6,601.51	6,307.41
Floor area of STSP Bureau (m ²)	54,407.25	54,407.25	54,407.25
Energy intensity (GJ/floor area)	0.1204	0.1213	0.1159
GHG emission intensity (ton CO ₂ e/floor area)	0.0170	0.0172	0.0164

Note:

1. every 1 kilowatt-hour of electricity= 1kWh= 3,600 joules.
2. The GHG emission intensity of the Bureau was calculated based on the EPA's Greenhouse Gas Emission Coefficient Management Table 6.0.4 version.
3. The source of electricity at STSP Bureau is from Taiwan Power Company and solar power.



After years of the Bureau's restless efforts in energy conservation and carbon reduction, the effectiveness of energy conservation achieved continues to accumulate. We spare no efforts to protect the environment, continue to ask our staff to abide by the energy and water saving measures and plan long-term and feasible measures. While operating the science park, the Bureau also strengthens counseling and inspections of air, wastewater discharge and waste disposal of the park manufacturers to ensure the compliance with environmental laws and regulations, aiming at stepping toward a low-carbon science park.





1. Make ice during the off-peak hours for the ice storage air conditioning system.
2. Promote the energy and electricity saving concept and adjust the air-conditioning supply time.
3. Make regular patrols and turn off power when not used at hand.
4. Encourage the staff to take the stairs, and the elevator is set to skip the 2nd floor of the administration building.
5. Make use of card insertion device for energy conservation to ensure complete cut of power.
6. Automatic lighting system (Restrooms, office machine rooms, and east and west stairwells) is installed in some areas, and the air conditioners are all installed with variable-frequency device.



Energy Conservation and Sustainability

STSP Resource Recycling Center actively improves the energy efficiency of its facilities and promotes various energy-saving measures, which was recognized by MOEA with the Silver Award of the 2023 Energy Saving Benchmark Award. In the future, we will continue to drive business units in the park to promote various energy conservation and carbon reduction initiatives and implement the Taiwan's 2035 vision of "Forward-looking and Innovation, Democracy and Inclusiveness, Resilience and Sustainability"



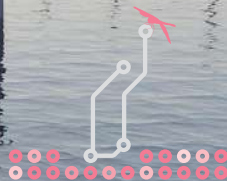
STSP Resource Recycling Center was awarded Silver Award of the 2023 Energy Saving Benchmark Award



Advanced Planning

The initial planning of STSP did not include an independent power system but shared the power grid with Tainan City. Therefore, when the industrial cluster were established, the surrounding population and manufacturers also increased, causing the overload of the power supply system. STSP Bureau kept communicating and coordinating with Taiwan Power Company, and an ultra-high voltage substation and two power distribution/substations have been established in the park to improve the quality of power supply in the science park. In addition, we also work with the trade associations to carry out the diagnosis and improvement projects for the power transmission equipment, striving to provide stable and reliable power for the science park.

In terms of the renewable energy, STSP Bureau has successively installed solar power generation equipment on the roofs of public buildings and encouraged park manufacturers to install their own solar power equipment since 2009. The space allowing the installation of such equipment is indeed limited, and therefore, the total power generation of renewable energy does not contribute much to the overall power consumption in the science park. Despite this, the Bureau still continues to cooperate with the terms for large power users and encourages park manufacturers to expand the installation scale of the self-use power generation equipment.





Vision : A Sustainable Environment for Industry, Living, Life, and Ecology

To safeguard the lives of relief workers, the STSPB will develop indoor positioning, telecommunication, and VR/AR technical applications to integrate disaster relief fields into its science parks. Environmental policies including water and energy conservation, green energy, and big tree re-plantation will be continuously implemented to reduce the impact of production and development on the ecological environment. Public art will be promoted through cooperation with local cultural and public education groups to connect the STSP with the public. The STSPB aims to build a high-quality industrial environment filled with cultural elements.



Core Goal 11



Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable

Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 11.2 Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.	Continue to operate e-shuttle buses in and the Demand Responsive Transit Service (DRTS) in STSP that operates at least 200 days a year.	250 days	Water, Electrical & Traffic Section
	Continue to operate the STSP Cloud Traffic Control Center and effectively maintain the time for handling accidents within 15 minutes	within 15 minutes	
Target 11.3 Promote inclusive, sustainable and full participatory cities and human settlement planning and management.	Hold at least 4 sessions of neighborly activities for local neighbors every year.	4 sessions	Labor Relations Section



Specific corresponding goals	Self-defined tracking indicators	Performance in 2023	Authority
Target 11.4 Strengthen efforts to protect Taiwan's cultural heritage, natural heritage and the human landscapes that contain the collective memories and historical tracks of people.	Organize at least 5 art and cultural exhibitions in the Hsing-Kuang Hsier Local Culture Hall every year.	4 sessions (Due to renovation works)	Foreign Trade Section
	Continue to operate the Museum of Archaeology and organize at least 1 archaeology activity every year.	1 sessions	Land Planning and Construction Management Section
Target 11.7 Provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.	Continue to maintain the quality of green space maintain the area of at least 20% of green space in the park.	26%	Facility Maintenance Section
	Plan the landscape improvement projects in the existing park areas, and maintain at least 4% of the green space in newly-developed park areas.	4%	Civil Engineering Section
	Maintain the artificial wetland in the since park and keep the area of 20 hectares for ecological protection area.	20 hectares	Land Planning and Construction Management Section, Environmental Protection Section
Target 11.12 Enhance the efficiency of building energy conservation and carbon reduction.	Maintain the existing Ecological Community Evaluation System (EEWH-EC) certification and encourage manufacturers to adopt green building design to facilitate the certification of the new science parks.	100%	Land Planning and Construction Management Section, Architectural Section

Challenges/opportunities faced

STSP not only serves as the technology powerhouse in southern Taiwan, but also a community where People in STSP live. STSP Bureau has adhered to the development visions of “innovation, inclusion and sustainability” and been dedicated to maintaining a tripartite balance among





technological development, humanities and the arts, and the ecological environment. By preserving local cultural assets and actively participating in combined public welfare activities, good relations with the surrounding residents are maintained. In addition, service providers of various life functions are introduced to provide various park activities and functional equipment for food, clothing, housing, transportation, education, and entertainment, creating a living environment suitable for settlement and working.

With an aim of becoming a sustainable green park, the ecological protection area and the artificial wetland have been established, the second ecological protection area with legal basis in Taiwan. In addition to continuing the maintenance of the ecological environment, the biodiversity observation is also conducted. The positive influence of the ecological environment can be achieved through environmental education to spread the environmental awareness externally.

Specific actions and promotion highlights

Construction of a stable and convenient transportation system

Other core goals involved



Implementation content and promotion results

1. STSP E-shuttle bus

In addition to providing different lines of shuttle buses for commuting passengers and those taking to and from trips between TRA Nanke Station or HSR Tainan Station. To better meet the users' demand, the STSP Shuttle Bus Green line (HSR Line) even combines the Demand Responsive Transportation System (DRTS) to receive reservation one hour before departure and picks up passengers at the shuttle bus stops in all plants in addition to the fixed bus schedules and station rides. It is recommended to download the APP, Science Park Action Wizard 2.0, and click on STSP for the real-time information of the STSP shuttle bus and other related riding information.





In view of the continuous increase in the number of employees in Kaohsiung Park and to encourage manufacturers in Kaohsiung Park to use public transportation and to reduce traffic congestion for carbon emission reduction in the park, STSP Bureau started an additional Kaohsiung Park-Gangshan South Line from October 16, 2023 to address the needs for STSP Shuttle Bus from MRT Gangshan South Station to Kaohsiung Science Park. The shuttle bus is available from Monday to Friday during rush hours in the morning, afternoon, and also at night, with a total of 6 trips available. Detailed riding information is available on STSP Bureau website or by downloading the APP, Science Park Action Wizard 2.0.



Android
Science Park
Action Wizard 2.0
Android



Science Park
Action Wizard 2.0
ios

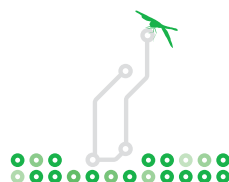


Timetable of
STSP Shuttle Bus

In 2023, the average daily number of passengers was about 1,202, the daily mileage of diesel vehicles was about 1,456.82 km/day, and that of the e-shuttle bus was about 753.43 km (the e-bus can averagely reduce the diesel consumption by about 188.36 liters every day (the mileage of e-bus/1 liter of gasoline can run 4km), reducing approximately 152.57 kgCO₂e. The overall carbon reduction was 434.47 tons.

2. STSP Cloud Traffic Control Center

The STSP Cloud Traffic Control Center has been built in the park to collect information of long-term traffic flow, turning movement data, and travel times on GVP segments through AI image recognition cameras at major intersections to understand congestion and bottleneck points on major roads in the park. Diverse data is used as a basis for decision making to design proper traffic signal timings that align with the traffic characteristics at the sites to increase the traffic efficiency of main roads, effectively reducing travel time for people to enter and leave the park area. The analysis results show that the traffic flow on the road sections where the traffic signal timings have been fine tuned in the park increased by 2% compared with before, and the reduction in fuel consumption after conversion is equivalent to 12,077 liters/year, reducing 15.80 tons of carbon emission/year (equivalent to planting 1,580 trees). According to statistics in 2023, information of 41 accidents was released by the center, and the time saved by diverting traffic to reduce traffic congestion reached 10.25 hours (615 minutes).





🕒 Commencement of Access Roads

The access roads of Tainan Science Park have been commenced successively. On the east side, there is the South Route 137 road widening project and the expropriation project of Sections F and G for STSP specific development zone- the northern section of South Route 137, with a total length of 1.8 kilometers, starting from Lane 153, Zhongzheng Road, Shanhua District in the north, and connects to the intersection of Lane 12, Dashun 6th Road, in the south. It was open to traffic on November 14, 2023. The current 10-meter-wide road have been widened to 15 meters, which effectively shortens the drive by about 5 minutes to improve a smoother traffic environment in the surrounding area of the park.



Schematic diagram of South Route 137 within
Tainan Science Park

The Sinckan Blvd. Diversion Project on the south side has entered the acceptance stage. When it is open at the end of February, 2024, it will alleviate traffic flow at the junction of National Highway 8 and the access road to the park, which will effectively shorten the driving time by about 2 minutes, facilitating the flow of traffic entering and leaving the park.

**Complete the park functions to create a
LOHAS art and culture in STSP**

**Other core goals
involved**



Implementation content and promotion results

1. Implementation content and promotion results

The Bureau provides park manufacturers with faster and more convenient services. The 12 categories of industrial and commercial services in the science park include banking and finance, post office, securities, travel agency, accounting, law, equipment service providers, electronic material agency and sales, consultancy, telecommunications, inspection and verification and customs clearance services to address the needs of park manufacturers. STSP Bureau aims



at creating a high-quality environment with high efficiency, safety, health, and comfort to attract industries and talents. Life service industries such as catering, shopping, exercise, leisure, childcare, and after-school classes are introduced. Please check the official website of STSP Bureau for detailed information.



STSP Official
Website

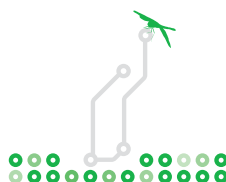
🟢 Pop Up of Fat Truck in the Kaohsiung Park

In April and December, 2023, two eye-catching fat food truck events were held in Kaohsiung Park, which not only brought great culinary experience but also added convenience to residents and employees in the park. The fat food truck prepared a variety of delicious foods, including tempting submarine sandwiches, juicy fried chicken, tasty pizza, fragrant fried noodles, and a diverse selection of sushi, catering to a wide range of tastes and enriching the after-work life of the park employees. More events like this will be held to make Kaohsiung Park a more vibrant and charming local living area.

In addition to introducing 7-11 Luchia Branch into the dormitory area to provide food, beverages, and daily necessities, Kaohsiung Park also has a secret kitchen restaurant on the basement floor of the first-phase standard factory building to provide lunch meals. In addition, there are also stores such as the 7-11 Lubo Branch and Kustos Café in front of Management 1 Zone at KSP, providing a variety of dining options in the park. In addition to catering needs, convenient public facilities such as the baby care center, a post office providing postal services, and Bank of Taiwan, as well as a multi-functional sports park for the employees to exercise after work are provided. KSP will continue to build more convenient and comfortable local living areas and provide enterprises with a better working environment.



Fat food truck events





Beam-laying Ceremony of Kaohsiung Show Chwan Memorial Hospital

Kaohsiung Show Chwan Memorial Hospital that is located in KSP held a grand beam-laying ceremony on April 14, 2024, making it the very first hospital in Taiwan to be stationed in the science park. The ceremony was hosted by the president and CEO of Show Chwan Memorial Hospital, and distinguished guests, including vice president William Lai, former president of Legislative Yuan Jin-Pyng Wang, Kaohsiung City Mayor Chi-mai Chen, NSTC Minister Tsung-Tsong Wu, Director General of National Health Insurance Administration Chung-Liang Shih, Director General of STSP Bureau Su Chen-Kang and many others attended the ceremony.

Kaohsiung Show Chwan Memorial Hospital is planned with the concept of a healthy park, covering an area of 4.8 hectares. The first phase of the medical building is expected to enter official operation in September 2024, providing a medical capacity of 700 beds. In the future, smart medical and precision medical technologies will be combined internally and the most high-end medical equipment will be introduced. It is expected to bring the most advanced and high-level comprehensive medical services to the park and the community.



Beam-laying Ceremony of Kaohsiung Show Chwan Memorial Hospital to wish the smooth process of the construction

🕒 Owin 1 Fitness Center

The Southern Science Park Health & Lifestyle Center gym remains open, and all to make use of the facilities, including aerobic training and weight training, both for physical training for different purposes. Aerobic training facilities are used for aerobic exercise, including treadmills, slide machines, flywheels, rowing machines, steppers, upright bikes, etc. Weight training facilities include equipment for muscle strength training, such as the chest press machine, lat



pulldown, 3D Smith machine (including pull-ups, barbell squats, bench press, deadlifts), and dumbbell training area. The multiple and diverse training can meet fitness needs for all. In the gym, users can choose suitable fitness equipment based on their needs. The fitness center also cooperates with the epidemic prevention policy and is regularly disinfected for users to exercise happily and safely.



Step on the flywheel equipment to exercise together

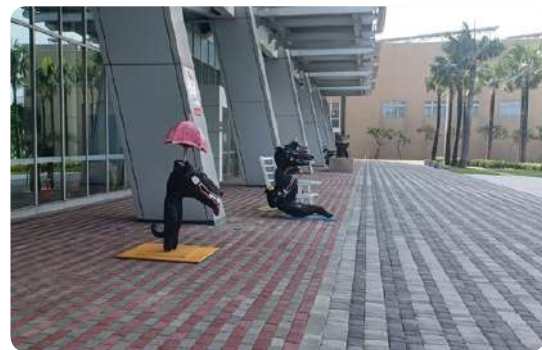


Square Landscape Planning

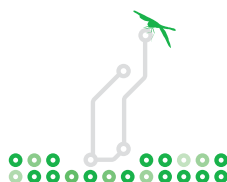
It has been nearly 20 years since the administration building of STSP Bureau was opened for use since 2005. After the opening of the Museum of Archaeology, Tainan Branch of NMP nearby and the future construction of a hospital in the park, the usage rate of the front square will be greatly increased. Therefore, more than NT\$ 80 million has been invested to improve the overall landscape of the square. The construction will start in November, 2023, and it is expected to be completed by the end of 2024. The scope of greening and landscaping is large, almost equivalent to adding a large park with an area of more than 3,000 pings. The “Little Black” series of the public art in Tainan Science Park were temporarily moved to the north side of the Administration Building in response to the construction of the Overall Landscape Improvement Project for the Tainan Science Park Administrative Service Area Square.



Rendering of the completed square



“Little Black” was moved to the north side of the Administration Building



2. Art and culture events and good-neighborly activities

STSP Bureau actively accumulates the soft power of art and culture, and is devoted to the promotion of art and culture events and concerts and organizing art exhibitions to provide rich and diverse cultural experience in the park. At the same time, good-neighborly activities are also an important part in the science park. By combining the art and culture events and the good-neighborly activities, the interaction and bond with the residents can be promoted, which can further improve the quality of life in the park area, creating a vibrant and charming STSP.

🕒 Exhibitions in Hsing-Kuang Hsier Local Culture Hall

Hsing-Kuang Hsier Local Culture Hall is a structure with the combination of religion and culture, with the second floor being the temple “New Harbor Hall” and the first floor being the Culture Hall for the exhibition of artworks from local individual artists (Xinshi, Shanhua and Anding Districts and the surrounding areas), joint exhibition of art society members, and works for art class at schools.

In 2023, the Culture Hall organized a total of 4 exhibitions, among which, the Titang Harbor Flower and Music Banquet and the Opening Tea Party of 2022 Nanke Xinshi National Photography Competition Exhibition was held amidst a cluster of flowers. In addition to awarding the winners in 2022 Nanke Xinshi National Photography Competition, artists from various places were also invited to sketch on-site, attracting passersby to stop and continue to explore the beauty of Nanke Xinshi from different angles. This is a place suitable for family travel.

To provide a more professional exhibition space and preserve as well as pass on local history, the Culture Hall started the interior upgrade works in 2023. After the renovation, participation will be expanded to provide more exhibition opportunities for park employees who love artistic creation in the science park. The Culture Hall is expected to serve as a place to display art works, but also an important platform to foster employee morale and promote community cohesion, making STSP more than just a high-tech park, but also one rich in culture, natural ecology, balanced technology, and humanistic development.



Opening tea party of Nan Ying Art Exhibition



Sketching activity at the Titang Harbor Flower and Music Banquet and the Opening Tea Party of 2022 Nanke Xinshi National Photography Competition Exhibition



STSP Late Spring Art Festival

In the 2023 STSP Late Spring Art Festival, in addition to the afternoon music events as in previous years, new activities were also held in Tainan Park and Kaohsiung Park on April 15 and 22 respectively to allow participants to enjoy music performances and diversified activities. Furthermore, the Festival was also held in the Kaohsiung Park for the first time to allow the employees and nearby residents to enjoy the beauty of art and culture.

Tainan Park together with Innolux, Hannstar, and UMC organized the Grass Lecture Hall to bring themed interactive lectures that were educational and entertaining. The day of the event in Kaohsiung Park happened to be the Earth Day. In addition to inviting the public to enjoy a leisurely moment together, the concepts of energy conservation, plastic reduction, and simpler lifestyle were also promoted. There were also group recreation games, hands-on craft experience, and stargazing guided by the Tainan Astronomical Education Area, providing people with the rare pleasure of observing the night sky in the wildness.



2023 STSP Late Spring Art Festival



Bring your own tableware for a chance to win prizes, showing love for the Earth through actions



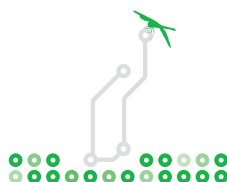
Ring's gentle voice is soul soothing

Sports Events in the SCSP

To create an environment conducive to a healthy lifestyle and work and promote a sports culture, STSP Bureau organized the 2023 STSP Thousand People Fitness Walking on March 4, 2023, and continued the Exercise at STSP activities. In addition, we invited Queen of Badminton, Tai Tsu Ying to be the spokesperson for the sixth year to kick off the friendly match. Through activities such as walking and ball games, we work with park manufacturers to take care of the physical and mental health of the park employees, create a friendly workplace environment, improve the quality of life of park employees and the neighboring residents, and serve as a science park that is sophisticated, diverse, high-quality, energy-saving, and sustainable.



"STSP 543"
Fan Page





STSP Thousand People Fitness Walking



The STSP Badminton Friendship Tournament



Queen of Badminton, Tai Tsu Ying showed up at the STSP badminton friendly match

🕒 Christmas at STSP

To embrace the coming of Christmas and New Year, STSP Bureau held a Christmas Party & Holiday Lighting Ceremony with the theme of “2023 Christmas at STSP” at Puxin Park on the evening of Dec. 21. All the lights decorated in the park were lit up when the night fell, and there were a number of wonderful performances at the Party. Free hot food was also provided to warm the participants’ stomach and for them to spend a warm night. For the year-end celebrations, the park invited 12 companies including TSMC, UMC, Kinsus, Delta Electronics, Nanya, Winbond, Macronix, Sheng Tien, and others to jointly decorate various important intersections in the park with festive lights. Following the evening festivities, visitors can enjoy the beautiful and charming light decorations throughout the park, which will remain illuminated until the Lantern Festival in 2024. It is hoped that every member of the STSP family will have their wishes come true and welcome a happy 2024!



2023 Christmas at STSP



Love Never Stops

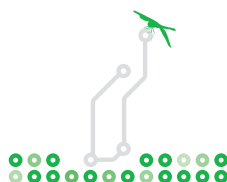
To provide support and care for families with relatively limited resources in the neighboring area, we provide medical emergency assistance, early childhood therapy, and help to resolve life challenges. STSP Charity Month, with the purpose of “Care for the Locals, Let Love Grow Roots” receives enthusiastic responses from park manufacturers every year. This year, STSP Bureau continued to work with World Vision Taiwan, Luway Opportunity Center, Social Welfares Bureaus of Tainan City and Kaohsiung City to promote collaboration between public and private sectors, integrate resources, gather love of the people at STSP and jointly organize fundraising for charitable donations.

Item	Participating manufacturers	Amount of total donation	Number of recipients	Number of aided households
1 st Year	31	NTD 715,612	211	58
2 nd Year	29	NTD 1,572,720	528	117
3 rd Year	37	NTD 3,153,995	524	146
4 th Year	29	NTD 2,118,565	671	228
5 th Year	11	NTD 1,957,004	1,100	263
6 th Year	31	NTD 1,812,773	431	183
7 th Year	16	NTD 3,870,414	624	284
8 th Year	33	NTD 3,972,828	442	191
9 th Year	16	NTD 4,119,249		
Grand total	-	NTD 19,173,911	4,089	1,279

Note: The funds raised for the ninth year (2023) will be used in 2024. Therefore, there are no data of recipients and number of households yet.



STSP Charity Month





3. A Visit to Museum of Archaeology

Museum of Archaeology, Tainan Branch (STSP Museum of Archaeology) has an area of 2.44 hectares and is located next to the Administration Building of STSP Bureau. STSP Museum of Archaeology has a unique exterior design, and it contains more than 8 million cultural and archaeological relics, all were unearthed with the development of STSP, reflecting the profound context of craft and cultural life of this land. By organizing various activities, promote education and special exhibitions to show the unique contemporary prehistoric scenery of STSP and invite the public to come to know and cherish this rare cultural park area.



Lecture Activities for Park Manufacturers

By introducing the content of supervision work and relevant regulations and notification mechanisms for the archaeological sites, manufacturers can build their familiarity with the professionalism and administrative procedures of site preservation. A total of 48 people participated this year.



Strolling around the ruins for archaeology- Archeology and handcrafts

The series featured a variety of stress-relieving DIY workshops, fostering hands-on activities to ignite imagination and creativity in archaeology, and the museum served its educational functions to enable the participants to learn about the history of STSP. This event attracted a total of 957 participants.





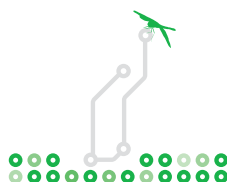
Strolling around the ruins for archaeology- Leisurely strolling through fascinating ruins

The series of activities provided immersive puzzle-solving game experience, connecting stories with on-site visits to archaeological sites, providing a learning platform to gain archaeological knowledge while enhancing participants' emotions and memories of the land in Tainan Science Park. There were a total of 1,016 participants.



2023 STSP Archaeological Site Preservation and Promotion Seminar, "Dancing with the Land: The Past and Present of STSP Area"

The popular science approach focused on STSP and the surrounding areas, and three themes, including geology, archaeology, museums, cultural assets and park development etc. were planned to understand the connotation of the archaeological cultural assets of STSP and the surrounding areas. It is also hoped that through research and discussion in various fields, the relationship between STSP and other units can be activated, and a more complete cultural asset preservation plan can be planned. There were a total of 124 participants.





4th Anniversary Series of Events

The Museum of Archaeology, Tainan Branch of National Museum of Prehistory celebrated its 4th anniversary on October 19, 2023, with the theme of “Wonder4 Land” inspired by the iconic character of the rabbit from the famous fairy tale “Alice’s Adventure in Wonderland” holding a pocket watch and always in a hurry. This current special exhibition “Dancing with the Lands” shapes a fantastical world that integrates elements of prehistory, archaeology, national language, and Sustainable Development Goals (SDGs). This event combines elements of ecological conservation, hunger eradication, and sustainable cities. Through level-breaking games, storytelling, and handicrafts and audience interaction, it offers visitors an educational and meaningful experience. The goal is to shape a vision of a sustainable society by engaging the public in a way that fosters closeness and understanding.



Low-carbon ecological communities and buildings for environmental symbiosis and mutual benefit

Other core goals involved



Implementation content and promotion results

1. Ecological Community

STSP Bureau has promoted green buildings to promote the co-existence and co-benefit of the buildings and the environment, implement the energy conservation of the buildings, and continue to reduce energy consumption and carbon emissions, making STSP the science park with the highest density of diamond-grade green buildings.



Tainan Science Park and Kaohsiung Park have both obtained the label of diamond grade Ecological Community Evaluation System (EEWH-EC), accounting for 1/3 of the diamond-grade ecological communities in Taiwan, and there are a total of 18 buildings in the park area that obtained the label of diamond grade Ecological Community Evaluation System (EEWH-EC). The green building area accounts for 35.4% of the total building floor area of the park.

Statistics of Green Building Achievements

2023 Number of Green Building Labels/ Green Building Candidate Certificates					
Certified cases	Bronze cases	Silver cases	Gold cases	Diamond cases	Total
16/21	3/3	8/3	9/2	17/1	83

2. Greening of Landscape

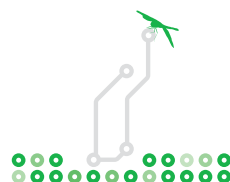
To create a colorful image of the diversity of the planting belt along the main roads of Tainan and Kaohsiung Science Parks, the Bureau continuous to plan the landscape improvement project in the science parks every year to replace poor-growing arbores or aging shrubs. The overall landscaping is based on a people-oriented perspective with the concept of multi-layered planning. Seasonal patterns and color changes are chosen to match the areas around the park in four seasons to show rich and colorful scenery. The overall landscape is all refreshed after the greening and beautification of the park area is completed.

Statistics of plant in the park area

Item	Year	2021	2022	2023
Arbores	Tainan Science Park	116,155	118,118	203,814
	Kaohsiung Science Park	86,855	91,107	69,943
Shrubs	Tainan Science Park	543,733	545,591	765,363
	Kaohsiung Science Park	160,224	188,291	166,347

Note:

1. The above-mentioned statistics is the greenery amount in public space, park, green space, and factory area.
2. There are still development projects in progress in the public area in Kaohsiung Science Park, including the area of newly planted shrubs. Therefore, after the completion of the projects, the maintenance unit in the science park will take over the shrub area. As the factory expansion projects increase, more shrubs will be planted, and there will be more increase in shrubs areas.





Cosmos flowers at the Yinxi Lake in Tainan Science Park



Sunflowers in the Administrative Service Area in Tainan Science Park

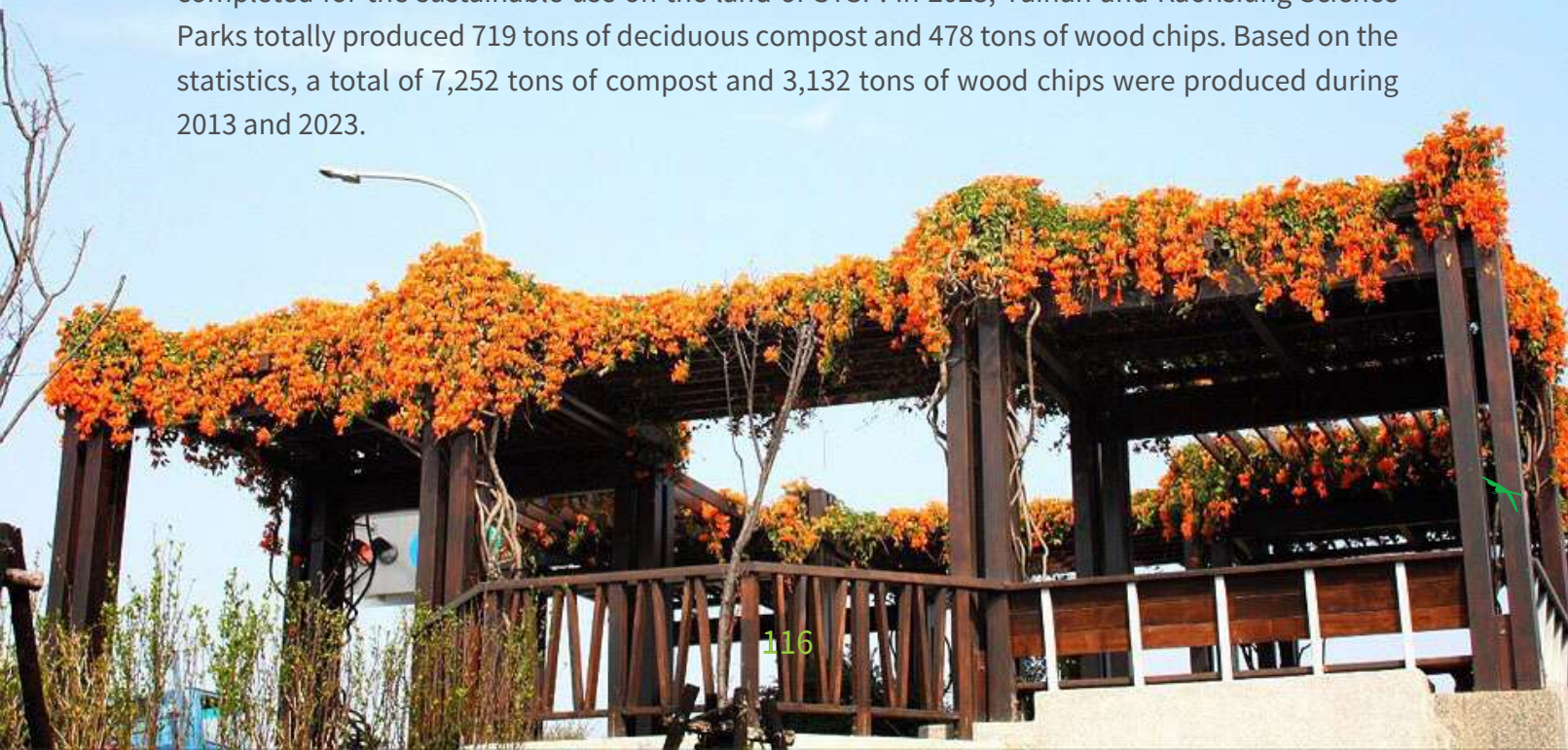


Golden Trumpet Trees on Huandong Road in Tainan Science Park



Rosy Trumpet Tree at the Gongqi Park in Tainan Science Park

In the face of so many fallen leaves and branches, the Bureau started to establish a green resources recycling plant in Tainan Science Park where fallen leaves are mixed with organic cane fertilizers to make compost. Large residual branches are crashed into wood chips using wood chippers and are scattered in the green landscape planting belt in the science park. In 2016, the establishment of the green resource recycling plant in Kaohsiung Science Park was also completed for the sustainable use on the land of STSP. In 2023, Tainan and Kaohsiung Science Parks totally produced 719 tons of deciduous compost and 478 tons of wood chips. Based on the statistics, a total of 7,252 tons of compost and 3,132 tons of wood chips were produced during 2013 and 2023.





🕒 Cycling Trips

To promote eco-friendly, cost-saving, healthy and stress-relieving cycling activities, STSP Bureau and the Cycling Clubs of the park manufacturers co-organized cycling trips. The activity was divided into two groups. The roaming group enjoyed biking and touring within Chimei Museum park area while the endurance group had a biking trip from Chimei Museum to the National Museum of History. There were 150 participants in total.



The roaming group biked in Chimei Museum



The endurance group had a biking trip from Chimei Museum to the National Museum of History





Spreading awareness of ecological protection

Other core goals involved



Implementation content and promotion results

1. Ecological settlement

To create a friendly ecological environment in the park, STSP Bureau created the first artificial wetland conservation ecological zone next to Xiake Lake in Tainan Science Park. It is the second ecological protection zone in Taiwan to obtain legal basis. It has different types of habitats such as grassland, shrubs, pools, ditches and so on. Kaohsiung Science Park also has an ecological protection zone in response to the development of the new park area. It is planned to reserve an area of 1.45 hectares of habitat in Chiayi Park and 0.8 hectares in Pingtung Science Park to restore *Phasianus colchicus* and *Tyto longimembris* respectively. This will not only create a technology corridor, but also form a Southern Taiwan Ecological Corridor.

The Bureau entrusts an ecological survey team to carry out regular ecological survey, including amphibian and terrestrial plants and animals, to analyze data on changes in the number of species and populations. In particular, the breeding of protected birds was observed and recorded. Among the birds observed, 6 species and 7 species are the protected bird announced by Council of Agriculture (not in the IUCN Red List) in Tainan Science Park and Kaohsiung Science Park respectively, and the species include *Glareola maldivarum*, *Lanius cristatus*, *Rostratula benghalensis*, *Elanus caeruleus*, *Phasianus colchicus*, *Falco tinnunculus*, and so on.

Note: The conservation species mentioned in this report are from the list of terrestrial conservation wildlife designated by the Ministry of Agriculture in 2023.



The survey results in 2023

	Mammals	Birds	Amphibian	Reptiles	Butterfly	Odonata
Tainan Science Park	—	74 species and 33families	5 species and 4families	—	26 species and 5 families	21 species and 3families
Tainan Phase III Science Park	10 species and 4 families	54 species and 29 families	4 species and 3families	6 species and 4 families	29 species and 5 families	—
Kaohsiung Science Park	—	70 species and 25 families	5 species and 4 families	—	24 species and 5 families	18 species and 3families
Chiayi Science Park	7 species and 4 families	54 species and 31 families	6 species and 5 families	8 species and 4 families	32species and 5 families	—
Pingtung Science Park	7 species and 3families	44 species and 28 families	5 species and 4 families	4 species and 4 families	13species and 4families	—



Elanus
caeruleus



Lanius
cristatus



Watercock



Lesser
Woodpecker



Pica serica



Fiji Banded
Rail



Motacilla
alba



Himantopus
himantopus



Bubulcus
coromandus



Red-crowned
Crane



Great Egret





In addition, the development of the Ciaotou Science Park not only focuses on the development of the technology industry, but also takes into account environmental conservation. Ciaotou Science Park uses the Gunshuiping Mud Volcano Park for environmental optimization to create a habitat suitable for *Tyto longimembris*. In addition, the Kaohsiung Science Park expanded the offsite and planned a nearly 20-hectare ex situ conservation for *Tyto longimembris*. In 2022 and 2023, we successfully found *Tyto longimembris* on the perches in the park. STSP Bureau actively implements the follow-up work for the conservation and monitoring of the *Tyto longimembris*. In addition, the *Tyto longimembris* Preservation Promotion Team has been established to make rolling reviews of the effectiveness of the conservation. It is hoped that the *Tyto longimembris* can become a symbol of Ciaotou Science Park, creating an industrial cluster where technology and environmental conservation coexist.



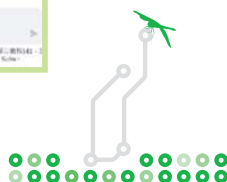
Tyto longimembris

2. Disclosure of Park Ecological Information

On the roads park employees must use to and from work every day, and at every corner in the science park, many small creatures are inhabiting. To promote ecological conservation and restoration, the Bureau actively shares the ecological information through online media and introduce common species in the park with interesting pictures, texts, or videos, enabling the public to have a glimpse of the ecological resources and the wonders of nature. The concept of environmental conservation in the science park can also be promoted.



STSP 543



3. Environmental Education

STSP Bureau continues to organize environmental education and related activities that incorporate issues of water pollution control, waste reduction, natural environment exploration and disaster and flood prevention. Nanke Environment Education Park developed 4 courses, namely Source of Life- Water, Garbage Magician, Nature Explorer, and Rain and Me.

We actively develop in-school environmental education courses, and turn the two sets of courses of Garbage Magician and Origin of Life-Water into Mobile Teaching Boxes, the Water Drop Hero and Garbage Explorer courses respectively. In addition, the content of the Garbage Magician course has been added to high schools and vocational schools, and trial teaching activities have been held jointly with the high schools and vocational schools in the park. In 2023, a total of 33 educational education courses were held, with a total of 1,116 participants. More diverse environmentally friendly concepts and measures will be introduced to create a sustainable green park.

2023 Environmental Education Courses

Nature Explorer
4 sessions with a total of 143 participants.



Nature Explorer: Observing outdoor plants and animals

Garbage Magician
5 sessions with a total of 133 participants.



Garbage Magician: Visit the Fluidized Bed Incinerator Model

Source of Life- Water
12 sessions with a total of 427 participants.



Source of Life- Water: DIY of Water Filter

A total of 10 sessions of Water Drop Hero and Garbage Explorer courses were held, with 291 participants in total.



Water Drop Hero: River Kingdom Activities



Garbage Explorer: Little recycler activity

2 sessions of trial teaching activity were held in high schools and vocational schools, with 122 participants in total.



Expanded Garbage Magician Course in high schools and vocational schools: Trial Teaching



4. Eco-Tour Activity

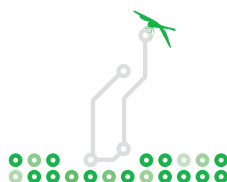
The Science Park has spared no efforts in promoting the concepts and actions of nature conservation. Therefore, it is hoped that colorful ecological experience can be enjoyed without destroying the natural environment so that we can get to know the preciousness and fragility of the protected areas and the biodiversity in Taiwan and further to take concrete and feasible ecofriendly actions in our lives. The eco-tour activity was held in 2023, with a total of 80 participants.



Introduction of ecology and agricultural food DIY (fry handmade brown sugar) in Yanping Community



Longqi community tour and ecological explanation of Huxingshan and Dragon-shaped Suspension Bridge



Advanced Planning

In the process of the construction and development of the science park, STSP Bureau continues to have communication with local residents and make improvement based on the local resources and needs, which has not only stimulated the employment of the neighboring residents but also improved their quality of life, constructing convenient technology communities with cultural atmosphere. This successful experience will also be duplicated in the construction planning of new science parks, such as the Gunshuiping Geological Park (Ciaotou Science Park), Bajauliao Archaeological Site Reserve (Tainan Science Park Phase III), fully-functional living service area (Chiayi Park/Pingtung Park), National Experimental High School at PingTung Science Park, National Experimental High School at Chiayi Science Park and so on. In addition, we will try to introduce low-carbon industry as much as possible and encourage manufacturers to introduce green building design so that the overall science park can take into account Production, Living, Ecology, and further obtain the ecological community certification label.

Both the Tainan Science Park and Kaohsiung Science Park have detention pond parks constructed with ecological engineering methods. With the design of diverse habitats such as shallow water areas, deep water areas, and artificial islands, it has only the environment better than the one for single crop (agricultural land) before development. In addition, the number of species of birds discovered in the follow-up bird survey records has also doubled compared with that at the initial stage of development. Therefore, STSP Bureau duplicated this successful experience and introduced the ecological detention ponds design into the new science parks (Ciaotou, Chiayi, Pingtung), aiming to not only bring employment and economic development to the local areas but also enrich the biodiversity in the communities.



Core Goal13

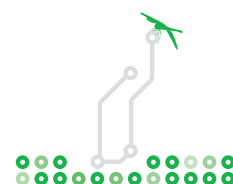


Goal 13 Take urgent action to combat climate change and its impacts

Specific corresponding goals	Self-defined tracking indicators	Authority
Target 13.1 Strengthen resilience and adaptive capacity to climate change and reduce vulnerability.	Maintain and ensure the normal operation of various systems in the smart science park (chemical registration system, environmental monitoring information system, traffic control center database, smart building group database, portable disaster relief equipment, and flood prevention system).	Water, Electrical & Traffic Section
	Continue to handle the operation of the 24-hour emergency response center in the park area.	Industry Safety Section
	Implement at least 2 sessions of emergency response drills or related courses every year.	
Target 13.2 Implement the stage targets of GHG control.	Organize at least 2 sessions of seminars on environmental protection every year.	Environmental Protection Section

Challenges/opportunities faced

The impact of climate change caused by global warming is getting more and more significant. In the face of the uncertainty of the impact of climate change on the temporal and spatial scales, STSP Bureau enhances the impact resistance of the park to respond to the operational challenges and opportunities brought by climate change through the implementation of intelligent management of the park that is linked with various response systems for disaster prevention and rescue. In addition, starting from 2017, STSP Bureau has conducted GHG inventory of the park every year, cooperated with the inspection of air pollution prevention and control facilities and provided energy conservation counseling, aiming at reducing the emission intensity of the overall park area so as to ensure the sustainable development of STSP and the park manufacturer.





☀ Specific actions and promotion highlights

**Intelligent disaster prevention response system
to improve the resilience of the park area**

**Other core goals
involved**



Implementation content and promotion results

1. Response systems in the park area

Based on the disaster and accident risk level of the park, STSP Bureau has planned three major response systems, including disaster, flood prevention, and water and electricity, and the “STSP Integrated Disaster Risk Response System” is formed through 24-hour emergency notification. In addition, through the pioneering “Emergency Response Decision Support Expert System”, it can provide command and response procedures, pollution dispersion modeling, geographic information system (GIS), vendor response contact points, real-time monitoring of earthquakes and water levels, and other functionalities for events of earthquakes, leaks, typhoons, fires, power outages, flood control, etc. This enables effective prevention and proper control of disasters to stabilize the energy resources and respond to possible risks of disasters, so as to implement sustainable development.



STSP Integrated Disaster Risk Response System

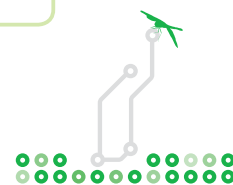


Earthquake Early Warning and Smart Disaster Prevention System

To improve and integrate the park's disaster relief response capabilities to meet the needs of smart disaster prevention and relief, the Earthquake Early Warning and Smart Disaster Prevention System was established in 2017, combining chemical registration system, environmental monitoring information system, traffic control center database, smart building group database, portable disaster relief equipment, and flood prevention system, coupled with the risk assessment and disaster simulation calculations, the 3D visual disaster prevention and relief command system based on GIS (Geographic Information System) is established to rapidly provide integrated intelligence for the commander to make decisions. A total of 252 manufacturers and 13,825 chemical records have been registered in the Earthquake Early Warning and Smart Disaster Prevention System, and 2 domestic Utility Patents and 3 Invention Patents were obtained.

The management instructions of chemicals is described as follows:

- (1) When a business unit in the science park introduces investment, advocacy and review of occupational safety and health related matters are implemented. When the business unit has the plant building and land releasing meeting, the Bureau will remind the matters to be noted concerning construction safety and health before the construction. During the time after plant construction and before the commencement of mass production, propaganda, inspection, counseling, and joint inspections will be carried out to have a supervision and care in the entire process of the life cycle of the plant in the science park.
- (2) We have established the Earthquake Early Warning and Smart Disaster Prevention System to control the chemicals of the park manufacturers and to enhance our disaster response capabilities.
- (3) Follow-up Supervision Measures:
 - i. Implement labor inspections and cooperate with the fire brigade in the science park to implement joint inspection of public hazardous materials to compare the list of hazardous chemicals of the park manufacturers and the information registered in the Smart Disaster Prevention System. The deadline of information correction will be notified for inconsistencies found.
 - ii. Every season, there will be dedicated personnel to hasten the registration of chemicals and verification. In addition, external experts and scholars are also appointed to provide counseling to manufacturers on chemical storage and supervision methods.





2. Emergency response drills

There are diverse types of industries in STSP, and if not careful, accidents and emergencies like occupational disasters, earthquakes, fires, natural disasters and others are likely to cause major property losses and casualties. Therefore, various firefighting training should be organized continuously and should also be well-planned. We organize firefighting training with Industrial Safety and Environmental Protection Month activities to help park manufacturers strengthen the awareness and training of fire safety so that their employees can be familiar with fire disaster relief and equipped with emergency preparedness capabilities. We will continue to improve the overall firefighting capabilities in the science park through public emergency response drills.

On November 10, 2023, the Composite Earthquake Disaster Emergency Response Drill and observation activity was held in Factory D of Innolux Optoelectronics in Tainan. The new force of "LUF60 fire-fighting robot" joined the disaster relief drill. Remote control of the robot was used instead of letting disaster relief personnel enter the high-risk disaster sites, reducing the need for rescue personnel to go to dangerous areas. The park's Earthquake Early Warning and Smart Disaster Prevention System is also integrated and 3-D architectural location information is used to visually mark and quickly locate chemicals, making use of technology for disaster response.

Course	2023 Implementation effects
1. Real fire extinguishing training course	The training course was held in Tainan Science Park on July 4, with a total of 68 trainees. The training course was held in Kaohsiung Science Park on August 30, with a total of 81 trainees.
2. Relocation training of Joint Emergency Response Organization	The "Emergency Response Joint Defense Organization Relocation Training" was held on November 16 (Thursday) to 17 (Friday) in Xinhua Fire Training Center, with a total of 35 trainees in 2023.
3. Emergency response drill in Kaohsiung Science Park	On November 30, a composite earthquake evacuation, chemical leakage, and fire emergency response drill was held at the Luzhu Factory of Innolux Optoelectronics Co., Ltd.
4. Emergency response drill in Tainan Science Park	On November 10 (Friday), a composite earthquake evacuation, chemical leakage, and fire emergency response drill was held at Factory D of Innolux Optoelectronics Co., Ltd.



Oil sump fire fighting practice training



Fire hose water jet practice



Emergency Response Joint
Defense Organization Relocation
Training



Emergency Response Joint
Defense Organization Relocation
Training



Emergency response drill in
Kaohsiung Science Park



Emergency response drill in
Tainan Science Park

GHG Management

Other core goals
involved



Implementation content and promotion results

1. Greenhouse Gas Inventory

STSPB continues to conduct annual GHG inventory, and the organizational boundaries of the inventory include Tainan Science Park and Kaohsiung Science Park. The expansion of the factories of business units continues while the park is in operation. To grasp the GHG emissions in the science park, the 2022 GHG inventory was conducted in 2023, and the total emissions of Scop 1+2 in 2022 amounted to 8,923,342.174 tonCO₂e, and the GHG emission intensity dropped by 22.5% compared with 2021. Scope 3 was also included, with the emission of 1,445,675.02 tonCO₂e. STSP Bureau actively conducted energy conservation counseling and measures while the park manufacturers also take carbon reduction actions in an attempt to reduce the environmental burden.



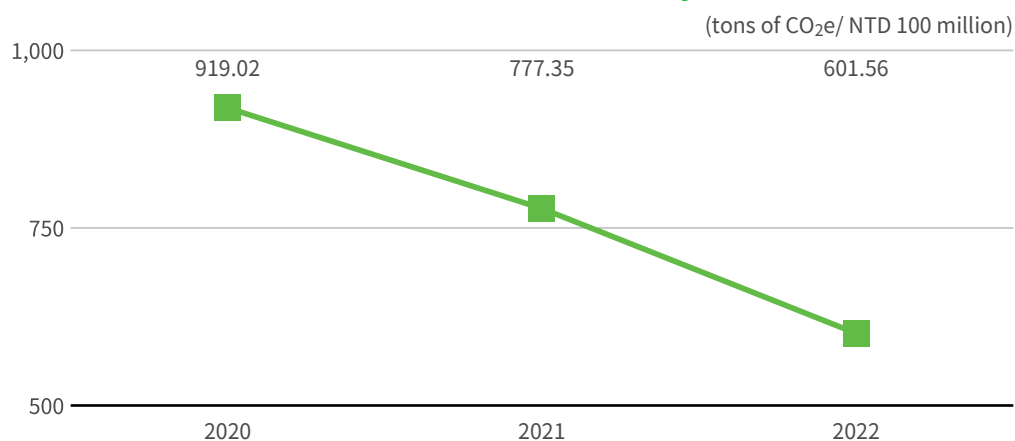


Item	2020	2021	2022
Scope 1 (tons of CO ₂ e)	1,501,050.07	1,576,648.88	1,205,699.40
Scope 2 (tons of CO ₂ e)	6,289,794.71	6,934,423.90	7,717,642.78
Total (tons of CO ₂ e)	7,790,844.78	8,511,072.78	8,923,342.17
Turnover (NTD 100 million)	8,477.31	10,948.84	14,833.74
Intensity (tons of CO ₂ e/ NTD 100 million)	919.02	777.35	601.56

Note:

1. The verification of 2023 GHG inventory was completed in October, 2024.
2. The GHG emission intensity was calculated with the total turnover of the STSP businesses for the current year as the denominator.

GHG emission intensity

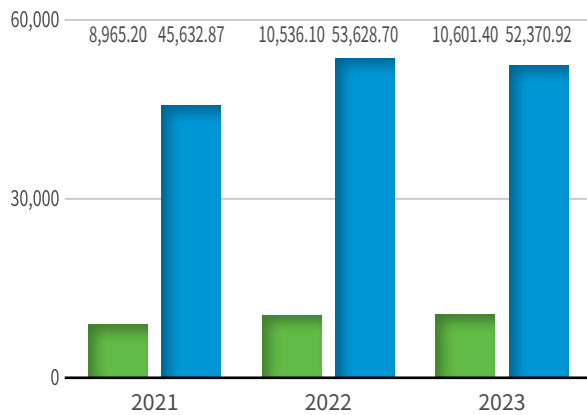


2. Counseling of Energy Conservation for Park Manufacturers

We handled energy conservation counseling for 6 park business units in 2023 and have completed counseling for 74 park business units so far since the implementation of the counseling service. In terms of the actual results of the energy conservation measures, the total power saved was approximately 10,601.1 million kWh annually, equivalent to the reduction of 52,370.92 tons of carbon dioxide emissions in a year.



Visit to E-ONE Moli Energy Corporation



■ Cumulative power saving potential (10,000 kWh)

■ CO₂ reduction (tons CO₂e)

Note: In accordance with the table of GHG emission coefficient management v. 6.0.4 released by Environmental Protection Administration, the power coefficient used for calculation for 2023 was 0.494 kgCO₂e/kWh as announced by Energy Administration, MOEA.

3. Briefing Session Related to Environmental Protection

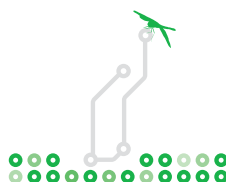
understand the development trend of national environmental protection control and environmental regulations and management systems, 2 environmental protection-related briefing sessions were held in accordance with the characteristics of park. We cooperated with the Pathways to Net-Zero Greenhouse Gas Emissions by 2050 and include resource recycling and zero waste into one of the 12 key strategies. On July 25, 2023, the briefing meeting of business waste resource recycling network promotion and solid renewable fuel application trend was held. In addition, in response to the requirements of Ministry of Environment for testing plans and license applications, and to encourage park manufacturers to manage, inspect and audit all their waste flows, we held a briefing on Stationary Pollution Sources Declaration Platform System Operation and Zero Waste Landfill Verification” on October 26, 2023.



Video conference on July 25



Video conference on October 26



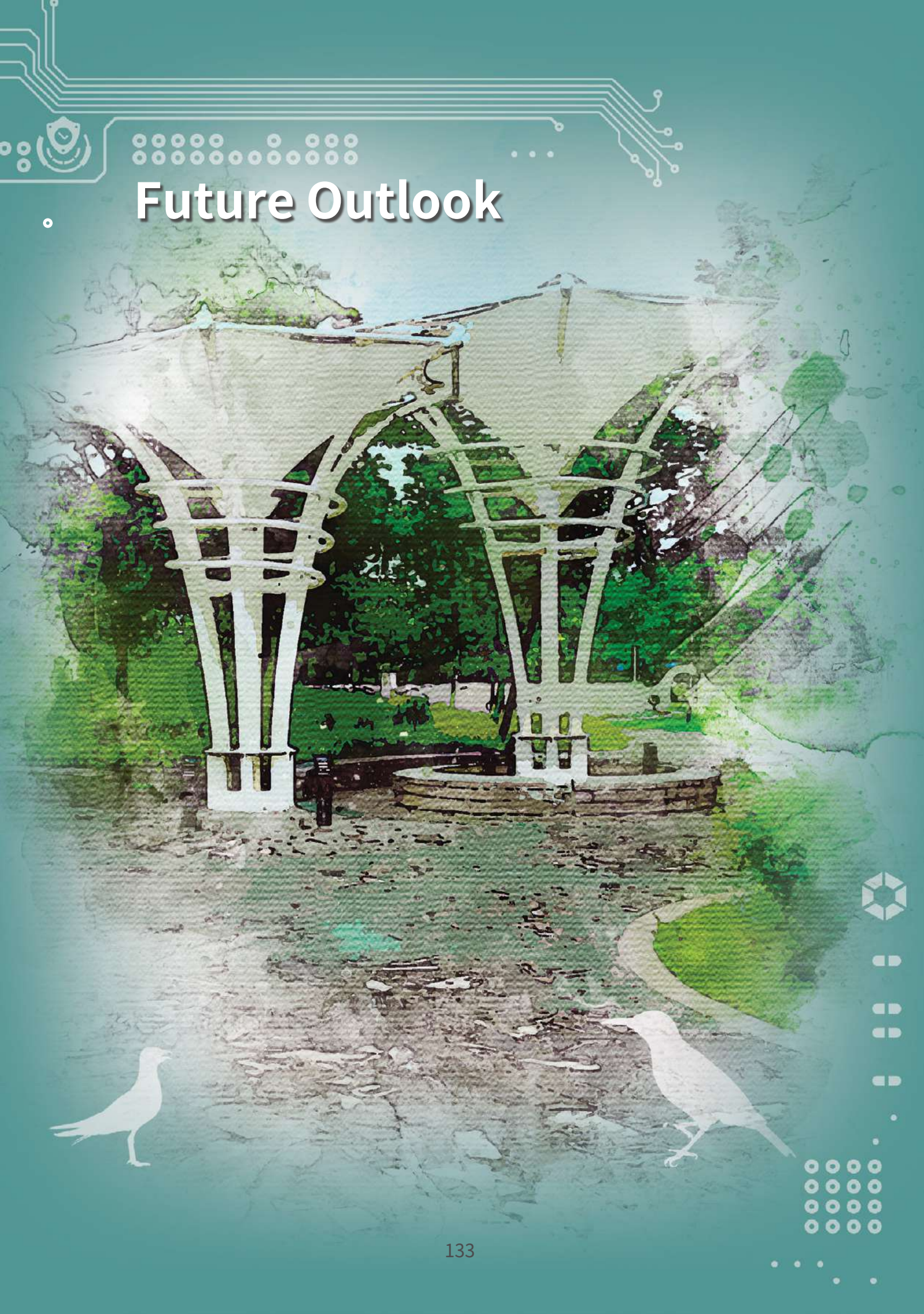


Advanced Planning

With the UN Climate Change Conference in Glasgow (COP26) held in 2021, the establishment of the Carbon Emission Trading Mechanism among the state parties have been completed, indicating the official start of the global net-zero competition. Taiwan also responded to the Glasgow Climate Pact by announcing the Pathways to Net-Zero Greenhouse Gas Emissions by 2050 in March, 2022. From then on, carbon reduction and carbon tax issues will become one of the items with significant impacts on corporate operations. STSP Bureau started to promote energy conservation counseling in 2010, yet the overall carbon emissions have still kept increasing due to the expanded scale of the science park and the number of manufacturers. In the context of the incomplete domestic laws and regulations, STSP Bureau can only keep paying attention to the development of environmental laws and regulations, and encouraging enterprises to invest in low-carbon production through publicity so as to respond to future regulatory impacts as soon as possible.



Future Outlook





Construct a technology corridor in southern Taiwan and create high quality net-zero life

Looking into the future, STSP will continue to promote innovative industrial development and grasp the world trends of digital intelligence, actively introduce academic and research technologies, enrich the R&D capacity of the park, and use of the spillover effect of the advantages of the mature ICT industry in Tainan Science Park to combine the third-phase expansion project of Tainan Science Park with the characteristics of local industries in Ciatou, Chiayi Science Parks, and Pingtung Science Park for the development of emerging technologies, including semiconductors, smart machinery, smart vehicles, smart agriculture, precision health, smart agriculture and medicine, green materials, space technology and industrial innovation and other diversified industries, making the science park a hub for digital transition to boost the value adding of green transition, completing the technology corridor in southern Taiwan that is embedded in the global industrial value chain.

In addition to providing high-quality work opportunities, STSP will continue to work with local governments to strengthen life and education functions. National experimental high schools have been established to complete the educational functions, start the full-functional residential and commercial complex services, organize good-neighborly activities by integrated arts and culture, deepen the local culture and promote public education to jointly share the results of science park development. In addition, with the net zero emissions by 2050 as the goal, high-standards ecological reservation, expansion of multiple water sources, and guidance of the park manufactures are provided for them to use reclaimed water, introduce energy conservation, energy storage, and new energy creation technologies to drive circular economy by green technology. In addition, the smart service energy is integrated with the park traffic, sustainability, and governance, creating a new generation park with technology and environmental sustainability of mee four values of “Production, Living, Ecology, and Life”, fulfilling the National Science and Technology Council’s 2035 technology visions of Forward-looking innovation, democratic inclusiveness, and resilient sustainability.





Appendix I : Explanation of Compilation Methodology

About this Voluntary Department Reviews of SDGs

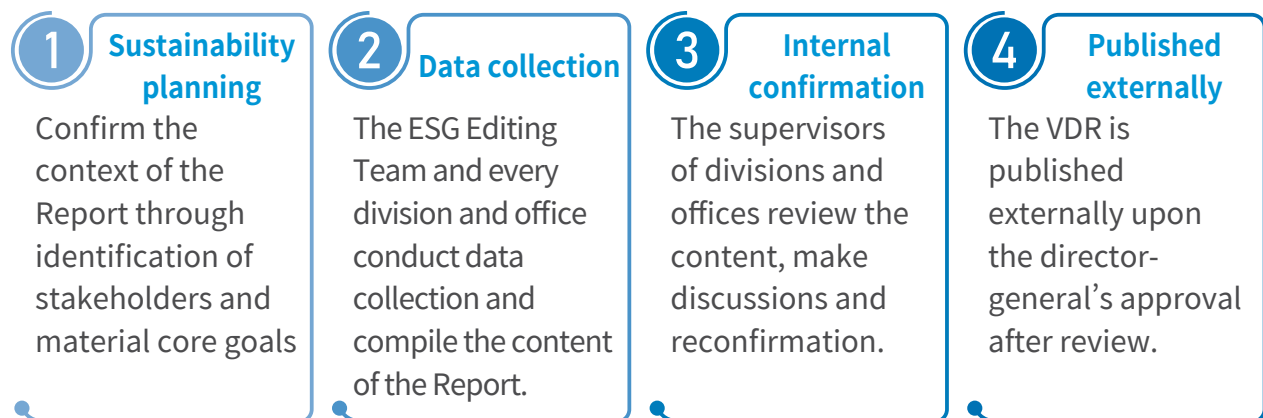
This is the second Voluntary Department Reviews of SDGs published by STSP Bureau. The compilation principle and structure were in accordance with the suggestions of the Guidelines for Writing Voluntary National Review (VNR), detailing the process of STSP Bureau's contribution to Taiwan's 2030 Agenda for Sustainable Development and the assistance with the promotion of Taiwan Sustainable Development Goals (T-SDGs).

Scope

The information in this Report covers the major core goals, development visions, and actions related to the axis of policy as well as the corresponding tracking indicator performance data of STSP Bureau during 2023.

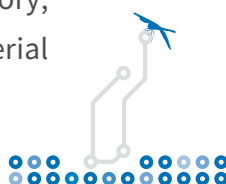
Compilation process of the Voluntary Department Reviews of SDGs

The content of this Voluntary Department Reviews is formulated by the ESG Editing Team. After confirmation by the heads of all business-related units, it will be approved and issued after being reviewed by the director.



Structure of Report

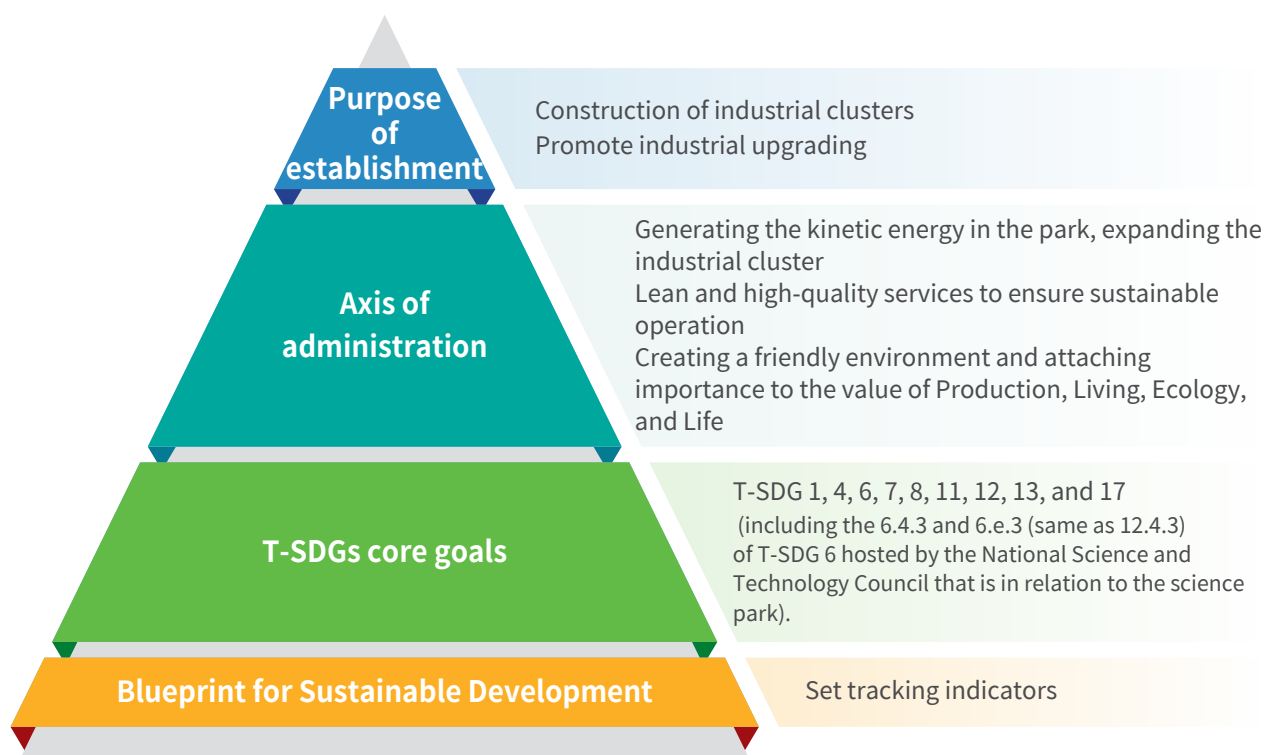
To link the specific goals of T-DDGs with the actual businesses of the divisions and offices, STSP Bureau adopts a four-level structure for the organization positioning and business inventory, combined with the questionnaires for stakeholders and management to identify the material





core goals of the Bureau. The report editorial team conducted the discussions and adjusted the policy axis in accordance with the current status of STSP Bureau and set business tracking indicators that correspond to the specific goals of T-SDGs. Through the establishment of a complete review standards, the three aspects of the policy, management, and implementation can be aligned with the core goals of T-SDGs, constructing the blueprint for the sustainable development of the STSP Bureau.

STSPB's four-level structure



Process and Results of T-SDGs Material Core Goal Identification

To be in line with the spirit of universal participation and inclusiveness in 2030 Agenda for Sustainable Development, STSP Bureau distributed questionnaire to its stakeholders for the collection of opinions, combined with the views of the internal management, the STSP Bureau's T-SDGs material core goals were identified in a systematic analysis mode.



Material core goals identification procedure

1

Identification of stakeholders

Through internal discussions and feedback within STSPB and by referring to the stakeholders identified in the same industry and other benchmark enterprises, the 7 categories of stakeholders for 2023 were identified based on the AA1000 SES (Stakeholder Engagement Standards), including Employees of the Bureau, Park Businesses, Trade Associations, Local Government/Community Residents, Academic Institutions/Non-profit Organizations, Suppliers and Media.

2

Designed T-SDGs Questionnaire

The design of the questionnaire was based on the 18 major core goals, and each core spirit to each goal was integrated with the relevant business content of the Bureau into brief description to lower the threshold for reading for readers. Two major item groups (5-point scale) of “level of relevance” and “level of importance” were designed for readers to understand the actual connotation of the core goals.

3

Questionnaire Survey

By distributing questionnaire, STSP Bureau investigated the opinions of the internal management and stakeholders to evaluate the level of relevance among the 18 core goals and the business of STSP Bureau, as well as the level of importance for the Bureau to promote the core goals. A total of 70 copies of questionnaires were returned.

4

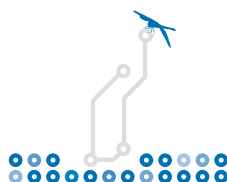
Materiality Analysis and Identification

Based on the data of the distributed questionnaire, quantitative analysis was conducted, and relevant charts were drawn. Results were presented visually, and the “level of relevance” and “level of importance” were used as the “materiality” indicators for the evaluation of every core goal to STSPB.

5

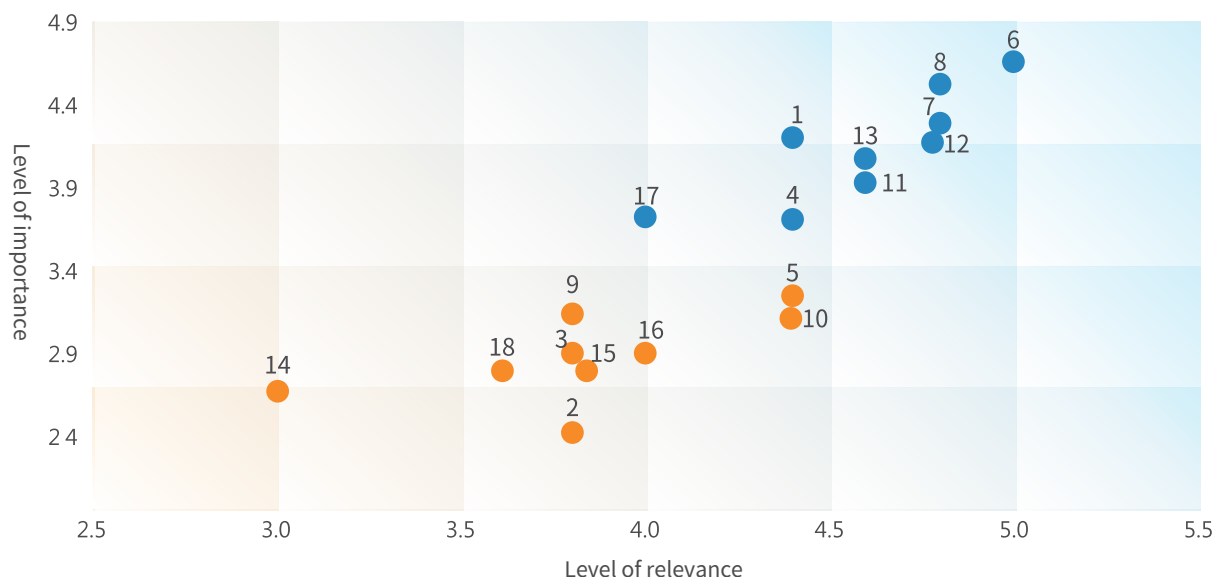
Review and Discussion

The identified results were discussed to confirm whether the existing policy approaches were covered in the relevant goals. Evaluation was also conducted for the assessment of the feasibility of promoting goals with the existing resources, and then more specific administration guidelines targeting at the major core goals were further set up. All relevant information is disclosed in the VDR .





After the compilation of the questionnaire analysis results, STSP Bureau sorted the results in accordance with the scores. The top 9 core goals were listed as the major core goals of T-SDGs in the 2023 VDR, which are Core Goals 6, 8, 7, 12, 13, 1, 11, 4 and 17.

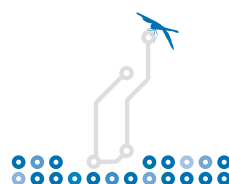


Ranking		Item	
Material core goals	1		Goal 6 Ensure environmental quality and sustainable management of environmental resources
	2		Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all
	3		Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all
	4		Goal 12 Ensure sustainable consumption and production patterns
	5		Goal 13 Take urgent action to combat climate change and its impacts
	6		Goal 1 Strengthen social care services and economic security for the disadvantaged



Ranking		Item		
Material core goals	7		Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable	
	8		Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	
	9		Goal 17 Establish diversified partnerships and work together to advance the vision of sustainability	
Secondary core goals	10	Goal 10	15	Goal 09
	11	Goal 09	16	Goal 03
	12	Goal 05	17	Goal 15
	13	Goal 10	18	Goal 18
	14	Goal 16		

The core goals hosted by the National Science and Technology Council that are in relation to the science park are Core Goals 6 and 12, including indicator 6.4.3: Water recovery rate of process water used by park manufacturers; Indicator 6.e.3: The recycling rate of park industrial waste (same as indicator 12.4.3); indicator 12.4.3: Reuse rate of park industrial waste (same as indicator 6.e.3).





Release of the Report

STSP Bureau will publish the Voluntary Department Reviews of SDGs every year, which is disclosed to the public simultaneously on the STSP sustainability related website.

Current issue: Published in August, 2023

Contact information

By issuing this Report, the general public and relevant stakeholders can better understand the endeavor and results STSP Bureau has made and achieved to promote the development of the science park, and the feedback and opinions from all sectors serve as the basis for our continuous improvement. For any questions and suggestions, please contact us at any time.

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STSP Bureau
Sustainable
Development
Section

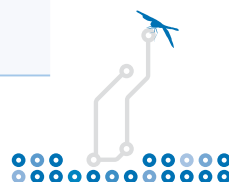


Appendix II : List of indicators tracking the promotion of T-SDGs

Indicator progress: ● 2022 targets achieved ○ 2022 targets not achieved

■ Not reaching statistical cycle

Core goal	Specific goal	Custom topic	Indicator progress	Latest data 2023	Basic value 2022	2024 Target value
1	1.4	Number of start-up teams cultivated by the Start-up Workshop that found companies every year	●	5	2	2
		The number of start-up teams coached that participate in the From IP to IPO Program (FITI) and enter the final selection every year	●	6	4	4
		Target number of new manufacturers introduced (including number of start-ups)	●	20(7)	20(10)	20(4)
6	6.3	Implementation of the management of permits for cap control application, and the sewage collection and treated ratio from the park factories	●	100%	100%	100%
		Compliance with the annual effluents standards from the sewage treatment plant	●	100%	100%	100%
	6.4	Continue to implement counseling of water conservation for park manufacturers and strengthen the water recovery rate in the park	●	88%	75%	80%
		The amount of recovered industrial water used or exchanged in the park every year	●	38,600 tons/day	0	93,000 tons/day
	6.e	The waste reuse rate of Resource Recycling Center	●	93.59%	90.62%	90%
7	7.2	Increase the capacity of the solar PV equipment in the park	●	77.39MW	56.3MW	84MW
8	8.2	Number of reviews of subsidy of innovative technology and R&D projects (Science Park Emerging Technology Application Project)	●	7	8	6





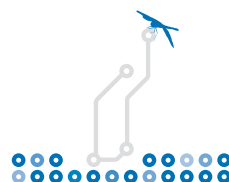
Core goal	Specific goal	Custom topic	Indicator progress	Latest data 2023	Basic value 2022	2024 Target value
8	8.6	Number of the courses with industry-university collaboration training subsidies (Science Park Talent Cultivation Subsidy Program)	●	12	10	10
		Hours of training for technical talents in the park (Professional and Technical Talent Training Plan)	●	440	300	300
	8.7	Number of publicity sessions of propaganda on gender equality every year	●	3	3	3
		Annual implementation of labor condition inspection	●	97	85	70
		Annual implementation of occupational safety and health inspection	●	1,025	926	400
		Annual implementation of on-site counseling of occupational safety and health	●	71	57	10
		Death rate per million of major occupational accidents	●	10.87	11.9	20 and lower
11	11.2	Annual days of operation of the e-shuttle bus and the Demand Responsive Transit Service (DRTS) in STSP	●	250	200 days and more	At least 200 days
		Average time for STSP Cloud Traffic Control Center to handle accidents	●	Within 15 minutes	Within 15 minutes	Within 15 minutes
	11.3	Hold neighborly activities for local neighbors every year.	●	4 sessions	4 sessions	4 sessions
	11.4	Number of art and cultural exhibitions in the Hsing-Kuang Hsier Local Culture Hall	●	4 sessions	5 sessions	5 sessions
		Number of archaeology activities held in the Museum of Archaeology every year	●	1 sessions	1 sessions	1 sessions
	11.7	Percentage of green space in STSP	●	26%	26%	20%
		Percentage of green space in newly developed science parks		4%	4%	4%
		The area of the ecological protection area in the science park.		20 hectares	20 hectares	20 hectares

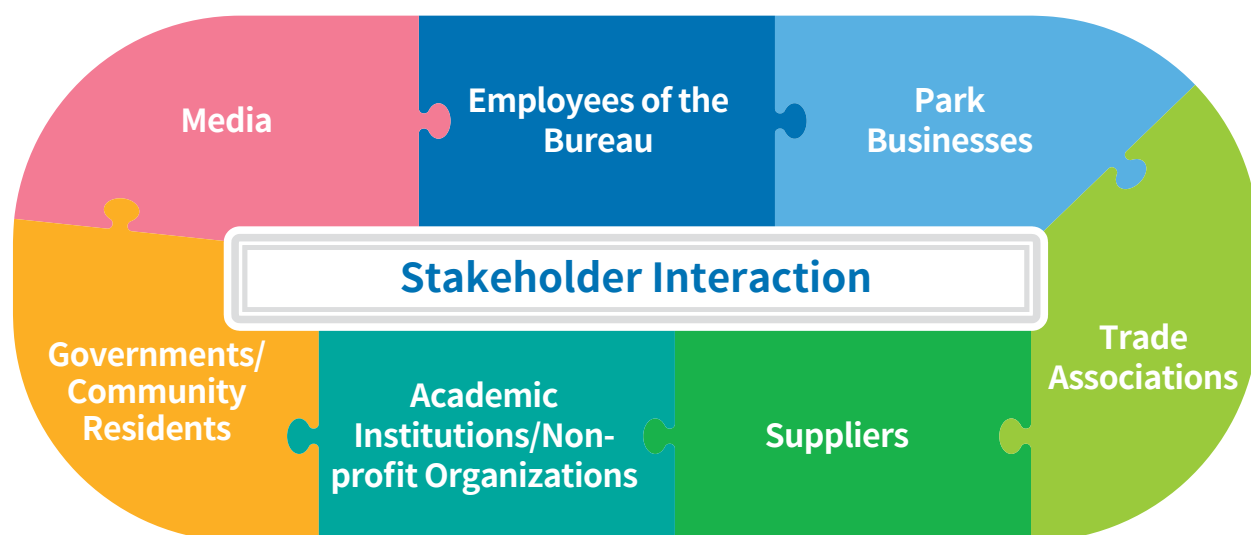


Core goal	Specific goal	Custom topic	Indicator progress	Latest data 2023	Basic value 2022	2024 Target value
11	11.12	Percentage of Ecological Community Evaluation System (EEWH-EC) certification in STSP	●	100%	100%	100%
13	13.1	Normal operation rate of various systems in the smart science park (chemical registration system, environmental monitoring information system, traffic control center database, smart building group database, portable disaster relief equipment, and flood prevention system).	●	100%	100%	100%
		Normal operation rate of the 24-hour emergency response center in the park area.	●	100%	100%	100%
		Implementation of emergency response drills or related courses every year	●	6 sessions	5 sessions	2 sessions
	13.2	Number of seminars on environmental protection held every year.	●	3 sessions	2 sessions	2 sessions

Appendix III : Communication with Stakeholders

The seven major categories of stakeholders of STSP Bureau include Employees of the Bureau, Park Businesses, Trade Associations, Local Governments/Community Residents, Academic Institutions/Non-profit Organizations, Suppliers and Media. Corresponding and smooth communication channels and platforms have been established in accordance with the attributes and needs of each stakeholder to understand their needs and expectations for the development of STSP, so as to plan a sustainability policy of the overall park.

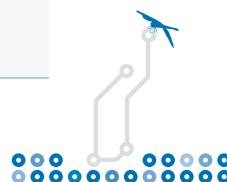




Category	Significance to STSPB	Method of Communication	Frequency	Participation in exchanges
Employees of the Bureau	It refers to all official staff in STSPB. With these associates, STSPB can be able to handle various businesses. Therefore, it is the top priority to understand their needs.	VDR questionnaire, annual satisfaction survey, submission of annual reports	Once a year	In accordance with the objectives of the annual plan for the training courses for the employees, the total training hours for STSPB staff in 2023 totaled 8,089 hours, with an average of 56 training hours.
		Monthly report	Once a month	
		The director-general's mailbox, employee opinion survey	Immediately	
Park Businesses	Park businesses are an important factor for the existence of STSPB. The services provided by the Bureau all refer to the opinions from the park businesses for the development of policies	VDR questionnaire, annual satisfaction survey	Once year	(1) Conducted satisfaction survey of the park manufacturers. The result of 2023 was 86.22 points, an increase of 2% compared with 2022. Understand the needs of park manufacturers and set up the park improvement policies. (2) In 2023, the Bureau convened 3 session of Gender Employment Equality and Employment Discrimination Review Committee to discuss issues concerning regulations, discrimination cases and grievance channels.
		The director-general's mailbox, STSPB Website, grievance channel	Immediately	



Category	Significance to STSPB	Method of Communication	Frequency	Participation in exchanges
Park Businesses		Through auditing and counseling activities, labor training, and the nanny system	Immediately	(3) Promotion of the recognition of workplace equality in the science park. In 2023, a total of 61 excellent employees and 6 excellent business units won the awards. (4) In 2023, a total of 1,122 sessions of labor inspection (1,025 sessions of occupational safety and health inspections and 97 sessions of labor condition inspections) were completed.
Trade Associations	The Allied Association for Science Park Industries serves as the communication bridge between STSPB and various sectors. Listening to the voice of the Allied Association enables the Bureau to understand the demands of the grassroots workers and to better protect labor rights.	VDR questionnaire	Once a year	In order to encourage park manufacturers to fulfill their responsibilities as corporate citizens and engage in public welfare activities and to strengthen the advantageous competitiveness of the industrial clusters and park manufacturers, and to provide opportunities for workers to enrich themselves, a total of NTD 142,000 was subsidized to the association for organizing activities such as lectures and symposiums.
		The director-general's mailbox, Subsidize activities	Immediately	
		Board of directors and supervisors meeting	Four a year	
		Member Congress	Once a year	
Suppliers	The suppliers of STSPB are divided into three categories, property, labor, and engineering. For smooth and successful completion of various businesses and construction, communication with the suppliers is particularly crucial.	VDR questionnaire	Once a year	(1) To successfully complete the park satisfaction survey and service quality improvement business, communication groups with suppliers are established for immediate contact. (2) Hold work meetings on a monthly basis to understand the implementation status of plans and exchange ideas. (3) Cooperate with the business needs of the STSPB and provide relevant information in reply to relevant inquiries. (4) Invite STSPB to jointly participate in the Innovation and Entrepreneurship Industry Exchange Meeting. (5) Assist STSPB with the maintenance and management as well as team coaching in the field of innovation and entrepreneurship.
		The director-general's mailbox, STSPB Website	Immediately	
		Audit guidance, investment service mechanism	Immediately	





Category	Significance to STSPB	Method of Communication	Frequency	Participation in exchanges
Academic Institutions/ Non-profit Organizations	Through the link with academic and research institutions, the academic research is introduced into practical application in the industry, which can help promote the upgrading of the park businesses.	VDR questionnaire	Once a year	(1) Linked National Cheng Kung University and InnoCare Optoelectronics Corp. for collaboration to use dual-energy chest X-ray images and AI for the development of a lung abnormality detection model to assist clinicians to quickly and accurately identify lung diseases. (2) Linked Southern Taiwan University of Science and Technology and Syngen Biotech Co., Ltd. – STSP Branch to jointly develop a ton-scale manufacturing process for API-grade <i>Lactobacillus rhamnosus</i> and apply for API certificates to increase the international visibility of Taiwan's microbial APIs.
		The director-general's mailbox	Immediately	
		Course training, subsidy program, free visit activities	Immediately	
Local Governments/ Community Residents	STSPB and the local governments keep close contacts to exert the spirit of mutual assistance, assist local development, and take care of surrounding residents at the same time, bringing positive influence on local society.	VDR questionnaire	Once a year	(1) Organized 1 session of anti-corruption advocacy activity in 2023, with more than 200 participants. (2) Organized various good-neighborly activities such as sports activities, late-spring art events, and Christmas party for employees at STSP. (3) Link all relevant units to build a platform for park manufacturers to communicate their demands and facilitate mutual exchanges.
		The director-general's mailbox, STSPB Website	Immediately	
		Club activities, public welfare activities	Immediately	
		STSP Development Communication and Coordination Joint Committee	Four a year	



Category	Significance to STSPB	Method of Communication	Frequency	Participation in exchanges
Media	To maintain the image of STSPB, we strive to achieve effective communication with the media, so as to avoid minor accidents from seriously damaging the public's impression on STSP.	VDR questionnaire	Once a year	(1) Update the process of press releases, specifying the rules for providing advance drafts and official press releases after the event for major events in the park.
		The director-general's mailbox, STSPB Website, spokesman	Immediately	(2) Proactively contacted the media for major events and published more than 10 pieces of news, such as the press releases of the monthly review meeting, forums in Chiayi and Pingtung Science Parks, and other park-related activities, which would be published in major newspapers such as Economic Daily News and Commercial Times the following day.

STSPB attaches great importance to the communication with its stakeholders. Through the establishment of various websites, major information and news on the Southern Taiwan Science Park Official Website is released on both regular and irregular basis, providing related publications for the stakeholders to understand the STSP's expectations, efforts, and performance in terms of sustainable management while providing real-time as well as correct information of the science park to the stakeholders. In addition, the English version of the VDR is also published for international exposure.



STSP Official Website



STSP's CSR Website



STSP Annual Report



STSP 543



STSP Newsletter



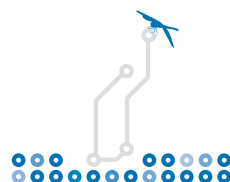
Sustainable Green LOHAS Website



Industrial Safety Newsletter



STSP Public Art

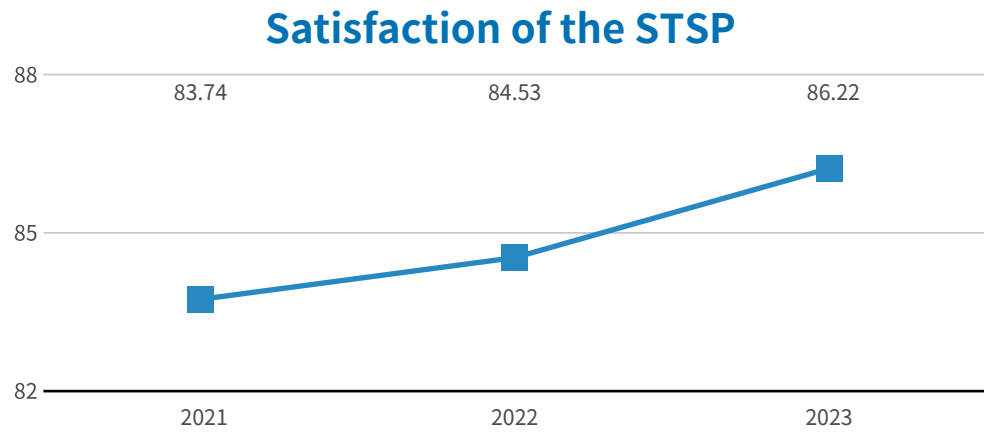


To listen to the staff’s voices, STSP Bureau has set up various communication channels such as the Director-General’s mailbox in the Secretariat Office and the complaint hotline of the Personnel Office and other compliant channels. Meanwhile, through various programs and plans, we help our staff solve problems that could affect work efficiency and enhance their centripetal force and cohesion for the Bureau. Through various assistance measures, we create a warm and caring working environment and a corporate culture with great interaction to enhance the competitiveness of this organization.

Satisfaction Survey of the STSP

STSP Bureau conducts a satisfaction survey on park manufacturers every year. The content mainly focuses on 6 aspects, including the park image, park development resources, park service quality, overall satisfaction, compliant handling, and loyalty and trust.

In 2023, the questionnaire response rate among park manufacturers registered before the end of 2022 was 89.40% (there were a total of 217 manufacturers, and 194 manufacturers were successfully interviewed). The overall satisfaction rate was 86.22 points, an increase of 2% compared with 2022. Among all the aspects, park image scored the highest at 86.19 points.



Grievance Channels

To listen to the voices of the stakeholders, the Bureau has established grievance channels. Among them, the Director-General’s mailbox is the one most people used for complaints, accounting for nearly 92.4% among all. When a complaint is received, classification is immediately made, and based on different business scope, the corresponding units have to respond to and handle it. All the letters from the public will be responded by the corresponding unit within three days, and the handling situation has to be reported to the first-level executives every month.



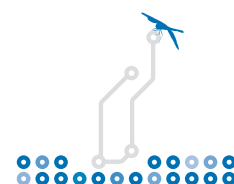
In accordance with the prescriptions stipulated in the “Major Points of the Executive Yuan and its Subordinate Organs for Handling People’s Petition Cases”, when it requires interviews, hearings or investigations in the handling of general petition cases, it shall not take more than 30 days. According to the statistics between January and December in 2023, there were a total of 426 petition cases, among which, 394 cases were handled through the Director-General’s mailbox while 32 were through external complaint letters. All of the complaints were fully responded and solved.

- ◎ Tel: +886-6-5051-001 (Tainan Science Park); +886-7-607-5545 (Kaohsiung Science Park)
- ◎ Director’s email: service@stsp.gov.tw
- ◎ Director of Personnel Office complaints hotline : +886-6-505-0848
- ◎ STSP Bureau Address: No. 22, Nanke 3rd Rd., Xinshi Dist., Tainan City ; No.23, Luke 5th Rd., Luzhu Dist., Kaohsiung City
- ◎ Accessible environment complaint hotline: +886-7-607-5545, ext:7123; Contact person: Wen-Chien Chang

2023	Construction Management Division	Environment & Labor Affairs Division	Business Division	Secretariat	Planning Division	Land Development Division	Investment Services Division	Personnel Office	Accounting and Statistics Office	Civil Service Ethics Office	total
Number of petitions received	6	21	3	0	0	1	1	0	0	0	32
Director-general’s mailbox	217	111	9	6	4	38	7	2	0	0	394

Report of Public Integrity Incidents

- ◎ Tel : +886-6-5051001#3005, 3002 (Civil Service Ethics Office)
- ◎ Email: ethics@stsp.gov.tw





**Southern Taiwan Science Park Bureau,
National Science and Technology Council**

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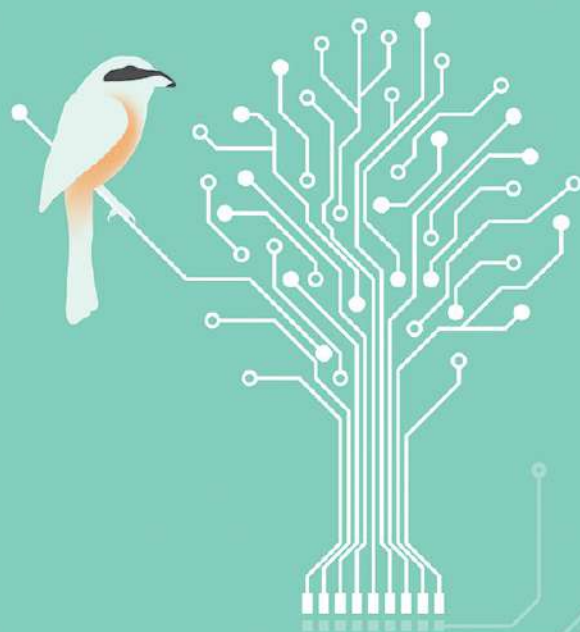
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**Southern Taiwan Science Park
Voluntary Department Reviews**