

2021



SOUTHERN **T**AIWAN **S**CIENCE **P**ARK
2021 Annual Report



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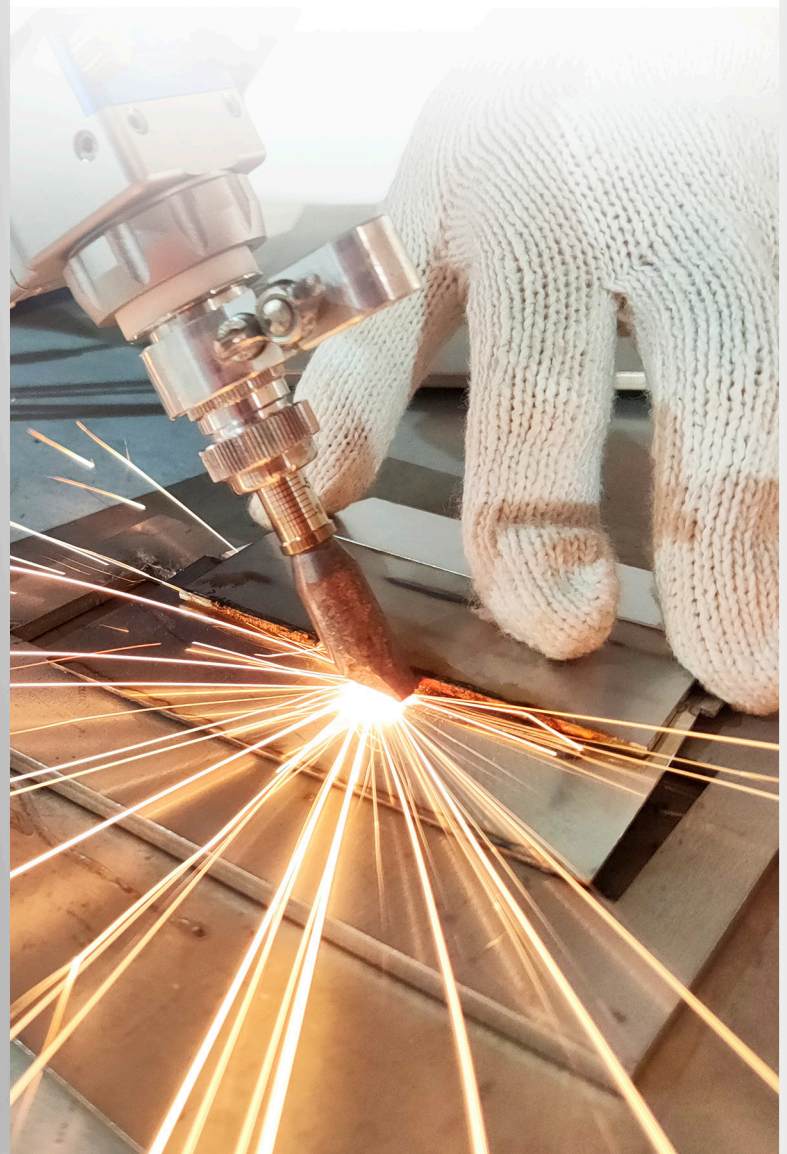
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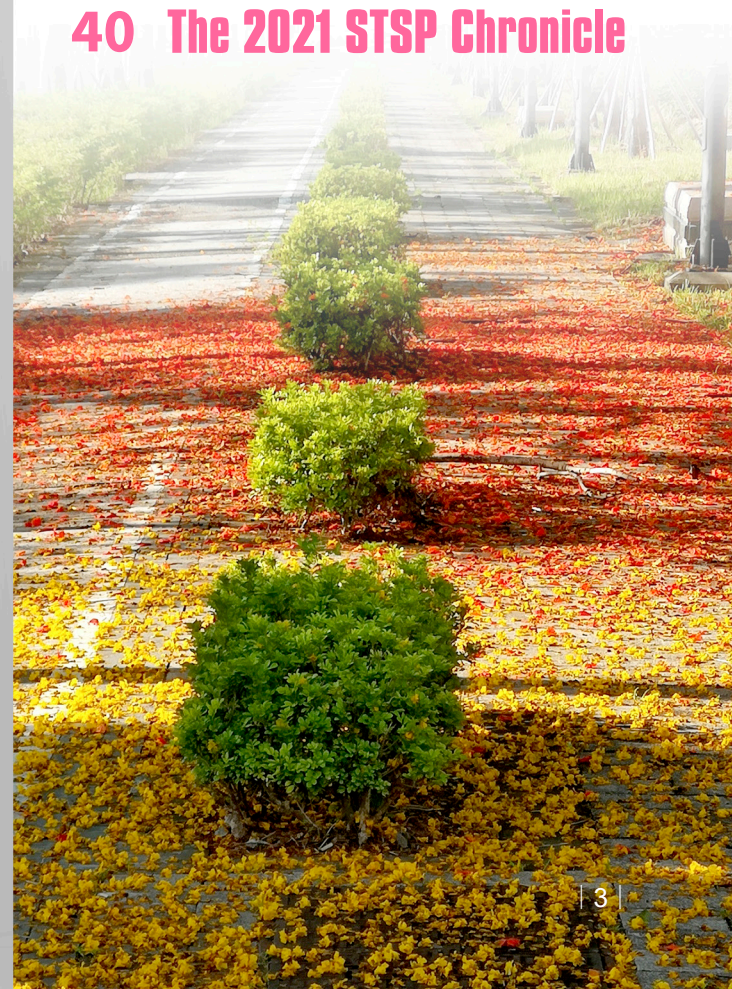
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Celebration for the STSP's Outstanding Achievements

Challenges in 2021 included surging cases of COVID-19 along with a drought, and in the Southern Taiwan Science Park (STSP) we worked hand in hand with tenant enterprises to create three all-time highs: the highest turnover on record, the highest number of people employed, and the highest growth. For the first time, the STSP's turnover exceeded a trillion, totaling 1.09 trillion with more than 84,000 workers employed. Pushed by the pandemic, a stay-at-home economy became the drive for the STSP's growth to a new peak of achievement.

Advanced manufacturing production of the semiconductor leaders has continuously expanded in the STSP to develop a magnetic effect for its industrial clusters. In lieu of increasing investment of upstream and downstream international players, the STSP has become one of the world's largest IC industrial clusters. To strengthen the development of the IC corridor in Southern Taiwan, the STSP Bureau (STSPB) began its preemptive preparation by inviting investment from the Cíatou Science Park with the expected amount exceeding hundreds of billions of New Taiwanese Dollars. The establishment of Pingtung Science Park and Chiayi Science Park were approved by the Executive Yuan of the Republic of China. Additionally, Expansion of Phase III of the Tainan Science Park has been speeding up with the vision to complete the building of the scientific corridor of Southern Taiwan. With the commitment and dedication of the STSPB team, our goals will be achieved as planned.

As tenant enterprises are expanding their investment in the STSP, the STSPB has continuously been working hard to protect the environment by providing surveys with transparent information of environmental quality monitoring, enhancing the management of emissions and effluent discharges from park enterprises, promoting diamond-level green buildings and factories, and working with park enterprises to save water and electricity. The STSP has cut down on over 50,000 metric tons of carbon emissions, equivalent to the amount of carbon absorbed by 133 Daan Forest Parks in a year. At the same time, the STSPB has been committed to the building of friendly and healthy workplaces by providing high quality child care services and education, respecting gender equality, organizing diverse activities such as sports events, late spring art festivals, group weddings, and Christmas parties to allow employees of tenant enterprises to find the balance between work and life in a livable, happy STSP.

Facing international political and economic uncertainties in the future, the STSP will put its efforts into facilitating digital transformation for industries and building an innovative research and development hub to continuously attract investment and promote industrial upgrading. It will also build a friendly ecosystem and strengthen links with local communities and businesses to create a spillover effect, with the goal of achieving its 2030 technology policy vision of being “innovative, sustainable, and tolerant” and to build the STSP as an “exceptional and diverse,” “best quality,” “energy saving and sustainable,” model science park.

Director-General of the STSPB

Chen-Kang Su

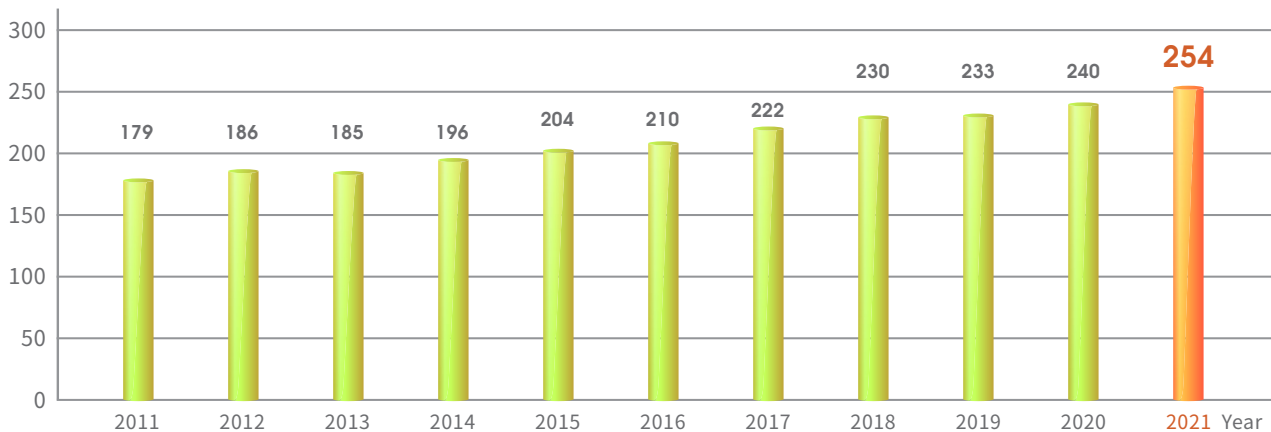
STSP's Record Revenue Exceeding a Trillion New Taiwan Dollars during the Pandemic

A Golden Year for the STSP with Amazing Achievements

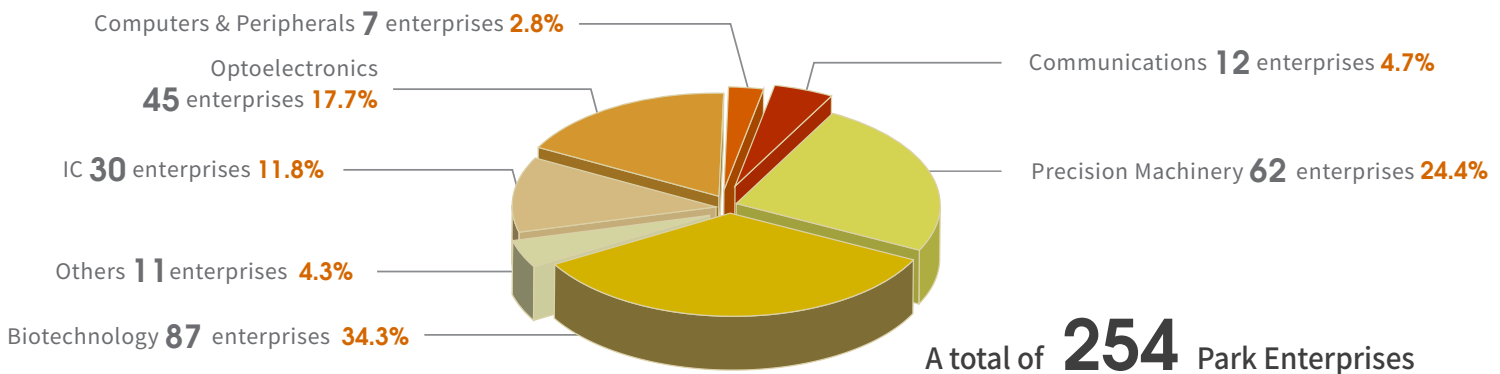
Thanks to its industrial clusters, the Southern Taiwan Science Park (hereinafter referred to as the STSP) is continuously attracting investments from domestic and international leading businesses. In 2021, 20 new tenant enterprises invested in the STSP to the amount of about NT\$7.55 billion, with total of 254 effectively approved enterprises in the STSP have been approved, indicating the wide appeal of the STSP as an ideal investment destination.

Accumulative Number of Enterprises Approved to be in the STSP over the Years

Unit: Enterprise



Number of Enterprises Approved to be in the STSP by Industry, as of the End of 2021

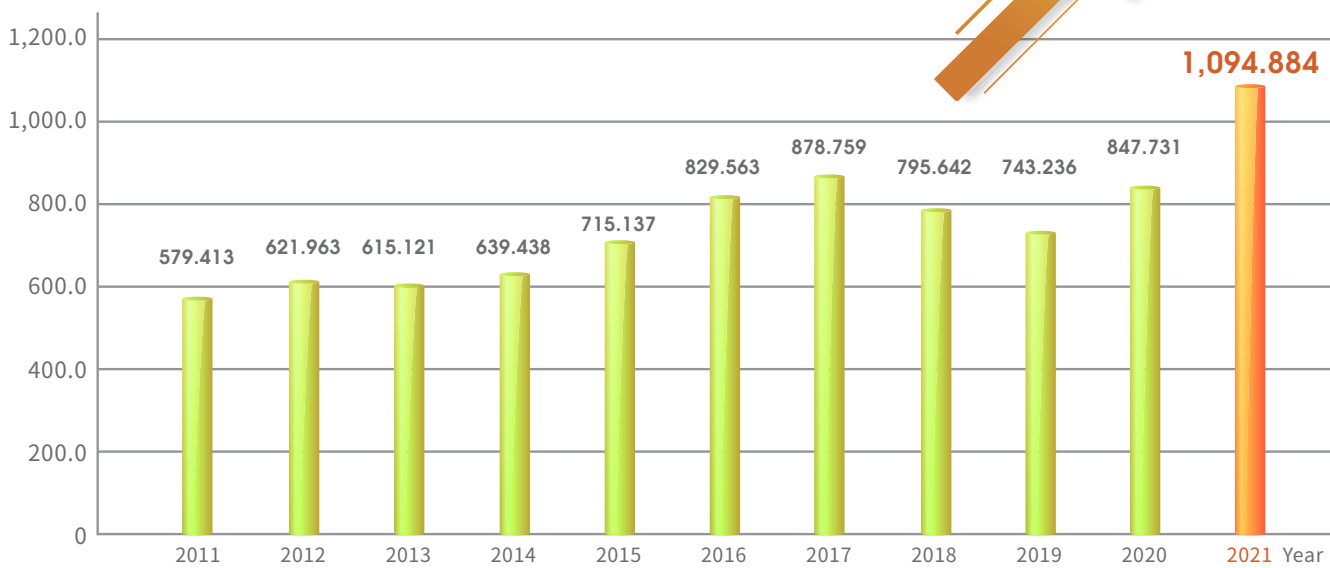


Turnover over the Years

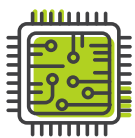
Led by the IC and optoelectronic industries, the STSP's turnover in 2021 exceeded the trillion mark and reached NT\$1.09 trillion, a growth of 29.15%, despite the negative impacts of the COVID-19 pandemic.

A Growth Rate of **29.15%**

Unit : NTD \$1 Billion



Revenue by Industry



IC
755.652 billion **69.0%**



Precision Machinery
48.110 billion **4.4%**



Optoelectronics
249.328 billion **22.8%**



Biotechnology
13.401 billion **1.2%**



Computers & Peripherals
8.834 billion **0.8%**



Others
2.919 billion **0.3%**



Communications
16.640 billion **1.5%**

Turnover of NT\$ **1,09** trillion

Import and Export Value over the Years

Pushed by market demands for 5G products, high-performance computing chips, and the stay-at-home economy, STSP exports totaled NT\$525.397 billion in 2021, with a growth of 3.18%; and imports totaled NT\$264.369 billion in 2021, with a growth of 25.94%.

Unit : NTD \$1 Billion

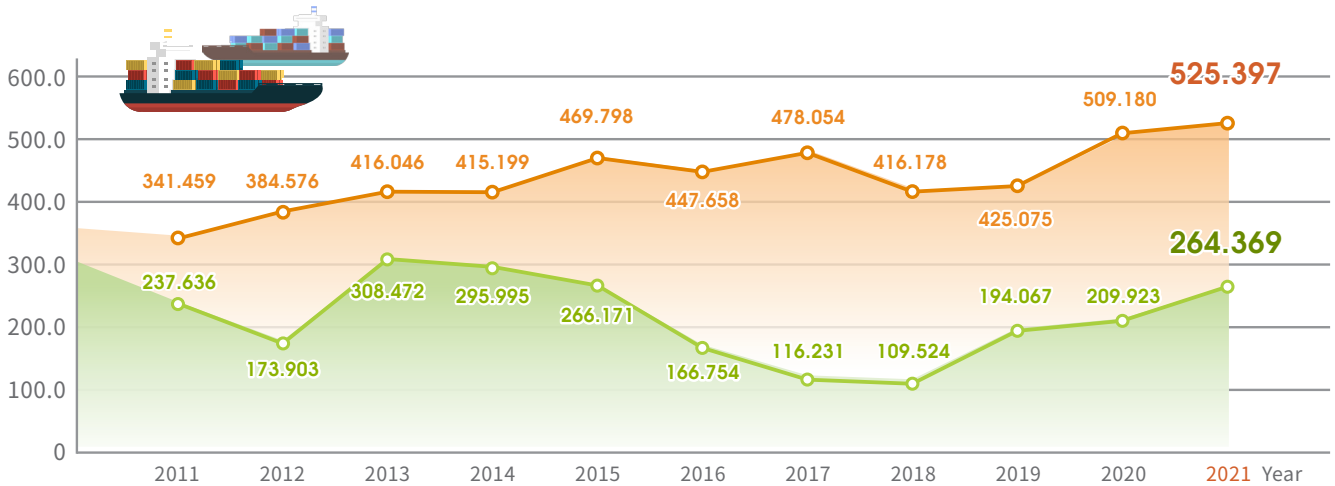
—○— Export Value —○— Import Value



Exports grew by **3.18%** compared to 2020.



Imports grew by **25.94%** compared to 2020.



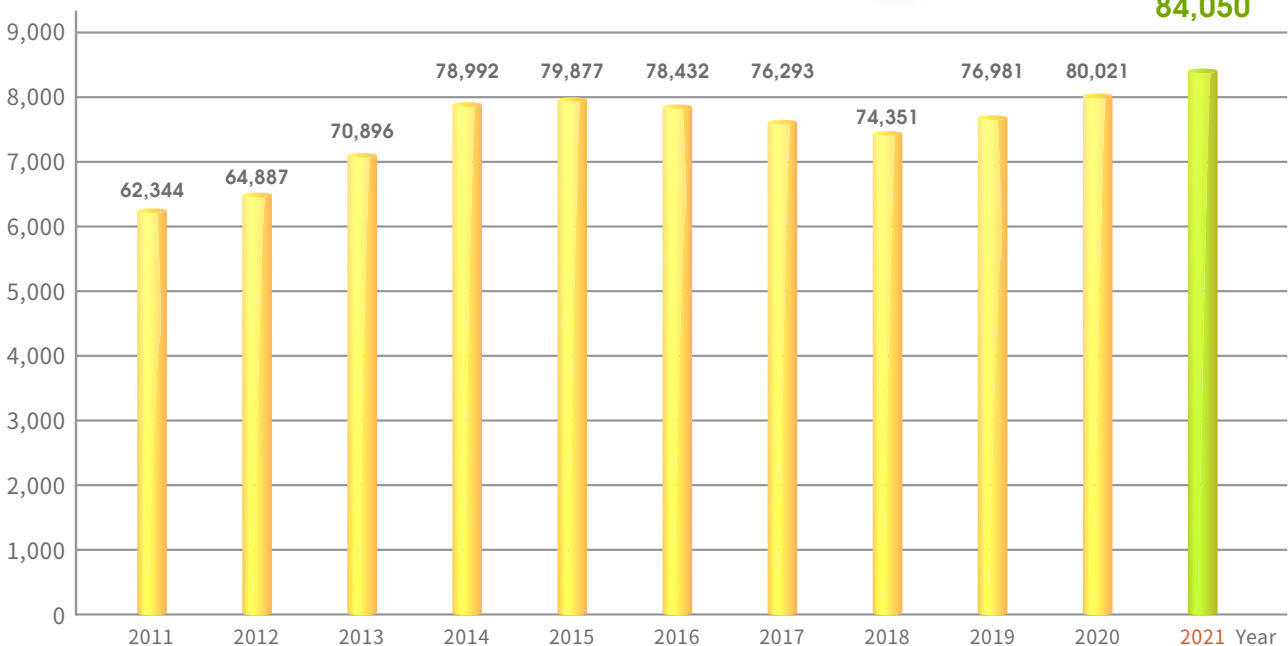
Number of Workers Employed over the Years

As of the end of 2021, the number of workers employed in the STSP was 84,050, an increase of 4,029 workers compared the end of 2020. This was a record high number of employees, indicating the STSP's successful investment and recruitment strategies to ensure a brighter future.

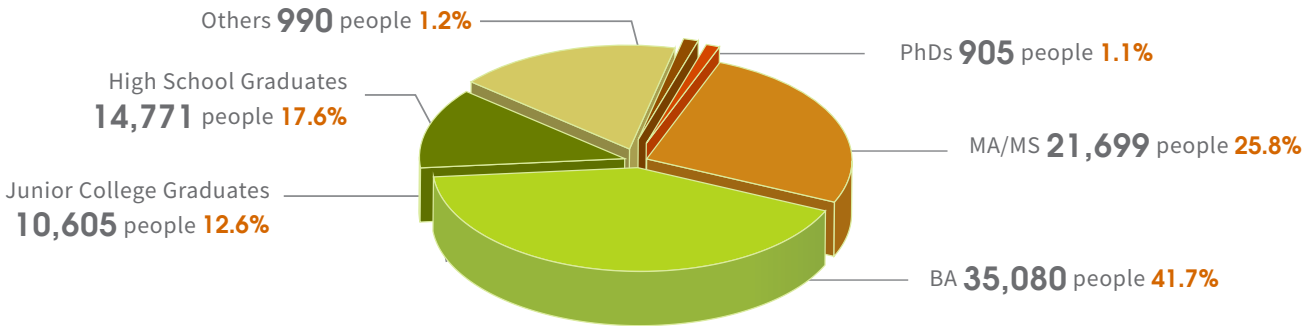


An Increase of **4,029** Workers

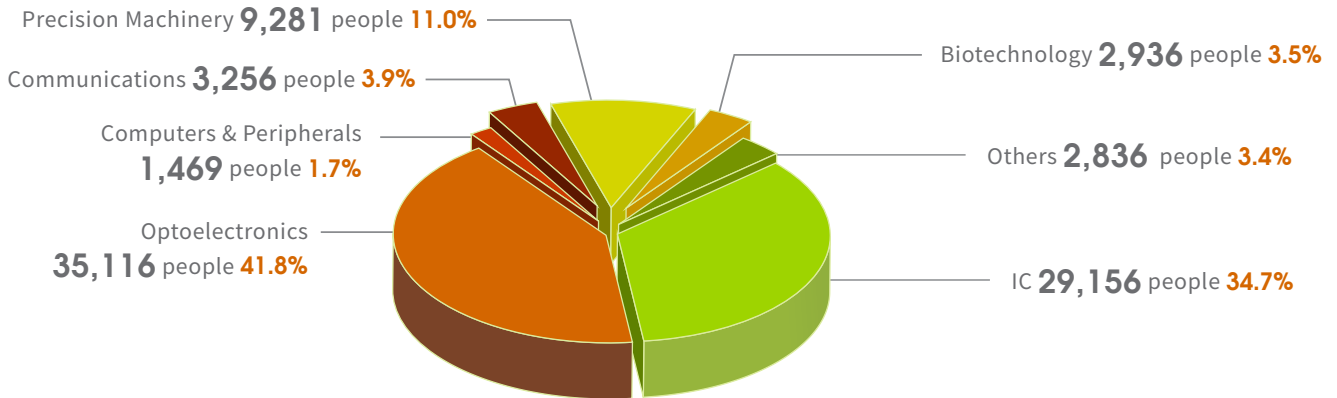
Unit : People



STSP Workers Educational Backgrounds



Number of Workers Employed

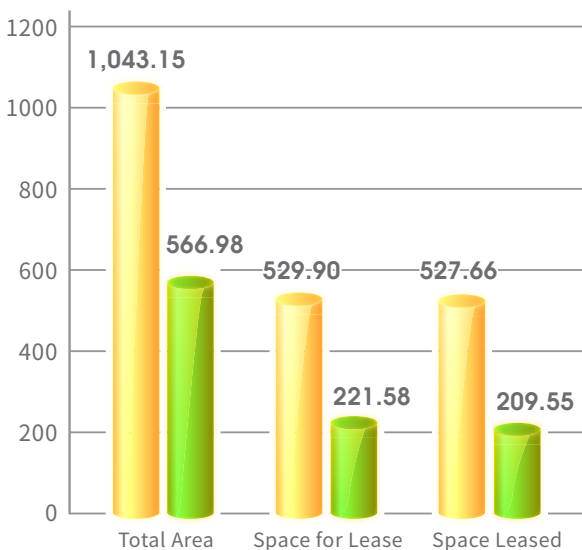


A total of **84,050** Workers

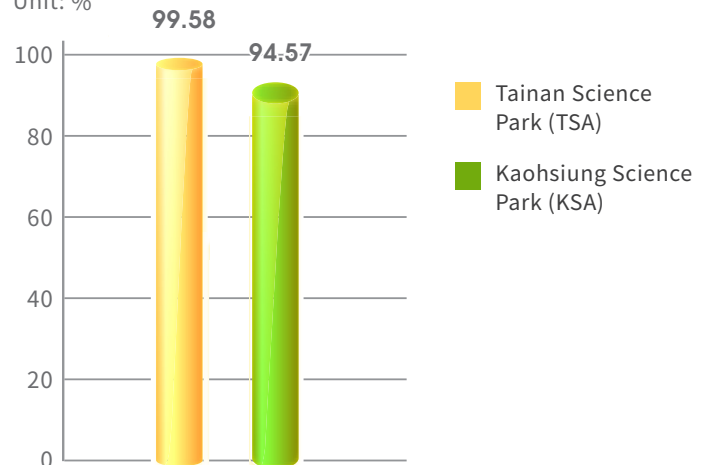
Land Lease Rate

As of the end of 2021, land lease rates in the Tainan Science Park and Kaohsiung Science Park were respectively 99.58% and 94.57%, totaling 98.10%.

Unit: Hectares



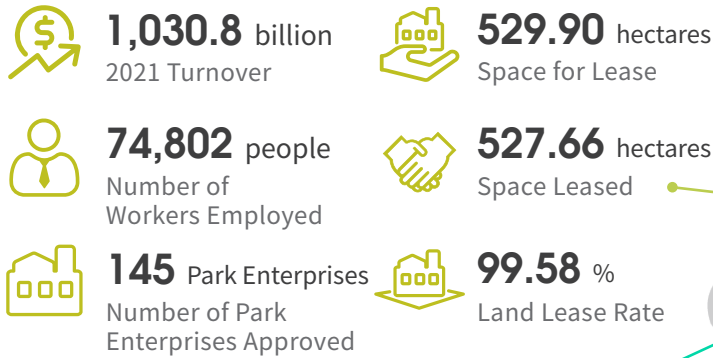
Unit: %



Total Land Lease Rate of **98.10** %

Statuses of Science Parks in Southern Taiwan

 Taiwan High Speed Rail
  Taiwan Railways
  National Highways

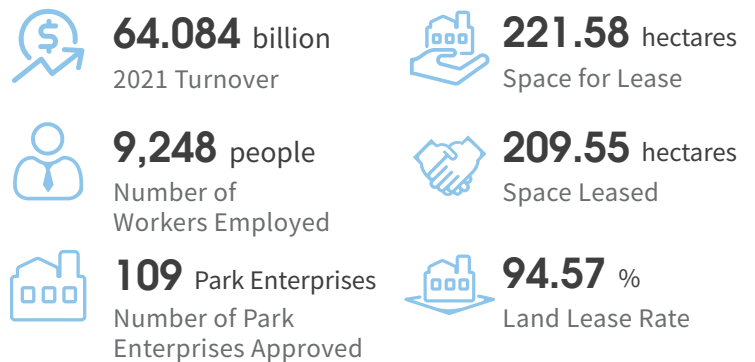
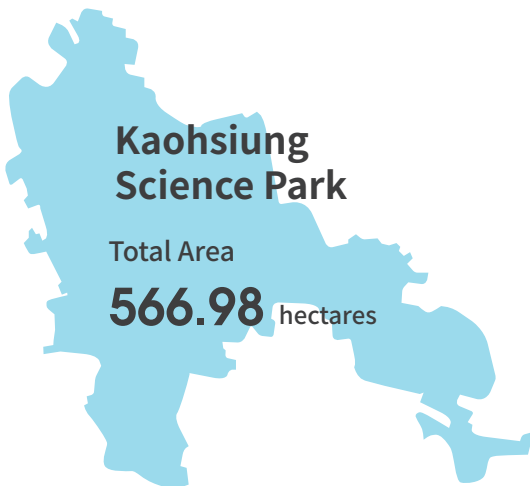


Expansion of Phase III of the Tainan Science Park (under Preparation)

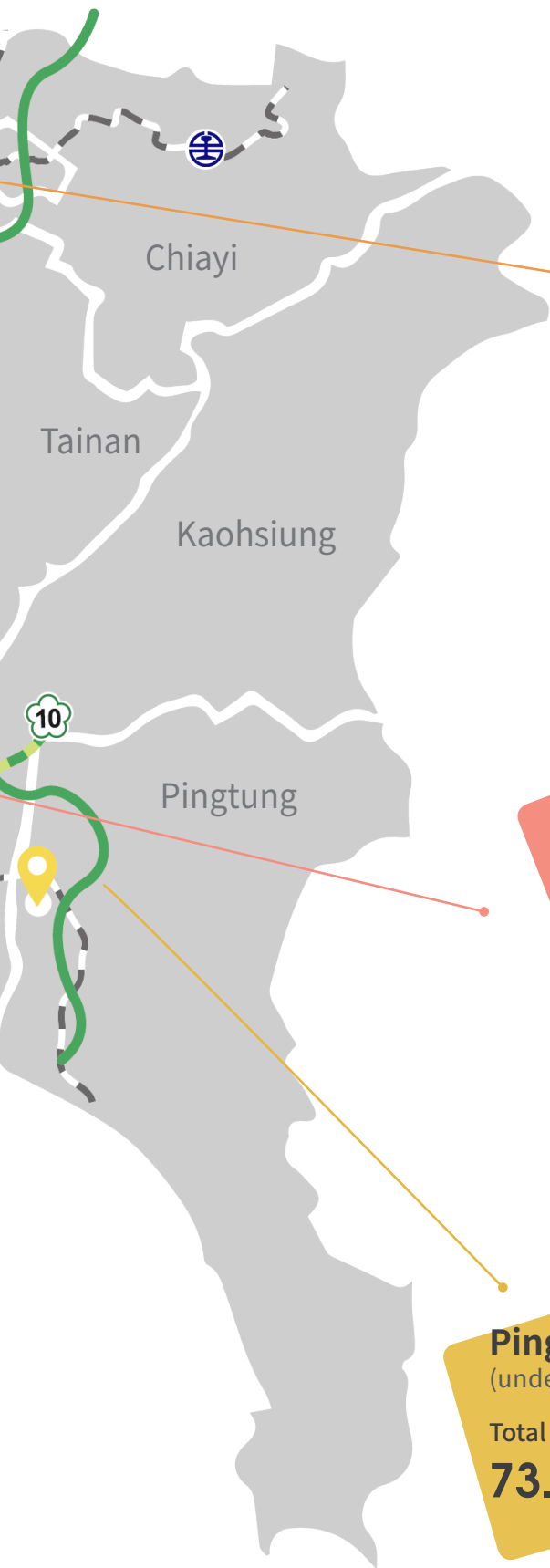
Total Area
84.51 hectares

Processing Progress

Expansion plan for Tainan Science Park was approved by the Executive Yuan in April 2020, and urban planning and environmental impact assessment were conducted synchronously in 2021.



Shalun Smart Green Energy Science City



Chiayi Science Park
(under Preparation)

Total Area
88 hectares

Processing Progress

Preparation plan for Chiayi Science Park was approved by the Executive Yuan in January 2022, and non-urban area development planning and environmental impact assessment were conducted synchronously in 2022.

Ciaotou Science Park
(under Preparation)

Total Area
262.39 hectares

Processing Progress

Preparation plan for Ciaotou Science Park was approved by the Executive Yuan in December, 2019. Environmental impact assessment was passed in September, 2021. Investment invitation began in December, 2021.

Pingtung Science Park
(under Preparation)

Total Area
73.83 hectares

Processing Progress

Preparation plan of Pingtung Science Park was approved by the Executive Yuan in January, 2022 and non-urban area development planning and environmental impact assessment were conducted synchronously in 2022.

Continuous Investment for Growing Industries within the STSP

Expansion of the STSP's Ability to Attract Different Sources of Investment

As of the end of 2021, the STSP approved investments from 254 park enterprises, including 20 news ones. Among them, four IC makers invested NT\$4.36 billion, followed by six manufacturers of precision machinery with a further investment of NT\$2.395 billion.

Investment increases came from 21 park enterprises at a promising expansion of NT\$232.4 billion, which was invested by two IC leaders followed by 13 biotechnology companies to the amount of NT\$4.636 billion.

Development of the World's Most Advanced Semiconductor Manufacturing Cluster

Testing in the advanced mass production processes of TSMC's five and three nanometer chips, as well as UMC's continuous investment in factory expansion have strengthened regional economic resilience for the development of the world's most advanced semiconductor manufacturing industrial cluster.

Merck KgaA's Big Investment in the STSP

On December 16, 2021, Merck Group set up a large semiconductor material production and application R&D Center, and an equipment manufacturing factory for electronic materials. Together, they are expected to bring an investment amount of NT\$17 billion and create 400 jobs.



Merck KgaA's Ground Breaking Ceremony in the KSP (2021/12/16)



Construction of TSMC's New Advanced Manufacturing Factory

Entegris's Largest Investment in Asia- the Company's Investment in the Kaohsiung Science Park

Entegris invested NT\$14 billion in its new factory site occupying 54,000 square meters, with the aim to provide manufacturing materials and solutions to micro-pollutions. An additional 200 jobs were expected to be created.



Entegris's New Factory Expansion in the KSP Expected to be Completed by the End of 2022



Taiwan Tohcello Functional Sheet, Inc.'s Construction Ceremony for its Phase II Factory in the KSP (2021/08/04)

Filtec's Ground Breaking Ceremony to Add Drive to the STSP's Semiconductor Supply Chain

Filtec held a ground breaking opening ceremony for its new factory on March 24, 2021. Products developed by the company meet requirements for advanced semiconductor manufacturing processes. After mass production by the new factory in the future, a new drive will be brought to the development of the STSP's semiconductor industry.



Filtec's Ground Breaking Ceremony (2021/03/24)



TORAY's Beam-Raising Ceremony for its Phase II Factory (2021/03/10)

A Boost for the Optoelectronics Cluster in the STSP-TORAY's Beam-Raising Ceremony

In order to expand its already full capacity, TORAY began its Phase II factory expansion and the beam-raising ceremony was held on March 10, 2021 to provide a boost for the STSP's optoelectronics cluster.



The STSP's Integrated Technology Corridor

Along with the development of Chiayi Science Park, and Phase III of Tainan Science Park, Ciaotou Science Park, and Pingtung Science Park, the STSP has expanded the impact of its existing cluster by integrating local industrial innovation and strengthening regional economic resilience to build itself into a “exceptional, high quality, energy saving and sustainable” science park.

Ciaotou Science Park, “Kaohsiung’s Pioneer”

On December 24, 2021, President Tsai Ing-wen, along with the Mayor of Kaohsiung, Chen Chi-mai, and 20 heavyweight enterprises participated in the “Opening Ceremony and Investment Invitation for Ciaotou Science Park”. This ceremony of main route construction attracts the presence of many industrial leaders, with an expected investment amount of hundreds of billions of New Taiwan Dollars.



President Tsai Ing-wen's Attendance at the “Ground Breaking Ceremony of Kaohsiung New Town #1-2 Route” (2021/12/24)



“Ground Breaking Ceremony of Kaohsiung New Town #1-2 Route” (2021/12/24)

Public work and factories are scheduled to begin construction in the end of September, 2022 synchronously, and are expected to create 11,000 jobs and provide 163 hectares of industrial land for prosperous industries and communities in Southern Taiwan.

Pingtung Science Park- A Hub for Industrial Innovation and Transformation in Pingtung

On January 10 and September 4, 2021, Premier Su Tseng-chang went down to Southern Taiwan to inspect and oversee the renovation of the Pingtung High-speed Railway Designated Area into a new urban center for industries, life, and education. The Park was immediately planned and prepared to introduce smart agriculture, healthcare, green materials, aerospace technology, and other newly emerging technology. Public work and factories are expected to begin synchronously in April, 2023, which will create an annual revenue of NT\$36 billion and 5,400 jobs.



Premier Su Tseng-chang's Inspection of "Pingtung Science Park"
(2021/09/04)



Director General of the STSP Bureau, Su Chen-kang's briefing to Premier Su Tseng-chang (2021/09/04)

Chiayi Science Park-Incorporation of Agricultural into Technology

On December 19, 2020 and September 5, 2021, Premier Su Tseng-chang went down to Southern Taiwan to oversee the establishment of Chiayi Science Park in Taipao, a corporative project between the local and central government for the prosperity of Chiayi.

The Park is now under planning and preparation and in the future, industries including precision healthcare, smart wearable devices, smart agriculture, and other newly emerging technology will be introduced. Public offices and factories are expected to begin construction in April, 2023 which will create an annual revenue of NT\$38 billion and 5,700 jobs.

Expansion of Phase III of the Tainan Science Park

In 2021, concrete expansion and environmental impact assessment were actively conducted. Public work and factories are expected to begin synchronously in July, 2023, which will create an annual revenue of NT\$39.2 billion and 4,900 jobs.



Premier Su Tseng-chang's Inspection of Chiayi Science Park
(2021/09/05)

The Visionary Precision Medicine Industry

Outstanding Achievements of the Biomedical Industry in 2021

With a total revenue exceeding NT\$60 million, five tenant enterprises including dentall, toShin, Quen Lin, ACRO, and Biomate assisted Kaohsiung Veterans General Hospital in building Taiwan's first 3D printing medical device system and Hualien Tzu Chi Hospital to develop a digital dental diagnosis system in Eastern Taiwan. The procurement for these two systems paid by hospitals exceeded NT\$33 million.



Biomedica and Osteoporosis Scanning System Booth (Right)

Biomedica Corporation was assisted in researching and developing an artificial intelligence (AI) assisted screening system for Osteoporosis that can be incorporated into mobile x-ray vehicles to serve for remote areas. The system is now used by Taipei Municipal Wan Fang Hospital. Within six seconds, a report on osteoporosis status can now be generated as the initial diagnosis basis for physicians.



MEM Dental Technology CO., Ltd. was assisted in introducing traditional manufacturing to AI applied digital teeth alignment, making it Taiwan's first producer of self-ligating braces that have been successfully procured by the medical community and used for clinics and training.



MEM Booth and Products (Left)

Integration of Linked Sources for Advanced Industrial Development and Visionary Positioning

On October 1 and November 12, 2021, the STSP Bureau (STSPB) collaborated with industrial, government, academic, research and medical institutions by bringing together the STSP's local and existing resources. Together, they organized forums for the building of the industrial corridor in Southern Taiwan, on "The Future Development of Pingtung's Smart Agricultural and Medical Industry" and "A New Vision of Precision Health for the New Future of Chiayi" in Pingtung and Chiayi respectively.



Group Photo at "The Future Development of Pingtung's Smart Agricultural and Medical Industry" (2021/10/01)



Group Photo at "A New Vision of Precision Health for the New Future of Chiayi" (2021/11/12)



The 2021 Future Development of Pingtung's Smart Agricultural and Medical Industry Seminar (2021/10/01)



The Strategic Forum on A New Vision of Precision Health for the New Future of Chiayi (2021/11/12)

Exchanges & International Marketing

Notable Achievements of the STSP

In 2021, the STSP received visits from 36 domestic and international delegation groups, a total of 1,702 people times. The “Southern Taiwan Tech Tour with International Partners” was led by the Minister of Science and Technology, Wu Tsung-tsong and was attended by the Investment Media and Wealth Magazine Chairman, Hsieh Chin-ho, and StarLux Airlines Chairman, Chang Kuo-wei.



Team Visit Led by the StarLux Airlines Chairman, Chang Kuo-wei (2021/11/12)



Visit of Prospect Investors to the STSP Led by the Investment Media and Wealth Magazine Chairman, Hsieh Chin-ho (2021/03/22)



Visit of Prospect Investors to the Kaohsiung Science Park Led by the Investment Media and Wealth Magazine Chairman, Hsieh Chin-ho (2021/10/25)



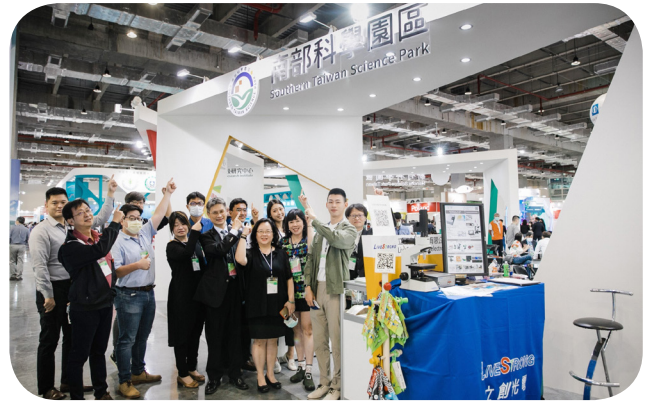
“Southern Taiwan Tech Tour with International Partners” (2021/04/27)

International Marketing at “BIO Asia-Taiwan 2021”

Ten tenant enterprises of the STSP participated in “Bio Asia-Taiwan 2021”, including Charsire Biotechnology Corp., the Scientific Integration Design Service Corporation, Jim & Steve Industrial Co., Ltd., JUN ZHI Biomedical Co., Ltd, LiveStrong Optoelectronics, DUCOLEGE, Taigama Biotech Inc., Ltd., G&E Herbal Biotechnology Co., Ltd., TCRD, and Sunmax. Under the theme of “Smart Biomedicine” the event showcased the outstanding achievements of the STSP in biomedicine and precision healthcare on this international marketing platform.



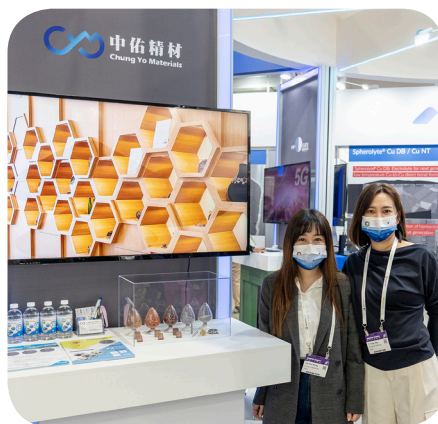
Group Photo in front of STSP Pavilion at the BIO Asia-Taiwan 2021 (2021/11/04)



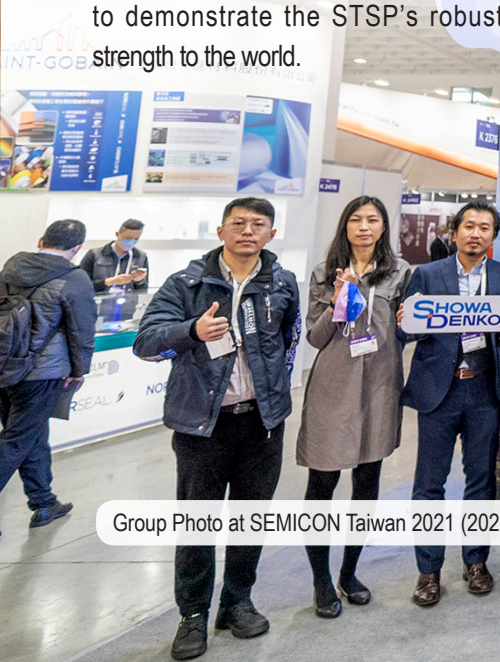
Participation of the STSPB and Ten Tenant Enterprises in BIO Asia-Taiwan 2021 (2021/11/04)

The STSP's Strong Presence in “SEMICON Taiwan 2021”

At SEMICON Taiwan 2021, six tenant enterprises including Chung Yo Materials, LiveStrong Optoelectronics, Streber-Tech Co., Ltd., Showa Denko Semiconductor Materials (Taiwan), APOGEE Optocom Co., Ltd, and THINTECH MATERIALS TECHNOLOGY CO., LTD. worked hand in hand to feature their photovoltaics, automation, and special alloys products to demonstrate the STSP's robust strength to the world.



Booths of Chung Yo Materials, THINTECH MATERIALS TECHNOLOGY CO., LTD. (upper right), and LiveStrong Optoelectronics (down right)



Group Photo at SEMICON Taiwan 2021 (2021/12/28)

Innovative Startups in the STSP

Five Startup Partners Promoted by the STSP Startup Incubator

The STSP's maker space has assisted the development of innovative technology and facilitated matching startup founders with venture capital investors. As of the end of 2021, 368 startups have been incubated by the STSP. Among them, 106 registered as tenant enterprises of the STSP and 24 became scientific enterprises. Five startups including Presence of Jumbo Laser Plasma, DeepWave, Coretronic MEMS Corporation, ALGAE GOLD, and AccuAR Digital were approved in 2021 by the STSP, raising an amount of NT\$422 million.



Jumbo Laser Plasma's Bar Codes with Flexible Use in Multiple Production Lines with improved adhesion

DeepWave's Hullabaloo Launched in 2021 to Reduce Noise of Online Voice Recorder and improve Precision Identification of Human Voice/Noise



Coretronic MEMS Corporation's Commercial UAV (Pelican for Logistic Uses)

5G AI_Robots for Industrial Technology Innovation

The STSP MakerSpace took the lead in building a 5G designated network application and experiment field for the development and testing of AR and VR. Additionally, project demonstrations have been conducted to showcase the empirical results of 5G technology innovation.



Project Demonstration and Matching Seminar on AI_Robots at the STSP (2021/11/24)



Group Presentation and Demonstration to the Judges (2021/11/24)

The Fast Track Startup Competition for a Creative Startup Ecosystem

With a focus on the fields of smart manufacturing, precision healthcare, and new energy, the “Fast Track Startup Competition” was held on January 12, 2021. The Minister without Portfolio, Audrey Tang, was invited as the keynote speaker under the topic of “Development Policies for Digital Transformation and Technology Innovation”, while Professor Ko Nai-ying from the College of Medicine at National Cheng Kung University was invited as the panelist to share views with 141 attendees.



Online Photo of Minister without Portfolio, Audrey Tang and Professor Ko Nai-ying (2021/01/12)



Exchanges at Highlight Exhibition Area of “Smart Manufacturing” (2021/01/12)

FITI Winner Counsellled by the Startup Workshop

The STSP Startup Workshop has continuously provided counselling services to startups for winning the 2021 From IP To IPO (FITI) Program. FITI winners from the STSP startups including outstanding award winner HanDo Lab and the VM-Fi Wireless Microphone Team. Meanwhile, Tender Light Scientific won second place prize in the Zhanguoce contest in July and the FITI Award in December. These victories demonstrated the counselling strength of the STSP Workshop.



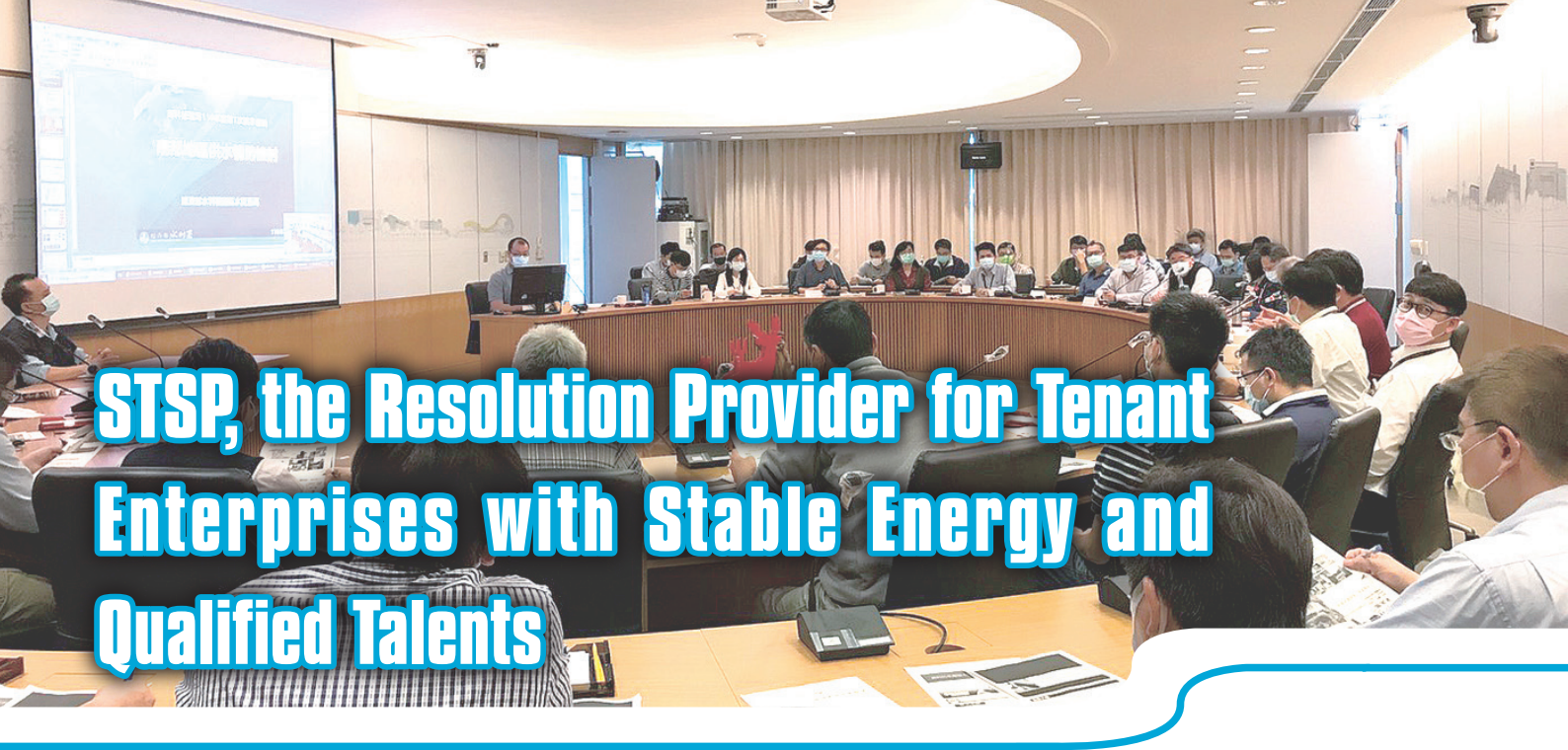
HanDo Lab's AI Armature



FITI Winner, Tender Light Scientific (2021/12/10)



VM-Fi's Wireless Microphone



STSP, the Resolution Provider for Tenant Enterprises with Stable Energy and Qualified Talents

Stable Supply of Water, Electricity, and Energy

Upgrading of Water Supply Facility to Ensure Water Security

To solve the water demands of park enterprises, the STSPB has enacted repair and functional improvement programs on a yearly basis to upgrade and replace damaged water supply equipment. After nine months, in May, 2021 the replacement of 17 water control valves, monitoring of pressure on important nodes of the water supply network, and pressure and volume monitoring of water transmission pipes within the STSP was completed. This provided more real-time flexibility with water equipment maintenance, network monitoring and water allocation, and ensured water security.



Smart Monitoring of Water Supply Network Information



Upgrade and Replacement of Water Control Valves



Monitoring Equipment for Pressure on Water Pipeline Network

A Stable Water Supply to Successfully Combat Drought with Tenant Enterprises

In the beginning of 2021, there was a severe drought. The STSPB worked with the Allied Association for Science Park Industries, tenant enterprises, and the Ministry of Economic Affairs (MOEA) to conduct drills on water vehicles, use reclaimed water, and conduct water conservation measures. Meanwhile, secondary water from waste water treatment plants and detention ponds was made available to maintain the normal operations of tenant enterprises.



Detention Pond Water Used as Secondary Water by Tenant Enterprises



STSP Extra High Voltage Substation

Gradual Increase of Electricity Supply in the STSP to Ensure Electricity Security

Construction of Sun Ba Power Plant began in September 2021, and is expected to be completed in June 2024, to add about 401,500 kW of electricity. Expansion of the STSP Extra High Voltage Substation began in August 2020, and is expected to be completed in June, 2025, to add about 300,000 kW of electricity. Planning of STSP Compensation Station also began and is expected to be completed in October, 2029 to add about 100,000 kW of electricity. The overall electricity supply in the STSP is expected to be increased.

Development of 3D Pipeline Drawing Demonstration System to Reduce Pipeline Accidents

Existing public pipelines in the TSP and KSP were re-examined to complete the development of three-dimensional data archive building and demonstration systems, to reduce pipeline damage and allow park enterprises to conduct normal operations.

Green Energy Recycling & Water and Energy Conservation

To ensure both environmental protection and economic development, the STSP has continuously promoted the use of reclaimed water in Yongkang, Anping, and Rende, and expects to increase it to the capacity of 83,000 CMD. Furthermore, water conservation consultation services have been continuously provided to tenant enterprises with the goal of significantly cutting down carbon emission by over 50,000 metric tons (equivalent to the annual carbon absorption of 133 Daan Forest Parks).



Yongkang Reclaimed Water Pond

Talent Recruitment & Local Employment Opportunities

Human resources are the cornerstone of a sustainable STSP. In 2021, the STSPB continuously organized job fairs, large-scale talent recruitment events, talent training courses and exchange seminars, to allow top managers to match park enterprises and high-quality prospect employees to build a good learning workplace.

“Live and Work in Tainan” Job Expo

On March 27, 2021, the STSPB worked with the Tainan City Government to hold the “Live and Work in Tainan Job Expo”, where 96 enterprises offered more than 3,422 job vacancies and tenant enterprises also provided over 880 job opportunities. The Expo was greatly welcomed by businesses and job seekers.



“Live and Work in Tainan” Job Expo” (2021/03/27)



“Work in Great Kaohsiung”- A Large-Scale Talent Recruitment Event (2021/09/25)

“Work in Great Kaohsiung”- A Large-Scale Talent Recruitment Event

On September 25, 2021, the KSP worked with the Kaohsiung City Government to jointly organize “Work in Great Kaohsiung”- a large-scale talent recruitment event where over 30 enterprises provided more than 1,300 job opportunities to assist industrial development in the Kaohsiung area. The Gender Equality Area of the STSP introduced on-site gender friendly measures and used the best practices of award winning enterprises to attract more job seekers to work in the STSP.

Training for Advancement of Vocational Skills

Talent Gathering & Advanced HR Training

To facilitate talent training and exchanges between the industry and academia, the STSP organized the “HR and Managers Exchange Seminar” by inviting 25 managers of tenant enterprises to share their thoughts and exchange ideas.



HR and Managers Exchange Seminar (2021/03/04)



STSP Training Information Sharing Seminar (2021/03/04)

Professional and Technological Talent Training

To meet the talent demands of the STSP and enhance the competitiveness and innovation of STSP practitioners, online interdisciplinary professional training courses and exchange and matching seminars for the industry and academia were carried out. These included two mini courses on semiconductor and smart manufacturing, 22 open courses, 21 customized enterprise courses, and three series of seminars, to train 1,361 people. By utilizing the industry-academia service exchange platform, businesses and legal persons were linked for maximized effect of shared information.



Semiconductor Manufacturing and Technology Testing Talent Training Course: Semiconductor Film Materials Used in Dust-free Rooms



Salon Series Seminars: AR, VR, and Beautiful Encounters with Tainan's Gourmet Foods (2021/10/29)



The First Series of “Learn from the Senior-The Precision Healthcare Industry in the STSP” (2021/01/22)

Talent and Technology Matching and Exchanges with Enterprises

The STSP worked hand in hand with the Taiwan Semiconductor Research Institute (TSRI), the Inter-university Teaching Strategic Alliance for Smart Manufacturing, the Ministry of Education (MOE), several universities in Southern Taiwan, and tenant enterprises to jointly organize six exchange events for relevant talent on semiconductor and smart automation industrial chains and matching with business owners. Enterprises from both inside and outside are invited to the events to connect technology and research talent with energy development talent, for the building of a cooperative exchange platform.



Online STSP Talent Matching (2021/06/11)



Among the events, with a total of 40 enterprises and 25 universities, about 480 people attended in five talent and technology matching seminars. With the participation of 20 enterprises, the tenant enterprise exchange event arranged a visit to the Tainan Base of the TSRI, to get to know relevant knowledge on testing capacities for future cooperation.



Demonstration of Interdisciplinary Talent Cultivation Alliance and Matching Seminar for Talent and STSP Tenant Enterprises (2021/10/27)

Building an Environmentally Friendly Environment in the STSP

Health and Safety in the Workplace

Relief Package Provided to STSP Tenant Enterprises

When Taiwan entered a level 3 COVID alert, the STSPB assisted 15 industrial, commercial, and amenity service providers in applying for the “Relief Package for Service Providers within Science Parks in Response to COVID-19.”



STSP PCR Services



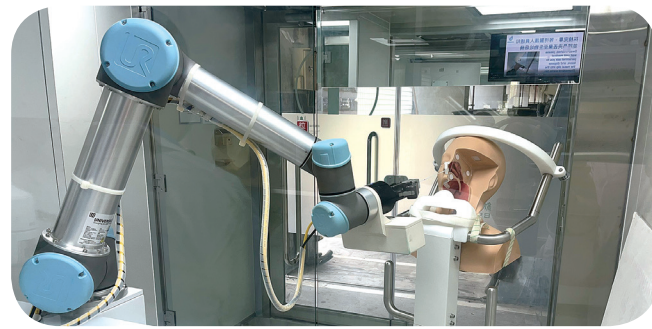
STSP Workers Waiting for PCR Services

Caring for Immigrant Workers to Protect the Health of the STSP

In addition to the relief package, the STSPB collaborated with the Central Epidemic Command Center to protect the health of the STSP by taking pandemic prevention measures to:

1. Provide local PCR test stations with local government resources (for a total of 8,552 people);
2. Cooperate with tenant enterprises to set up Taiwan's first zero-contact screening station;
3. Assist tenant enterprises in compiling the name lists of vaccination receivers (984 people in InnoLux);
4. Build vaccination stations (to inoculate 11,024 people);
5. Conduct inspection of pandemic prevention measures for foreign workers. (comprehensive counselling provided to 40 tenant enterprises and 7,982 migrant workers)

On July 2, 2021, the Minister of the MOST, Wu Tsung-tsong, visited the STSP to inspect the implementation of relevant policies on dormitory management and specific pandemic prevention measures for foreign workers. He also called representatives of tenant enterprises to show his gratitude for their support in ensuring foreign workers' full participation in receiving PCR tests and cooperation with governmental pandemic prevention policies.



Zero-Contact Medical Station with Robotics Technology



Minister of MOST, Wu Tsung-tsong's on site visit to the STSP for Implementation of Pandemic Prevention (2021/07/02)



Zero-Contact Medical Station's Donation Ceremony (2021/05/28)



Donation of Positive Screening Station Made by King Slide Technology



Patrol Vehicle Donation to the Tainan City Government Made by ChipMOS



Pandemic Prevention Resources for Screening Station Made by Corning Taiwan

On May 28, 2021, with a donation from TSMC Charity Foundation, Taiwan's first zero-contact screening station began its operation at Chi Mei Medical Center. Additionally, we have been thankful for donations made by InnoLux, King Slide Technology, Corning Taiwan, Phalanx Biotech, and ChipMOS to help us protect frontline healthcare workers.

STSP's Three High Distinction Awards in Vocational Safety, Safety Inspection, and Construction Management

Highly recognized by governmental agencies such as the Ministry of Labor and the Ministry of the Interior, the STSP won three High Distinction Awards:

- 1.High Distinction Award for the 2021 Annual Performance Evaluation in Labor Inspection Institutions, bestowed by the Ministry of Labor;
- 2.High Distinction Award for the "2021 Public Safety Building Inspection" given to the TSP and KSP by the Ministry of the Interior;
- 3.High Distinction Award for the "2021 Building Construction Management" given to the TSP and KSP by the Ministry of the Interior.



Photo of the Minister of MOL, Hsu Ming-chun, and Deputy Director General of the STSP, Cheng Hsiao-Jung at an Award Ceremony (2021/12/20)



STSP's Designated Gender Equality Area (2021/09/25)

Gender Equality in the Workplace to Develop a Benchmark for Tenant Enterprises

The STSPB organized the event to select outstanding tenant enterprises and practitioners that "promote gender equality in the workplace", and a total of 66 practitioners and enterprises were selected. Additionally, a "gender equality designated area" was set up at a large-scale job fair to share gender friendly measures designed to share experiences of park enterprises and boost their public image.

Friendly Workplaces that Provide Quality Child Care Services

Six kindergartens and child care centers were established in the TSP to provide care services for 875 infants and young children, while a child care center in the KSP began its services on February 20, 2021 to provide care services for 45 young children between 0 and two years old.



Child Care Services in the STSP

Diverse Activities for Celebrating Cultural Heritage

Late Spring Art Festival for Emotional Exchange and Improvement of Living Quality

Each year during the flower blossom season in spring, the STSPB organizes music and art performances on weekends in an “interactive, fun, and playful” manner to facilitate harmonious exchanges between the STSP and neighbor communities, and improve the cultural literacy of the STSP’s social circle.



Performance of Mugo Music



Big Smiles on Cute Indigenous Singers



Vigorous Cheerleading



Hand Waving with Musical Melodies



High Attendance at Late Spring Art Festival (2021/03/20-2021/04/17)

The 2021 STSP Christmas and Lights Decoration- Attended by Ten Leading Tenant Enterprises

On December 17, the STSPB organized the 2021 STSP Christmas Celebration. Ten leading tenant enterprises were invited to install Christmas lights on major intersections, allowing the public to enjoy a wonderful performance with beautiful light decorations on a warm evening.



Recorder Performance by the Elementary
Department of NKKIEH



Children's Interactive Performance Event



Participation in Christmas Lights Celebration by Leading Tenant
Enterprises (2021/12/17-2022/02/20)



Great On-stage Children's Performance at the Evening Event (2021/12/17)

Four-time Ambassador of the STSP Fun Sports event- The World No. 1 Badminton Player in Women's Singles

Tai Tzu-ying, a Taiwanese badminton player and the world's No.1 in women's singles, served as the Ambassador for the STSP Fun Sports event for the fourth time, which included the STSP Night Run, Tai Tzu-ying Friendly Match, and STSP Neighborhood Ball Games.



Friendly Badminton Match between Tai Tzu-ying and Players from TSMC and InnoLux



The Four-time Ambassador of the STSP Fun Sports event, Tai Tzu-ying



STSP Hiking Event (2021/05/08)



Being Active and Exercising in the STSP (2021/05/08)



Walking for Health in the STSP (2021/05/08)

“STSP Love Month” Charity Acts

The “STSP Love Month” asked STSP tenant enterprises and workers for donations to help families in urgent need, and a total amount over NT\$10 million was donated to benefit more than 3,606 people and 926 disadvantaged children and families.



2021 STSP Monthly Ceremony (2021/11/06)

The STSP's Support to Local Farmers

To promote Taiwan's high quality agricultural produce, the STSPB organized two online press conferences called “Pineapple Sales at the STSP” and “STSP's Support for Mango Farmers”, to show the STSP's support for local farmers. A total of 15,684 pineapples were purchased by caring tenant enterprises.



“Pineapple Sales at the STSP” Press Conference
(2021/03/04)

The 2021 STSP Anniversary and Group Wedding Celebration Attended by 21 Newlywed Couples

To celebrate its 25th anniversary, on January 17, 2021 the STSPB held the “17th STSP Annual Group Wedding Celebration.” There were 21 newlywed couples attending the Celebration to begin their new life milestone.



The Best Blessing for the Newlyweds (2021/01/17)



17th STSP Anniversary and Group Wedding Celebration (2021/01/17)



Colored Pencil Painting Joint Exhibition (2021/03/06-2021/04/17)

Diverse Arts and Cultural Exhibitions at Xingangshe Cultural Museum

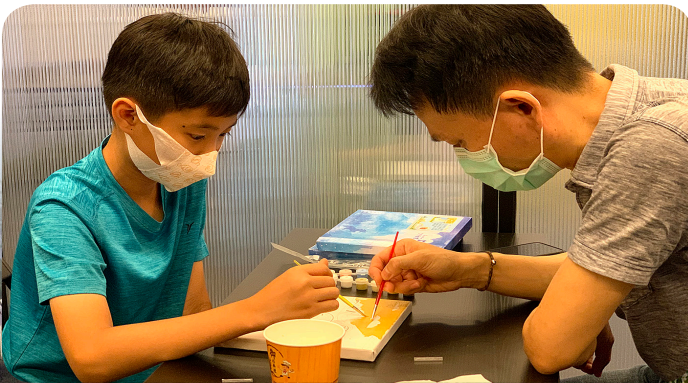
Xingangshe Cultural Museum organized six exhibitions in the STSP in 2021 featuring several masterpieces including the Colored Pencil Painting Joint Exhibition and the Joint Exhibition of You Cheng Arts Association. The events attracted about 500 visitors making the STSP not only a high-tech science park but also a place enriched with arts and culture.

Solving Prehistory Museum Puzzles

On October 16, 2021, the “Solving Museum Puzzles” event was held and entrusted by the National Museum of Prehistory, the Department of Anthropology, and National Taiwan University, who jointly organized the promotional “Sanbaopi Underground Party” on November 13 to enable visitors to learn about archeological culture in the STSP through exhibitions, DIY workshops, and challenging games.



DIY Party: Stone Tools (2021/11/13)



Niaosong Cultural Exhibition (2021/10/16)



DIY Party: Paper Carving (2021/11/13)



Solving Museum Puzzles Event (2021/11/14)

Energy Saving and Sustainability in the Green STSP

STSP's Model for Air Quality Protection

The STSPB consulted tenant enterprises to manage exhaust emissions of diesel vehicles with good performance results, and was awarded the 2021 prize for "Outstanding Performance in Air Quality Maintenance for Tainan City Diesel Vehicle Self-Management" on December 24, 2021.

Flowers of the Four Seasons in the STSP

Flowering trees such as spicy Jatropha, orchid trees, yellow trumpet trees, rosy trumpet trees, China Trees, and cotton trees have all been planted in the STSP, making it the best all-season destination for blossoms.



Colorful Seasonal Flower Blossoms in the STSP



Green Transportation - Healthy Biking in the STSP

TSP promotes low-carbon transportation modes by encouraging biking on the established 71.8 kilometer-long bike lane that connects not only the whole science park but also Tainan City's Shanhaichun Bike Lane. Bikers are invited to enjoy their ride under the shade of trees as well as flower viewing in different seasons such as yellow trumpet trees and golden shower trees in April, flame trees in May, and Taiwan Golden-rain trees in October. In the high-quality green environment provided by the STSP, "healthy biking" habits are encouraged and developed.

STSP's New Success with the Green Diamond Building: A Model Ecological Science Park

After being rated as a Diamond Class Eco Community in 2013 and earned a certification of EEWH-Eco Community in 2016, the TSP continuously promoted ecological balance and sustainable environment and repeatedly earned its green diamond building label in 2021.

Beginning of Labor Safety and Environmental Protection Month to Develop STSP into a Safe and Healthy Sustainable Science Park

On November 2, 2021, Vocational Safety, Health for Disaster Prevention and X-Reality Simulation Training workshops took place in the KSP. The opening ceremony “2021 Labor Safety and Environmental Protection Month” and the establishment of “Joint Prevention Organization in the KSP” were celebrated. In addition to AR and VR product demonstrations in applications of vocational safety and health, the “Founding Flag Ceremony for the Joint Prevention Organization of Emergency Response in the KSP” was organized to enhance the capabilities of KSP partners to support each other in responding to emergency events, such as vocational incidents and natural disasters.



Continuous Ranking of TSP's Eco Community as a Green Diamond Building by the MOI (2021/05/11)

When Art Meets Technology- Perfect Presentation on Smart Green Energy

The STSPB organized the “Shalun Green Energy Art Festival” which ran between December, 2021 and January, 2022 with the aim to innovatively incorporate technology into art under the theme of “Visible Floating Energy”, with the goal of transforming invisible forms of energy in our daily life into visible, concrete artworks.



Phil Price's Artwork: “Ode to Life: Showing the Trace of Wind in Life”



Vanessa Barragão's Artwork: “Coral Reef: Presenting Renewable Energy for Eco-Sustainability”



Wang Chun-kun's Artwork: “Flashing: Indicating Floating Electricity”



Wang Chun-kun's Artwork: “Listen to the Wind for the Breathing Sound of Buildings”

NNKIEH, an Educational Pioneer

Active Teachers' Professional Learning Groups for Implementation of the 108 Curriculum

Diverse social groups are working in the NNKIEH, and after the 108 Curriculum was implemented all teachers have been preparing by forming groups according to disciplines, tasks, learning purposes, and specific courses such as FRC and OPM.



Teachers' Club of Literacy Development

Cultivating Bilingual Abilities to Enhance International Competitiveness

The Elementary Department started in the School Year of 2000 by inviting foreign teachers to teach a class every week to create practical English learning environment with bilingual courses. Since the School Year of 2021, the bilingual educational program was extensively attended by junior high and senior high school students. Foreign teachers have been teaching courses such as scouting fundamentals, physical education, and home economics to construct a diverse English learning environment.



CLIL Courses- Home Economics



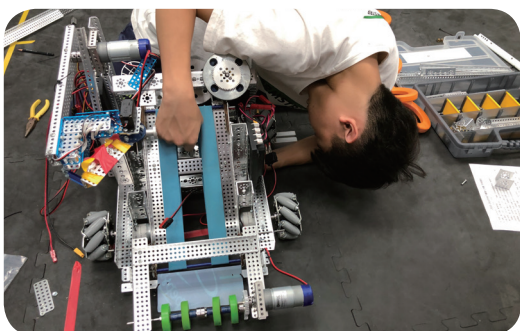
CLIL Courses- Scouting Fundamentals

Advanced Robotics Technology Development in the STSP

Since 2015, the STSPB began its counselling services for senior high school teams interested in the FIRST ROBOTICS Competition (FRC). With the joint efforts of NNKIEH teachers and students, the NNKIEH Robotics Team 6998 was taught using a higher level of programming and structural application courses than the regular ones.



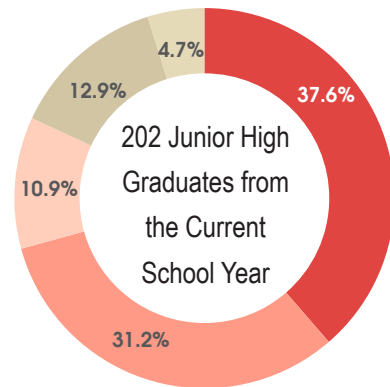
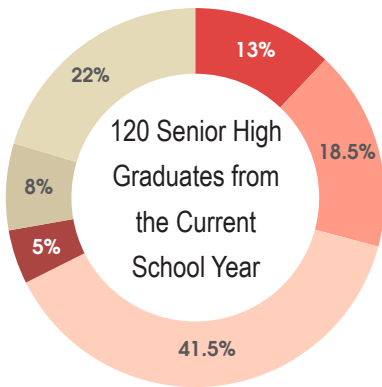
Summer FRC Training Camp for more Comprehensive Learning



FTC Team's Continuous Effort to Build Perfect Robots

In 2021, the Junior High Department of NNKIEH set up its First Tech Challenge (FTC) team and participated in the FTC 2020-2021 Challenge to win the "Foxconn Special Award!" Additionally, the Elementary Department set up a robotics club for students to get to know mechanic operations, learn coding, and to train in logistics for building robots that are operated both manually and automatically.

Successful Admission of NNKIEH Graduates



- Admission of NNKIEH Graduates to the Top Five Taiwanese Universities
- Admission of NNKIEH Graduates to Prominent National Universities
- Admission of NNKIEH Graduates to Other National Universities (including Police and Military Academies)
- Admission of NNKIEH Graduates to Foreign Universities
- Admission of NNKIEH Graduates to Study Medicine Related Majors
- Admission of NNKIEH Graduates to Other National Universities (including Police and Military Academies)
- Admission of NNKIEH Graduates to the Senior High Department of NNKIEH, Tainan First Senior High School, and Tainan Girls' Senior High School
- Admission of NNKIEH Graduates to Other Senior High Schools
- Admission of NNKIEH Graduates to National Vocational High Schools
- Admission of NNKIEH Graduates to Private Senior and Vocational High Schools
- Admission of NNKIEH Graduates to Junior Colleges and 7-Year Technology Universities



Outstanding Award for a Woodwind Quintet Won by the NNKIEH Senior High Symphonic Band in 2021 Tainan City Students' Music Contest



NNKIEH's Championship Win in the National High School Contest



NNKIEH Wins of Outstanding Award and Best Popularity Award at the Macronix Science Awards



The Junior High FTC Team #19207's Wins the "Special Foxconn Award" for First-time Participation in the Contest



NNKIEH Wins Merit Award at the Tainan City Power Technology Excellence Awards for National Youths



NNKIEH Junior High Choir Wins "Outstanding Award for Folksongs-Minnan Language Group" in the 2021 Tainan City Students' Music Contest



NNKIEH Elementary Men's Tennis Team Championship in the "2021 Tainan City High and Elementary School Tennis Tournament"



Honor of "Taiwan's 100 Most Influential Lesson Plans" in a Co-Preparatory Art Teaching Course and Life Science Center, Won by Miss Huang Huai-hsun

Future Prospects

Development of Regional Industrial Clusters in the Sustainable STSP

Innovative STSP Momentum for Building Stronger Industrial Clusters

To keep up with the innovative development of industries promoted by the Executive Yuan, the world trends in smart digitalization, and MOST's 2023 Vision of being "innovative", "tolerant", and "sustainable," the STSPB supports industrial innovation through technology, enhances the R&D of key industrial technologies, and leads industrial transformation. The STSPB also works to fill the gaps in the supply chain of the semiconductor, the medical device, and the aviation industries, invites more investment, and continuously strengthens the competitiveness of the STSP's industrial clusters.

High Quality Services to Ensure Sustainability

The STSPB obtained sufficient land for either the expansion of its existing parks or the building of new science parks in Southern Taiwan. Additionally, it expanded its sources of tap water and introduced the use of reclaimed water, as well as gradually achieve its short-term and long-term power supply strategy. In doing so, it attracted the presence of high-tech industry and created economic value and job opportunities to achieve sustainability in the STSP.

Creation of Environmentally Friendly Science Parks

Environmental policies including water and energy conservation, green energy, and plantation have been continuously promoted to reduce impacts of production and development on ecology; public arts are promoted to deepen understanding of local culture and educate the public. With the provision of a quality industrial environment consisting of cultural elements, the STSP becomes more in touch with its local residents.



The 2021 STSP Chronicle



Jan

- 01.10 Premier Su Tseng-chang's Inspection of the "Pingtung THSR Designated Area and Promotional Planning to Link up Pingtung with Technology"
- 01.17 Organization of the 2021 STSP Anniversary and Group Wedding Celebration
- 01.22 Inauguration of New STSPB Director General, Dr. Su Chen-kang



Feb

- 02.20 Opening of "Kaohsiung City Private Little Bear Baby Care Center" in the KSP
- 02.25 Organization of the "STSP MakerSpace Field Demonstration and Exchange Seminar"



Mar

- 03.04 Organization of "STSP's Support to Local Pineapple Farmers" Promotional Press Conference
- Organization of the "2021 HR and Managers Exchange Seminar"
- 03.08 Organization of the "Business Opportunity Seminar for the STSP Aviation Industry" to Create an Industrial Cluster Effect and Match Tenant Enterprises and Investors
- 03.16 Organization of the "2021 Increasing Investment in Great Kaohsiung" Industrial Forum
- 03.27 Joint Organization of "Live and Work in Tainan" Job Expo with the Tainan City Government



Apr

- 04.07 Organization of "Ciaotou Science Park, Kaohsiung's Pioneer" Investment Invitation Seminar
- Organization of the 2021 STSP Sports Series-STSP Night Run
- 04.27 Organization of "MOST's Southern Taiwan Tech Tour with International Partners"
- 04.29 STSP Inspection Tour of the "Education and Culture Committee of the Control Yuan"



May

- 05.08 Organization of the 2021 STSP Sports Series-Hiking and Badminton Friendly Match
- 05.13 Organization of the "Introduction to Life Amenities in the KSP" Seminar
- 05.28 Building Southern Taiwan's First "Zero-Contact Screening Station"



Jun

- 06.11 Organization of the 2021 Online On-campus Talent Matching Seminar for the STSP Semiconductor Industry
- 06.18 Award Ceremony for MOST's FITI Contest
- 06.26 Organization of "Love Tainan by Helping Mango Farmers" Online Mango Sales Press Conference



Jul

- 07.22 Completion of the 2021 STSP Road Construction Improvement
- 07.27 Organization of the Taiwan-Japan Startup Exchange Seminar to Facilitate Exchanges between Taiwanese Startup Teams and 21 Japanese Enterprises



Aug

- 08.04 Commencement Ceremony for Phase II New Construction of Taiwan Tohcello
- 08.17 Organization of "Online TAIRA 2021 Online Startup and Enterprise Investment Matching Seminar"
- 08.30 Organization of "Investing in Kaohsiung for Global Positioning" Investment



Sep

- 09.01 Approval of EIA for Ciaotou Science Park
- 09.02 STSP's "Outstanding Award" for Building Construction Management Affairs in 2011
- 09.04 Inspection Tour by the Premier Su Tseng-chang of "Pingtung Science Park"
- STSP's "Outstanding Award" for Building Public Safety Inspection Affairs in 2011
- 09.05 Inspection Tour by the Premier Su Tseng-chang of "Chiayi Science Park"
- 09.25 Joint Organization of "Work in Great Kaohsiung" Large Scale Job Fair with the Labor Affairs Bureau of Kaohsiung City Government



Oct

- 10.01 Joint Organization of the "2021 Greater Pingtung Area Future Smart Agriculture and Medicine Industry Development Exchange Seminar" with Pingtung County Government
- 10.02 Organization of the 2021 STSP Sports Series- STSP Neighborhood Cup Ball Games
- 10.14 The 2021 Innovative Technology Expo and Future Technology Pavilion Opening Ceremony
- 10.27 Organization of the Smart Manufacturing Interdisciplinary Talent Cultivation Alliance Demonstration, and the STSP Enterprise Professional Talent Matching Seminar



Nov

- 11.02 Organization of the "2021 STSP Labor Safety and Environmental Protection Month" to Promote Sustainability
- 11.04 Outstanding Performance of Ten Tenant Enterprises in "Bio Asia-Taiwan 2021"
- 11.06 Organization of the 2021 STSP Love Month to Call for Charity Funds Donated by STSP Tenant Enterprises or Workers
- 11.12 Joint Organization of "Precision Healthcare New Vision to Begin Chiayi's New Future" Forum with Chiayi County Government
- 11.24 Organization of the "STSP MakerSpace 5G AIoT Field Project Evaluation and Presentation Seminar"



Dec

- 12.16 "Ground Breaking Ceremony for Merck KgaA's Kaohsiung Factory"
- 12.17 Organization of "2021 Christmas Event in the STSP", with Christmas Lights Decorations by Tenant Enterprises in Puxin Park
- 12.20 STSP's "Outstanding Award" for the 2021 Annual Performance among Labor Inspection Institutions
- 12.23 STSP's Award of Outstanding Agency in Tainan City's "2021 Diesel Vehicle Emission Self-Management of Air Quality Maintenance" Program
- 12.24 Organization of Ciaotou Science Park's "Site Selection and Investment Initiation Ceremony"
- 12.28 Participation of Six STSP Tenant Enterprises in "SEMICON Taiwan 2021"



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