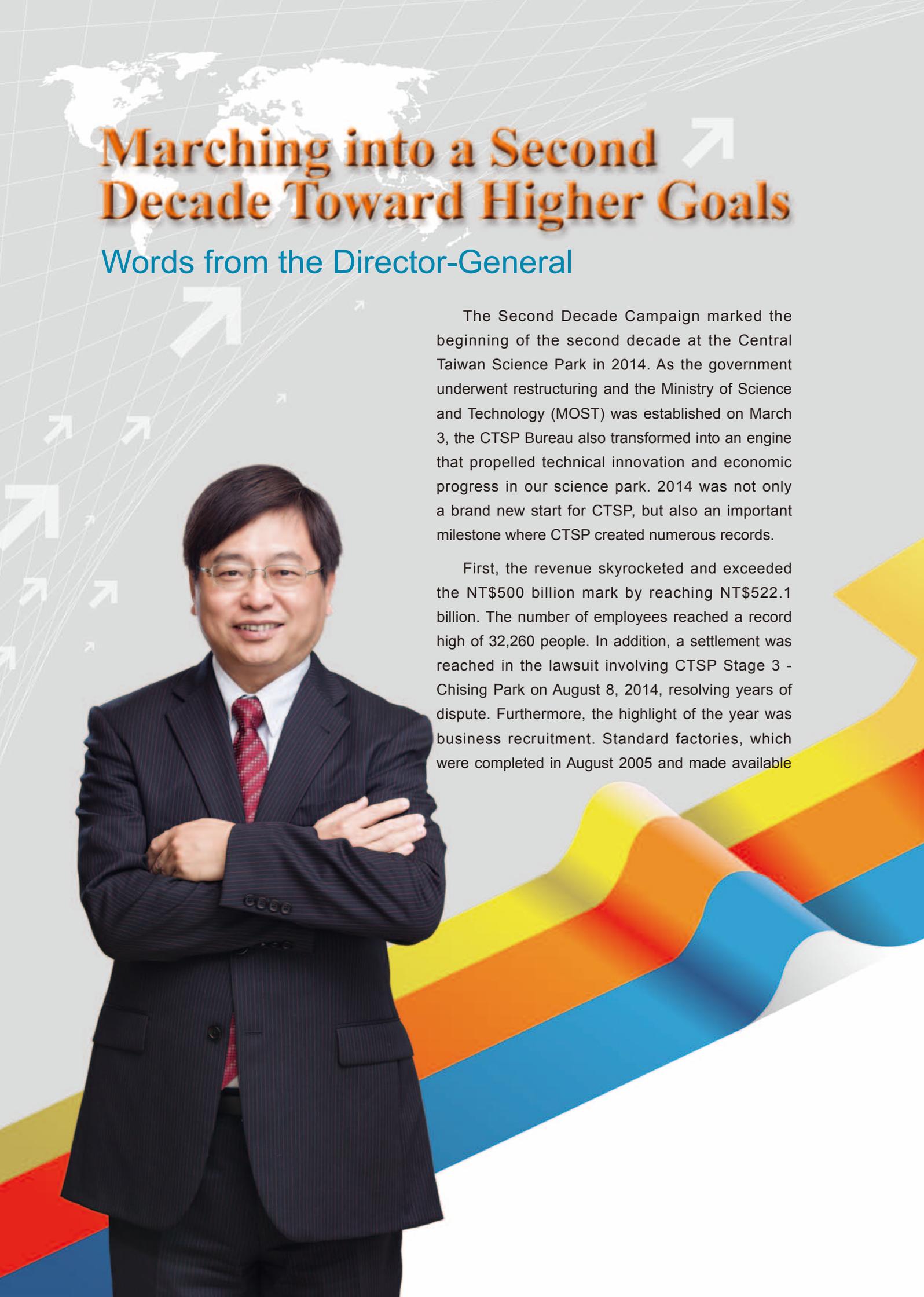




central taiwan science park

2014 Annual Report

Production, Living, Ecology, Life



Marching into a Second Decade Toward Higher Goals

Words from the Director-General

The Second Decade Campaign marked the beginning of the second decade at the Central Taiwan Science Park in 2014. As the government underwent restructuring and the Ministry of Science and Technology (MOST) was established on March 3, the CTSP Bureau also transformed into an engine that propelled technical innovation and economic progress in our science park. 2014 was not only a brand new start for CTSP, but also an important milestone where CTSP created numerous records.

First, the revenue skyrocketed and exceeded the NT\$500 billion mark by reaching NT\$522.1 billion. The number of employees reached a record high of 32,260 people. In addition, a settlement was reached in the lawsuit involving CTSP Stage 3 - Chising Park on August 8, 2014, resolving years of dispute. Furthermore, the highlight of the year was business recruitment. Standard factories, which were completed in August 2005 and made available

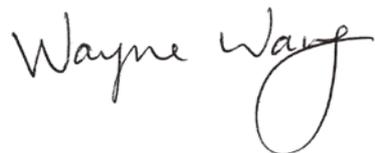




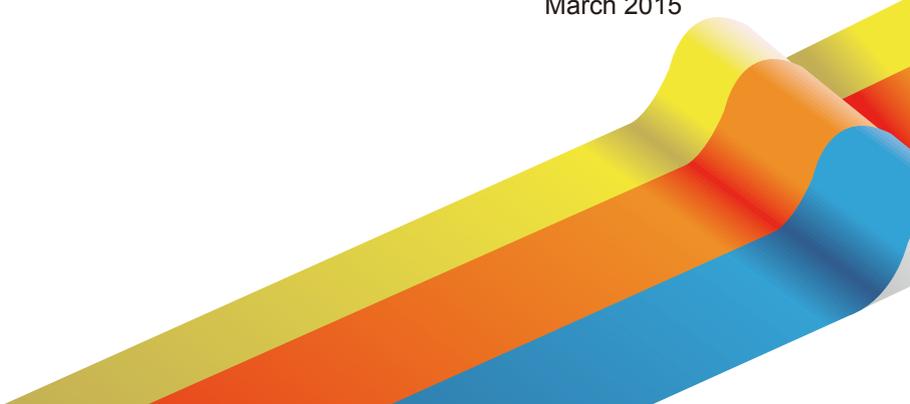
for lease to businesses, reached full occupancy in 2014. The demand far exceeded the supply. Following Taichung Science Park and Houli Science Park, the space for rent in Huwei Science Park was also close to full occupancy. Erlin Science Park, which was under development, received its first manufacturer, I-Ming Sanitary Materials Co., Ltd. Meanwhile, two companies, Taiwan Mother Cosmo Co., Ltd. and Allion Labs, entered the Advanced Research Park. In addition, supported by the Ministry of Economic Affairs, Central Taiwan Innovation and Research Park, where the Industrial Technology Research Institute set up its Central Region Campus, was launched in the Advanced Research Park. 2014 proved to be a fruitful year for CTSP.

Science parks represent one of the driving forces behind industry upgrading and transformation and economic growth in a country. Faced with challenges of a constantly changing high tech industry, the CTSP Bureau is always endeavoring to inject creative momentum into the park. Priorities are given to working with the Ministry of Science and Technology (MOST) to promote the Innovation and Startups Project, strengthening the academia-industry collaboration platform, and training talent in demand to bridge the gap between academia and industry. Efforts are devoted to helping park tenants invest in R&D and innovation, facilitating academia-industry cooperative programs, and encouraging academic research and innovation that offer better industry solutions in order to build CTSP into a cradle of technology entrepreneurship. Furthermore, the CTSP Bureau remains committed to offering friendly and efficient services that respond instantly to investors' needs and problems. The CTSP Bureau aims to reach our "CTSP as Number One" goal by boosting momentum in research and development, improving international cooperation with other countries and science parks, and branding CTSP as the "most innovative and most competitive science park" in the global economy.

Director-General



March 2015





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Commitment to Organizational Restructuring



科技部中央科學工業園區管理局揭牌儀式



2014.03.03 MOST upgrade unveiling ceremony



Report on Transfer to CTSP Bureau, Ministry of Science and Technology

The Central Taiwan Science Park Provisional Office was set up in accordance with “the Tentative Organization Regulations Governing the Provisional Office for Central Taiwan Science Park” on October 16, 2002 to expedite implementation of the subsequent development plan and further enhance comprehensive administrative service efficacy. “The Regulations Governing the Organization of the Central Taiwan Science Park Administration, National Science Council, Executive Yuan” was announced in accordance with the presidential order on January 26, 2007 to equip the Administration with five divisions and four offices—the Investment Services Division, Environmental Safety Division, Business Division, Construction Management Division, Land Development Division, Office of the Secretariat, Personnel Office, Accounting Office, and Civil Service Ethics Office, respectively.



On the other hand, for the development of the Advanced Research Park in Zhongxing New Village, another important policy was approved by the Executive Yuan, based on which we have allocated staff from the Taiwan Provincial Government on January 1, 2011 to help with related tasks required for park development projects and hardware facilities that the Administration succeeded from the Taiwan Provincial Government besides following the government's promotion of maximized organizational efficacy and manpower leaning policy.

In response to the need to improve competitiveness as the country grows, the government has been campaigning for organizational restructuring at the Executive Yuan. Creating the Ministry of Science and Technology is one of the crucial steps toward such reform and represents the country's commitment to the technology industry. The Legislative Yuan passed the organization acts for the Ministry of Science and Technology and the three science parks on January 7, 2014. The acts were promulgated by the President on January 22, and approved to come into force by the Executive Yuan on March 3. The Ministry of Science and Technology (MOST), along with the three Science Park Bureaus, was established on the same day. MOST plays a key role in "technological innovation" in the country and serves to create a good research and development environment, discover high-tech rising stars, and cultivate outstanding talents. MOST is also devoted to achieving breakthroughs by creating new niches in the technology industry and guiding industries in Taiwan to move from being efficiency-oriented to being innovation-oriented.

The CTSP Bureau's organizational structure has changed as a result of the organizational restructuring. The Planning Division is created and its responsibilities, such as planning of park development and campaigning for policies, strategies, and related measures, are transferred from the Business Division. Furthermore, the responsibilities of the divisions have been adjusted accordingly to improve our service quality and park tenant satisfaction. The restructuring and staff reassignment will enable the CTSP Bureau to operate with improved efficiency and facilitate closer communication among the divisions. With new units and a new beginning, the staff at the Bureau will continue the record of excellence and write another extraordinary page in the history of the CTSP Bureau of the Ministry of Science and Technology.

Second Decade of Constant Technological Progress

Park Overview

Central Taiwan Science Park was born on the Dadu Plateau out of the need to construct a high-tech corridor in western Taiwan and connect the existing Hsinchu Science Park and Southern Taiwan Science Park. The Executive Yuan approved the preparation proposal for Central Taiwan Science Park (Yuan-Tai-Ke No. 0910046512) on September 23, 2002, followed by the joint groundbreaking ceremony for CTSP and AU Optronics Corp. on July 28, 2003. This was the beginning of CTSP's progress under the philosophy of "synchronized development and synchronized operations".



It has been more than 11 years since CTSP's groundbreaking ceremony on July 28, 2003. The land under the jurisdiction of the CTSP Bureau currently includes Taichung Science Park of 466 hectares, Huwei Science Park of 97 hectares, and Houli Science Park of 255 hectares, whose construction has all been completed, and Erlin Science Park of 631 hectares and the Advanced Research Park of 259 hectares, whose construction is ongoing, altogether covering roughly 1,708 hectares. The total occupancy is 89.44% for land and 97% for standard factories.

24 new manufacturers were introduced in 2014. The amount of the planned investment was NT\$5.89 billion and the revenue NT\$522.1 billion. As of the end of 2014, the number of employees had exceeded 32,260, 174 manufacturers were introduced, and the total planned investment exceeded NT\$2.069 trillion.



Taichung Science Park: A New Center to Prosper in Central Taiwan

Taichung Science Park is located on the border between Daya District and Situn District of Taichung City, with an area of 466 hectares and a highway system connecting Freeway 1, Freeway 3, and Taichung-Changhua Expressway. It is 9.2 km from the Wurih Station of Taiwan High Speed Rail and adjacent to the Port of Taichung and Taichung Airport, with a convenient air, sea, and land transportation network. The overall core planning strategy for Taichung Science Park features "sustainable development" and "preservation of local landscapes and culture." With its environmental advantages, such as adequate location, favorable climate, and adjacent urban functions, Taichung Science Park has become a green park that attracts high-tech industries and talents for permanent settlement.



Huwei Science Park: Up-and-Coming Technological Center

Huwei Science Park is located in the northwest of Huwei Township of Yunlin County and spans 97 hectares in area. The adjacent area on its eastern side is designated for a Taiwan High Speed Rail station that is slated for completion in July 2015. Combining the operative High Speed Rail station, it will be able to quickly develop into a green park and community that is both healthy and functional in the future. Its industrial strength is expected to be splendid and promising.

Houli Science Park: Technology Town of Tomorrow

Houli Science Park is located in Houli District of Taichung City. It is about 11 km from Taichung Science Park and close to the Fengyuan commercial district. Among the total area of 255 hectares, 148 hectares are meant to be used for industries only. Houli and Chising are the two primary sites. They are located on the south and north sides of the urban planning area in Houli District. They primarily target manufacturers in the optoelectronics, semi-conductor, and precision machinery industries in order to integrate local industrial resources in Houli District and create economic prosperity.



Erlin Science Park: Hub for Precision Machinery Industry

Erlin Science Park is located in Erlin Township of Changhua County, around 6.3 km to the west of the Yuanlin Interchange of Freeway 1. The site encompasses the Wanxing Farm and Dapaisha Farm of Taiwan Sugar and spans 631 hectares in area. The area assigned exclusively to park utilities consists 344.07 hectares. The park primarily targets the precision machinery industry.

Advanced Research Park: Research and Development Engine for Taiwan

The Advanced Research Park is located in the northwest of Nantou County, 4 km from Caotun Township and 6 km from Nantou City. It is part of the urban planning area for Zhongxing New Village (including Nanneilu) in Nantou County. The total area of the Park is 259 hectares. Existing administration talent and hardware from Zhongxing New Village are used by the Park that primarily focuses on the cultural creative industry and high-tech research and development.



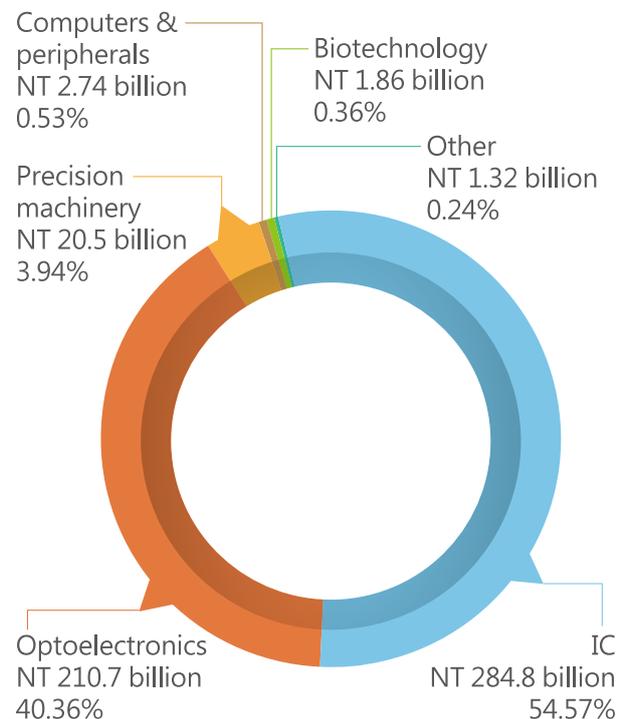
Park News

Having exceeded the NT\$400 billion mark for the first time in 2013, CTSP's revenue continued the momentum and reached another record high in 2014.



The overall revenue of all industries combined in 2014 reached NT\$522.1 billion, an increase of 13.52% compared to 2013, primarily because of the constantly growing demand for mobile devices and better specifications in electronic products creating orders for the supply chains in the wafer outsourcing and chip businesses. In addition, the production lines for 28nm wafers in the park have been completed. The revenue growth was pushed upward by the mid- and high-level production processes operating at full capacity.

The revenues in 2014 were topped by the IC industry at NT\$284.872 billion and 54.57%; followed by, sequentially, the optoelectronics industry at approximately NT\$210.702 billion and 40.36%, the precision machinery industry, at approximately NT\$20.549 billion and 3.94%, and other industries at approximately NT\$5.947 billion and 1.13%.



Revenue by Industry 2014
NT 522.07 billion

Export Trade Statistics

The import and export trade in 2014 totaled NT\$304.268 billion, a year-on-year decrease of 12.37%. The accumulative value in export trade was approximately NT\$213.899 billion, a year-on-year growth of 2.12% and that in import trade was NT\$90.369 billion. Because manufacturers had completed installation of imported equipment, the import value dropped by 34.41% compared to the same period in the previous year. CTSP's export value for the year was greater than its import value with an excess up to NT\$123.53 billion.

The optoelectronics industry had the most splendid performance, with an export value of NT\$164.211 billion, followed by the IC industry at NT\$36.648 billion, and then the precision machinery industry at NT\$10.646 billion. In terms of import, the IC industry topped the list with a value of NT\$45.019 billion, followed by the optoelectronics industry at NT\$40.187 billion.

CTSP's export revenue grew by 2.12% compared to last year. The increase was mainly due to the steady economic recovery in the United States, leading to the rising demand for MIT goods. Orders in the information & communications industry created the momentum in the wafer outsourcing industry and its supply chains, including the supply chains for wafer outsourcing services, DRAM and other electronic components. In addition, the large-area panels and Ultra HD 4K2K resolution monitors at the park, which had existing economic advantages, not only contributed to Taiwan's export momentum, but also drove the growth in export for the park.

2014 Top Six Industries Export Trade Statistics

Unit: NT\$100 million

Industry	Export volume		Import volume		Gross trade volume	
	2014	Growth rate(%)	2014	Growth rate(%)	2014	Growth rate(%)
Industry	366.48	26.38	450.19	-50.94	816.67	-32.37
IC	1,642.11	-3.86	401.87	-3.67	2,043.99	-3.82
Optoelectronics	17.96	55.46	3.95	-15.87	21.91	34.84
Computers & peripherals	106.46	28.37	30.18	69.91	136.65	35.69
Precision machinery	4.88	330.08	0.73	78.75	5.61	263.79
Biotechnology	1.1	31.43	16.76	-16.46	17.86	-14.55
Other	2,138.99	2.12	903.69	-34.41	3,042.68	-12.37
Total						



CTSP has successfully attracted domestic and international high-tech industries to establish their presence. There were a total of 174 manufacturers with valid approval as of the end of 2014, including 43 in the optoelectronics industry, 62 in the precision machinery industry, 32 in the biotech industry, 8 in the integrated circuit industry, 15 in the computers/peripherals industry, 1 in the telecommunications and digital content industry, and 13 utilities companies. Industrial clusters have taken shape and made CTSP extremely competitive. In addition, 14 research institutes and incubation centers have been introduced. The industrial research and development energy is well in place. In addition to the Institute for Information Industry's New Intelligent Technology Research Center, the Advanced Research Park received the Industrial Technology Research Institute's Central Region Campus as well as Taiwan Mother Cosmo and Allion Labs in 2014. All of these are evidence that CTSP's development benefits are significant and greatly conducive to the economic growth in the greater Taichung area and the overall improved employment rate throughout Taiwan.

As of the end of 2014, a total of 43 manufacturers in the optoelectronics industry had been introduced, with the planned investment value to be NT\$912.3 billion, including benchmark enterprises such as AUO, TSMC Solar, Corning Taiwan, Taiwan Nitto Optical, JSR Micro Taiwan, Huga Optotech, Genius Electronic Optical, HPB Optoelectronics, Taiwan Ohara, and Glorytek. As these domestic and international heavyweight optoelectronics manufacturers and upstream material suppliers establish their presence at CTSP, the complete upstream, midstream, and downstream optoelectronics industry supply chain has steadily taken shape.



In addition, precision machinery has always been a key industry for CTSP and also the industry with the most manufacturers introduced so far, 62 manufacturers in total. The investment value is expected to be NT\$51.7 billion. The manufacturers are heavyweights in the production of optoelectronics and integrated circuit machinery and equipment, parts, and machine tools. They can help improve precision of processed products and accordingly the additional value of the final products. In addition, the advantageous location favors supply of production equipment to the optoelectronics and IC industries to greatly reduce production cost and significantly increase competitive advantages, contributing to the formation of the world's topnotch precision machinery cluster.

As for the IC industry, there are currently 8 companies based in CTSP, including TSMC, Winbond, Micron Memory Taiwan, SPIL, Applied Materials, and Taiwan Takaoka Electric MFG, accounting for as much as NT\$1.095 trillion in planned investment. Among these manufacturers, a total of 8 Fab 12 plants from TSMC, Winbond, and Micron Memory Taiwan have already been commissioned for mass production. TSMC will continue to further expand wafer production services offered by its advanced Fab 12 and Fab 18 plants in the future. CTSP is well-positioned to become the world's next leading IC hub.

In terms of the biotech industry, there are a total of 32 companies, including Chain Year Biotech, Adimmune Corporation, Microware Precision, GeneReach, Singen Animal Health Industry, isRed Pharma & Biotech Research, Orient Europharma, and Yusheng Biotechnology, that plan to invest up to NT\$7.7 billion in products, such as vaccines, pharmaceuticals, medical devices, and diagnostics reagents. They will help consolidate biotech manufacturers in central Taiwan and drive the formation of a biotech industrial cluster.

In addition, to substantially support the operation, management and technological requirements of the scientific industries, there are currently 13 utilities companies, including Road Ahead Technologies, based at CTSP. For gas supplies, there are Air Liquide Far Eastern, UIGC, Air Products San Fu, and Lien Hwa Commonwealth, 4 companies in total. As far as warehousing and logistics are concerned, there is Central Taiwan Science Park Logistics Co., Ltd. Canon Semiconductor also established its presence in CTSP to provide IC and flat panel display manufacturers with manufacturing equipment maintenance and service. Sino Greenergy and Sungen Power also have a presence in CTSP and engage in solar power generation.

In terms of the computers and peripherals industry, there are currently 15 manufacturers, including Fomex Technology, Fulltech Fiber Glass, Bolymin, WFE Technology Corp., Orange Electronic, and Bigbest Solutions. For the telecommunications and digital content industries, there are INPAQ and Info-Link Services.

Taking the Lead in Diversification

Interdisciplinary Collaboration Toward Higher Goals

To accomplish the goals of internationalization and enhanced our global influence, the CTSP Bureau has been proactively promoting collaboration between domestic and foreign manufacturers, conducting visits and technological exchanges, recruiting international businesses, and participating in activities at world-class science park organizations and associations. The hope is to create a platform for international collaboration and to expedite the upgrade of industries in CTSP.

As of the end of December 2014, memorandums of understanding had been signed with a total of 12 science parks in the United Kingdom, Spain, Russia, Japan, Korea, Vietnam, and China and the Asian Science Park Association. Between June 22 and June 27, 2014, a CTSP Bureau delegation visited its sister park in China, the Dezhou Economic and Technological Development Zone of Shandong, and was one of the keynote speakers at the Cross Strait Modern Industrial Collaboration between Sister Parks Forum. The Bureau delegation also visited local potential clients with the aim to establish a model partnership between science parks on two sides of the strait. In addition, the delegation encouraged Taiwanese businesses to return and invest in Taiwan. Between November 24 and November 28, 2014, another CTSP Bureau delegation visited Kyoto Research Park and potential Japanese clients with the hope of building a platform to facilitate future exchange and attract quality businesses to invest in Taiwan.

Global Exchange of Industry News

The CTSP Bureau proactively participates in international conferences and expedites the upgrade of industries through international exchanges and finding sister parks in other countries. A CTSP Bureau delegation attended the 9th Asian Science Park Association Leaders Meeting in Ulaanbaatar between June 19 and June 21, 2014 and the annual conferences of the Asian Science Park Association and the International Association of Science Parks in Iran and Qatar between October 15 and October 22, 2014. Speaking and hosting at international meetings and taking interviews with local media to share experience in park development would enhance CTSP's international influence and visibility.

Investment Recruitment Business Ready for Takeoff

The CTSP Bureau is devoted to domestic and international business recruitment efforts. The Bureau is active in searching for potential high-tech manufacturers and helping them

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1. 2014.06.23 Visit to sister park-Dezhou Economic and Technological Development Zone of Shandong
2. 2014.11.28 Visit to Japan for international collaboration and business recruitment
3. 2014.10.15-18 Asian Science Park Association (ASP)A



understand the overall investment environment at CTSP so that they feel confident in making investments and establishing a presence. Internationally, to bring high-tech manufacturers to invest in and move to the Park, we visited Japan, the United States, and Europe for business recruitment in July and September, 2014. The Bureau continues to pay close attention to other potential foreign investors. Domestically, it held a total of two business recruitment workshops in 2014 to brief the audience on entrance application procedures and park planning, among other advantageous factors for the park. The first one was the CTSP Huwei Science Park Business Recruitment Workshop jointly organized by the CTSP Bureau and the Yunlin County Government on May 26, attended by more than 130 representatives. Among them, Maxcable received approval to establish its presence at CTSP in December. The second one was the 2014 Central Taiwan Science Park Business Recruitment Workshop at the Taiwan International Machine Tool Show (TMTS) on November 6, attended by 80 representatives from 30 potential foreign and domestic investors from the United States, the United Kingdom, Germany, Japan, and Taiwan. At the end of the workshop, participants made inquiries about the entrance application. The results were fruitful.

To market the long-term development results and create a dynamic image for CTSP, in 2014 we took advantage of diverse channels, including press conferences, press releases, and community activities to present comprehensive information, including park developments, business recruitment news, long-term development results, and an overview of currently operative manufacturers. The overall image promotion effort included six press conferences and five forums with village heads to deliver business recruitment and development results.

In addition, the "Eleven Wonderful Years" series of celebrations began on July 24. CTSP-based manufacturers and residents in nearby neighborhoods were invited to share our happiness so that the latter could feel the positive differences made by the developments at CTSP to their socioeconomic and living environments. Moreover, to promote industrial developments at CTSP, we proactively took part in major exhibitions in Taiwan, including the OPTO Taiwan, BioTaiwan, and TMTS. We took the opportunity to showcase the impressive business performance of CTSP-based manufacturers and establish and strengthen the park's quality image.

In terms of multimedia promotional materials, the "2014 Annual Report of Central Taiwan Science Park" has been published in Chinese and English for the physical copy, and Chinese, English, Japanese, Korean, and French for the online version. This will help high-tech manufacturers in different countries understand the current status of CTSP and it serves as an advantageous marketing tool to guide manufacturers through establishing their presence and making investments in CTSP. The journal "CTSP - Central Taiwan Science Park Newsletter" was first published on August 5, 2004. It has had 123 issues as of December 2014. Each issue of the journal contains complete coverage of the latest news about CTSP, to give the outside world a comprehensive understanding of CTSP's developments. Its electronic version is also posted concurrently on the official website of the CTSP Bureau.



1. 2014.07.24 Eleven Wonderful Years series of celebrations
2. 2014.06.17 Vice President Den-Yih Wu visiting the CTSP Bureau's booth at Taipei International Optoelectronics Week
3. 2014.07.30 Visit to Tokyo, Japan for business recruitment
4. 2014.09.13 Visit to the United States for business recruitment
5. 2014.09.22 Visit to Europe for business recruitment

Professional Advancement from Solid Foundation

Priority for Easy Access to Education

The National Experimental High School at Central Taiwan Science Park was given priority to be established to attract international technology talents and enterprises to CTSP and to address the schooling issue for the children of those who work at CTSP. In response to the 12-year compulsory education program that started in 2014, the school held the first independent exam-free recruitment program for children of our park employees. A total of 30 spaces were available, and the number will increase gradually every year. Holding independent recruitment makes sure that priorities are given to children of park employees and this policy will facilitate stable, quality progress at the school as well.



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1. 2014.12.13 NEHS at CTSP winning
Macronix Science Award 2014
2. 2014.03.26 Visit to Kanagawa Science
High School in Japan

3. NCHU R&D Center and Business Incubator
4. 2014.03.31 Meeting of supervisors and directors and general meeting
2014 at Academia-Industry Consortium for Central Taiwan Science Park

The cafeteria and music room at the National Experimental High School at Central Taiwan Science Park were completed and opened in May 2014. In response to development at the park, its junior high school program is scheduled to open for admission in 2016. The bidding process for the main building for the junior high school program started in 2014. The architect selection process was completed in March, and the license obtained in October. The first tender for the building was awarded at the end of December 2014. This building is expected to be completed in July 2016 in time for the recruitment of the first junior high school class in August 2016.

Staff and students of the National Experimental High School at Central Taiwan Science Park participated in various inter-school competitions with excellent results in 2014. Important awards included MOE 54th High School and Elementary School Science Fair - Most Creative in Senior High School (Life Science), 2014 Taiwan International Science Fair - First Prize in Computer Science, International Youth Invention Exhibition (IYIE) - Gold Medal, 39th International Mathematical Olympiad - Bronze and Excellence, Intelligent Ironman Creativity Contest - Qualified in Senior High School, 13th Geography Olympiad - Finalist and Third Place, 54th Regional Science Fair for National and Municipal High Schools - 4 prizes including First Prize and Excellence, Earth Science Competition - 7 prizes including National Finalist and Third Place and Regional Awards, Taiwan High School and Collegiate Essay Contest - 19 prizes including Outstanding and First Prizes, and National High School and Collegiate Smart Living Creative Design Contest - Third Place.

In addition, in compliance with the vision of the National Experimental High School at Central Taiwan Science Park of an experimental junior high school that is capable, energetic, and international, summer camps for second foreign languages continued for the fourth year among senior high schools in Central Taiwan. The School became a role model in promoting second foreign language programs in Central Taiwan. The school was engaged in international exchange with three Japanese schools in Japan in December. The school encouraged intercultural exchange through experience lessons in a program format in order to elevate the National Experimental High School at Central Taiwan Science Park to an outstanding international high school.

Academia-Industry Partnerships for Resource Integration

Academia-Industry Consortium for Central Taiwan Science Park

The Academia-Industry Consortium for Central Taiwan Science Park is one of the most important platforms that help promote collaboration between academic and industrial circles in central Taiwan. Since the Consortium was established in September 2008, it has been holding forums, academic workshops, and large academia-industry job fairs on an annual basis to promote collaboration between academia and industries so as to integrate and strengthen the competitive advantages of the high-tech industries in central Taiwan.

Apart from hosting the third meeting of supervisors and directors for the fourth session and the third general meeting for the second session, the High Performance Virtual Cluster Computing Competition and Cloud Forum by Tunghai University was held on June 5, and the 2014 Semiconductor Production Design and Advanced Equipment Competition by National Chung Hsing University on October 30. The goal is to effectively facilitate industry-academia collaboration in Central Taiwan through the Association.



CTSP Training Program for Professionals and Technicians

In order to enhance the professional knowledge and skills of the workers at CTSP, the Bureau organizes various training and related applied management programs (optoelectronics, solar energy, semi-conductor, precision machinery, technology operations and management, and biomedicine) for professionals and technicians on an annual basis. The programs will provide park employees with diversified learning access, help the manufacturers enhance the quality of their personnel, and cultivate outstanding professional technicians to accordingly enhance the core and key competencies in personnel development at the Park.

In 2014, the CTSP Bureau organized the 2014 Training Program for Professionals and Technicians at Central Taiwan Science Park and the Advanced Research Park. The program consisted of 19 courses in five categories to train a headcount of up to 635 participants. Employees of manufacturers based at CTSP and potential job seekers in Central Taiwan were eager to take part in the seminars.

Knowledge to Boost Productivity

Science and Industrial Park Professionals Training Subsidy Program

This plan encourages individual colleges and universities near the park and industries in Taiwan to jointly hold industry-academia modular courses and business internship programs. The hope is to keep track of the practical demand for technical talents in high tech industries through industry-academia collaboration and the training courses organized by enterprises. Meanwhile, participants can accumulate their practical experiences by taking advantage of practical training programs offered by business owners. Graduates will be equipped with professional skills while the timeframe needed for training new hires is shortened. It also effectively fills the manpower gap and realizes the quality talent consolidation program. A total of 11 modular courses were approved and subsidized for 9 schools in 2014. The courses trained an estimated total of 964 participants.

High-Tech Equipment and Advanced Technology Development Project

For the 2014 High-Tech Equipment and Advanced Technology Development Project, 11 projects were approved. A total of 7 manufacturers, 11 academic institutions, and one affiliated vendor jointly undertook prospective technological research and development projects. The total value of subsidies approved came to NT\$73 million. The manufacturers, on the other hand, invested NT\$150 million in the projects. This will effectively inspire manufacturers to devote themselves to research and development. It is expected that it will give rise to a production value of NT\$5.864 billion, 56 domestic and overseas patent applications (32 domestic and 24 overseas), 33 papers to be released domestically and internationally (5 SCI/SSCI), and 25 domestic and overseas research reports. The plan will contribute to consolidating the nation's foundation and the capabilities of talented people by nurturing 814 professional R&D professionals, 83 doctorates and masters, and 6 interns, while at the same time creating 192 job opportunities directly.

R&D Advancement Program and Innovation Awards

To inspire and assist manufacturers at CTSP in innovating technologies and enhance national economic development and industrial competitive advantages, the CTSP Bureau approved



2014.03.23 Award ceremony and results presentation for second shift of MOST Innovation and Startups Project

2014.03.16 Opening ceremony for first shift of the Innovation and Startups Project



subsidies for 10 R&D projects in 2014 worth NT\$24.75 million in total. The manufacturers were encouraged to invest approximately NT\$56.31 million in research and development. This program is expected to accomplish the goal of effectively encouraging integration of resources required for industry-academia collaboration and create a win-win situation in terms of both employment and the additional industrial clustering effect. In addition, to encourage manufacturers to proactively devote themselves to innovation, research, and development of new products, the Bureau started to offer innovation awards. AU Optronics Corp. and Shuz Tung Machinery Industrial won the awards in 2014.

Innovation and Startups Project

In 2013, in order to consolidate innovative economy and promote transformation of science parks, the Ministry of Science and Technology (formerly National Science Council, Executive Yuan) began to promote the Innovation and Startups Project, which aims to bridge the gap between innovation and entrepreneurship. The Plan is championed by the National Applied Research Laboratories. Individual administrations collaborate by providing internal and external resources, preparing respective entrepreneurship venues, and providing assistance and training, among other services. There are the entrepreneurship office, dormitory for those without families, successful business runners at CTSP as teachers, and academic and research institutes to provide instruments and equipment as well as related testing and certification services, agent services, etc.

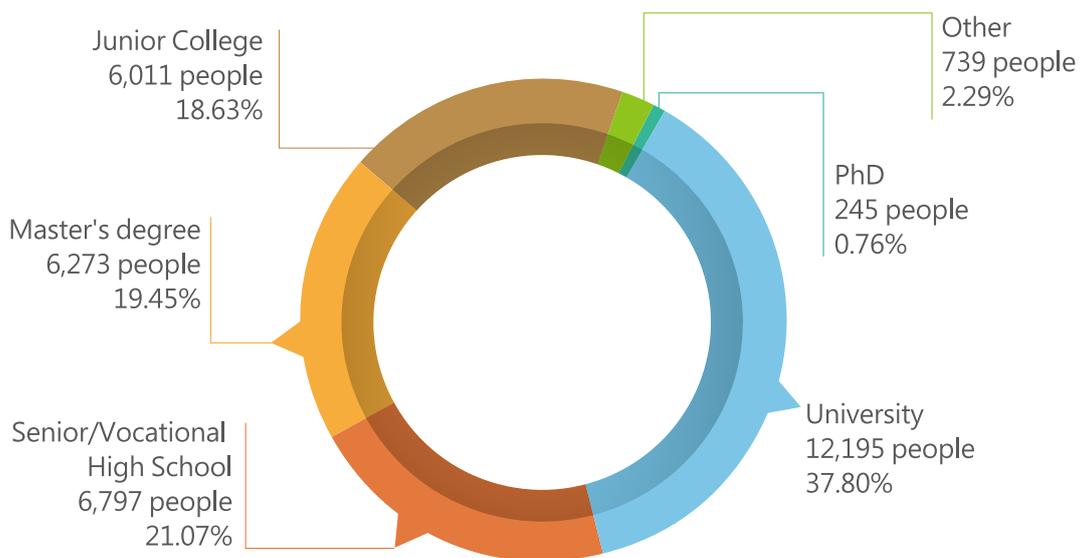
Two shifts of competitions are organized each year under the project. For each shift, 40 groups and teams will be selected to join one of the three science parks. After the screening process that consists of three stages, four to six out of the 40 groups and teams will be further chosen to receive the Outstanding Entrepreneurship Award along with NTD 2 million as the entrepreneurship fund. A total of eight teams selected chose to join CTSP after the first shift in 2014. The GRISM team and the YunTech team entered the Top 10 and won the Entrepreneur Showing Most Potential Award. Afterwards, the GRISM team founded GRISM Tech, and the YunTech team founded YunTech. The Taiwan's Intangible Asset Team founded Yingewai. A total of four teams were selected to be based at the CTSP after the second shift. The Mukicloud team founded Mukicloud.



2014.02.22 "Golden Horses Gallop for Salary Wishes to Come True" CTSP Career Expo 2014

Active Recruitment with Pooled Resources

The number of employees working at CTSP is constantly growing, and reached 32,260 in December 2014, an increase of 1,018 people (3.26%) from 2013. In terms of the ratios in individual industries, the optoelectronics industry tops the list with 53.98%, followed by the semiconductor industry, which accounts for 24.31% of the Park's companies. As far as education is concerned, 76.64% of employees have a college degree or higher. The ratio of men to women is 64.77% to 35.23%.

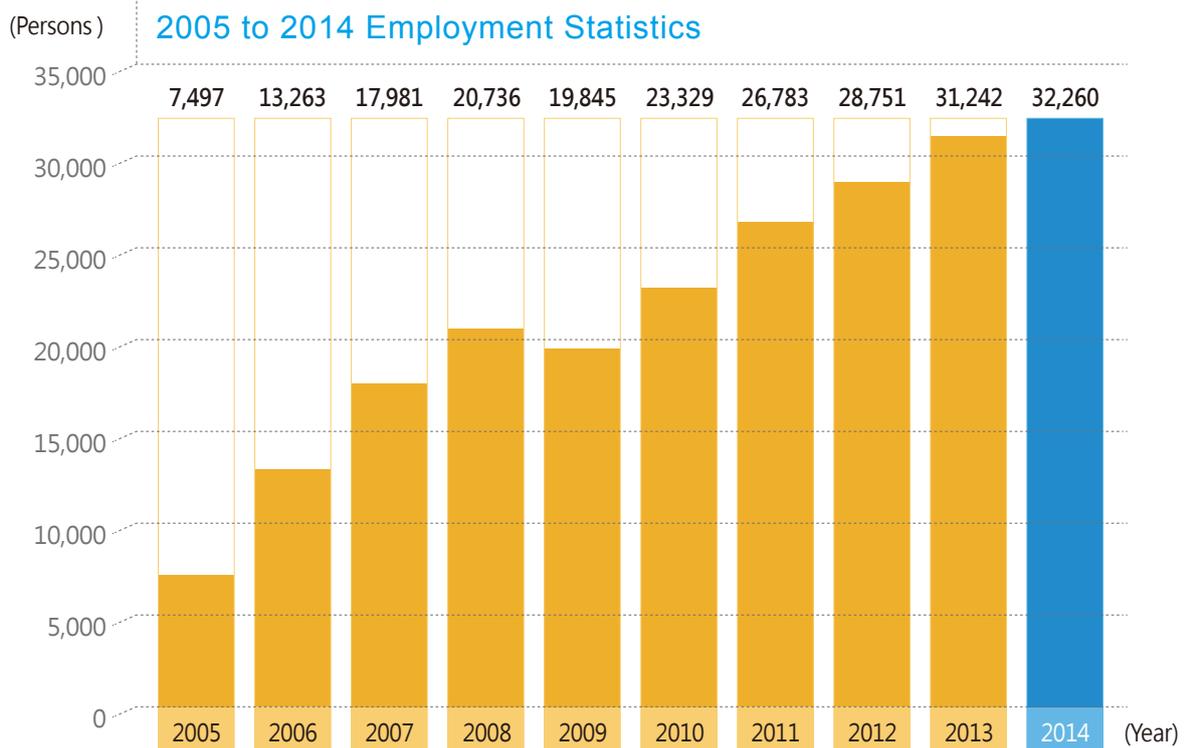


Statistics of Employee Education for 2014 – A Total of **32,260** People



2014.02.22 Career Expo

To help businesses at CTSP recruit outstanding talent and facilitate employment of local people around CTSP, the CTSP Bureau joined efforts with the central and local governments to provide complete and tailored employment matchmaking services. We held the Joint Job Fair for CTSP on February 22 with the MOL Workforce Development Agency Taichung-Changhua-Nantou Regional Branch. A total of 28 manufacturers provided more than 1,500 openings. We also assisted in organizing the Job Fair sponsored by the Taichung City Government and the Taichung Branch of the Export Processing Zone Administration, MOEA. The Job Fair attracted 3,000 attendees and consisted of five rounds. CTSP-based manufacturers were invited to set up stands at the Fair and hunt for talent. In addition, we assisted manufacturers in organizing 92 rounds of their exclusive recruitment events in order to satisfy individual manufacturers' demand. Meanwhile, a recruiting event was held in Houli Science Park on May 8 and the Houli Science Park Survey of Registered Houli Residents' Recruitment Event Attendance on July 25 to boost local residents' employment skills and increase their employability.



Infrastructure Built to Perfection

Business Services with Easy Access

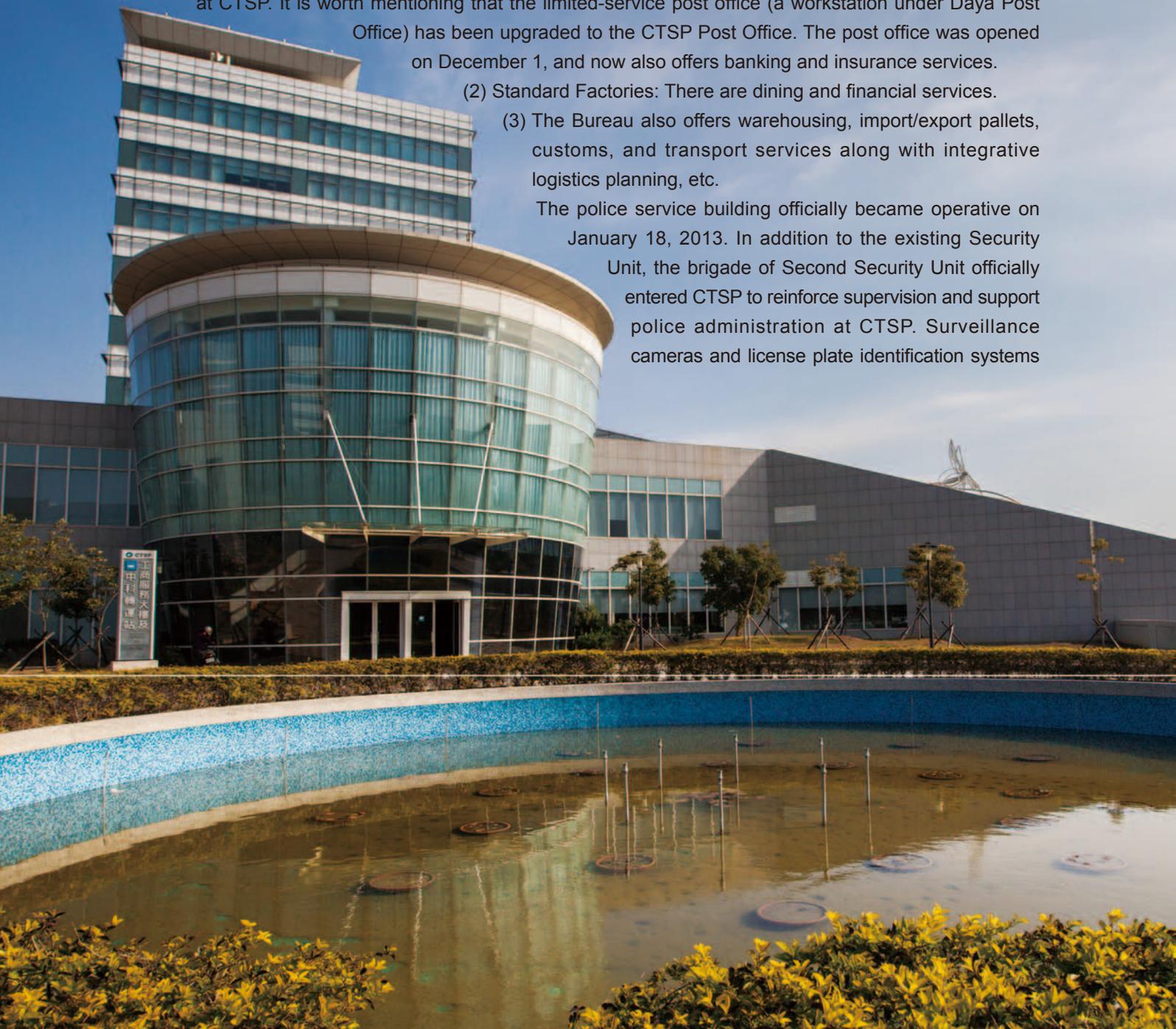
In order to provide manufacturers and employees at CTSP with various business services, the Bureau has introduced related service providers as follows:

(1) Industrial and Commercial Services Building: As of the end of December 2014, a total of 29 manufacturers had established their presence at the Industrial and Commercial Services Building, generating an occupancy exceeding 90%. In addition to financial, healthcare, employment, post office, transportation, printing, shopping, dining, and travel services, the Allied Association for Science Park Industries, Industrial Technology Research Institute Commercialization and Industry Service Center for Central Taiwan, Taiwan Laser Application Development Association, and Taiwan Optics/Optronics Manufacturers' Association are based to serve manufacturers with a presence at CTSP. It is worth mentioning that the limited-service post office (a workstation under Daya Post Office) has been upgraded to the CTSP Post Office. The post office was opened on December 1, and now also offers banking and insurance services.

(2) Standard Factories: There are dining and financial services.

(3) The Bureau also offers warehousing, import/export pallets, customs, and transport services along with integrative logistics planning, etc.

The police service building officially became operative on January 18, 2013. In addition to the existing Security Unit, the brigade of Second Security Unit officially entered CTSP to reinforce supervision and support police administration at CTSP. Surveillance cameras and license plate identification systems





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2	
3	

1. 2014.12.01 CTSP Post Office unveiling ceremony
2. 2014.03.10 First manufacturer visit and forum of the year
3. Police service building



at Taichung Science Park, Huwei Science Park, and Houli Science Park continued to be reinforced this year to improve the overall security and protection performance. Besides, we continued to help CTSP-based manufacturers establish defense groups and take part in the joint security network at CTSP. By doing this, we intend to consolidate existing security patrol grids available at individual companies within CTSP, develop a comprehensive security network, create a complete reporting mechanism, and improve overall efficacy of the Park's security operations.

One-Stop Rapid Business Registration for Enhanced Regulatory Quality

In order to consolidate our one-stop over-the-counter service and enhance administrative efficiency for applications submitted by manufacturers, the CTSP Bureau proactively engaged itself in obtaining authorization in handling multiple services that help expedite business registrations. Business services provided include: company and manufacturing facility registration, tax deduction, personal property endorsement, and employment permit for foreign professionals, online completion and submission of annual statements, and regulatory counseling.

Emphasizing Service Quality for Enhanced Satisfaction with CTSP-based Manufacturers

Starting in 2004, the Ministry of Science and Technology (formerly the National Science Council) formulated the Science Park Manufacturer Satisfaction Survey as one of the key performance indicators for the medium term policies. The survey is conducted annually by a professional survey company. The survey serves to have fair, objective, and consistent rating indicators with regard to the service quality of individual park bureaus and urge the bureaus to pay attention to satisfaction among people they serve for the ultimate goal of improving service quality.

The census format of the survey changed in 2014. Sampling is conducted by batch biennially on manufacturers with odd numbered manufacturer code on even numbered years (e.g. 2014) or manufacturers with even numbered manufacturer code on odd numbered years (e.g. 2015). The survey is conducted primarily by mail and electronic questionnaire, supplemented by random telephone survey and fax. As a result, the census was conducted only on manufacturers with odd numbered code in 2014. The survey was divided into a questionnaire for managers and a questionnaire for operators. The satisfaction score was the average of the two questionnaires.

The results of the 2014 survey showed that satisfaction was highest in "loyalty and trust", followed by "overall satisfaction", "park service quality", "park resources", "park image", and "complaint handling".

Manufacturer feedback has always been one of the key issues for the CTSP Bureau. The Bureau tracks suggestions made in surveys and feedback from manufacturers and follows up to ensure improvements are made promptly by responsible units. In addition, a manufacturer care team is assembled every year to organize visits to manufacturers and engage manufacturers in face-to-face discussions by onsite visits or forums. The objective is to understand the problems faced by the manufacturers and the needs in order to propose solutions and improve service quality and manufacturer satisfaction.

Information Infrastructure

To boost government administrative efficiency and convenient public services and to satisfy innovation requirements of people and enterprises here, the CTSP Bureau has not only expanded various equipment—such as related hardware servers and enhanced system backup mechanisms—but also utilized modern information technology to realize real-time online interactive operations. Meanwhile, we continue to promote e-administration and operations for the ultimate goal of making CTSP a quality science park with rich information flows and sustainable management in the high-tech industry.

In order to boost the efficacy in promoting CTSP to the outside world to facilitate expanded operations and provide more convenient services, the CTSP Bureau takes extra care to introduce various public facilities at CTSP such as a transportation map on the official CTSP website, interactive 3D office building guided tour, bike trails, and free park-wide shuttle bus. Meanwhile, email is available to facilitate real-time petitions and suggestions/communication from the general public.

Moreover, to help manufacturers speed up completion of related applications, streamline administrative procedures, and enhance the administrative efficiency, the Citizen Digital Certificate and Industry and Commerce Certificate are introduced to further perfect the online declaration process and make it even safer. In response to the effort of the Ministry of Science and Technology to expedite restoration of information at its affiliate agencies, we planned integration of information among individual park areas by promoting the online integrated official document management system, paperless online sign-off operation, and client-end common information system among the National Science Council and the three science parks. The shared information resources are meant to enhance service quality and also contribute to environmental protection.

Major substantial administrative results in recent years include the ADSL broadband networks in three of CTSP's bases, namely Taichung Park, Huwei Park, and Houli Park, all of which are jointly configured with telecommunication service providers, and i-Taiwan for people in public areas. In addition to the original FTTB and the exclusive line for external networks, the Bureau added the national high-speed network exclusive line. It is meant to enhance the bandwidth of the Bureau's external network and the backup safety mechanism.



Contributions to Cultural Heritage

A Note on the Protection of Historical Site Sidadun Kiln

The ancient cultural remains, Sidadun Kiln, are located at the intersection of Jhongke Road and Keya Road in Taichung Science Park. Found during the early development stage of the Park Area at the end of 2003, they were authenticated by experts to be the remains of a pottery kiln used by the Han people to produce supplies that they used in daily life during the mid to late Qing Dynasty (between around 150 and 200 years ago). This type of pottery kiln is very rare in Taiwan, which makes it particularly precious. The remains are evidence that ancestors in Taiwan were no longer dependent on utensils imported from Fujian as early as more than 200 years ago and were able to be self-sufficient on this piece of land where they lived happily and enjoyed what they were doing. All of these indicate the important significance of the Sidadun Kiln in the cultural history and the necessity to value and protect it.

Trial Excavation and Assessment of Suspicious Cultural Remains at Erlin Park

While Erlin Science Park was being developed, remains of tile kiln structure from ancient times were excavated in 2011. In order to know the value of this cultural heritage, the CTSP Bureau authorized Professor De-He Lee of National Cheng Kung University and the archaeologist Dr. Ting-Yu Yen to conduct trial excavation and analysis. Results of the research reveal that the remains are gray tile kiln from the mid-to-late Qing Dynasty to the Japanese colonial period. Because there are nearly no information on the structures of tile kilns from the same period of time and of the same type, research of the remains is extremely significant on the development history in Central Taiwan and the development of tribes. In compliance with the Cultural Heritage Preservation Act, the Bureau suspended the construction. Based on the trial excavation and assessment results reported to the Changhua County Cultural Affairs Bureau for reference, change to the project design was applied for to include the rescue excavation operation.

The suspected cultural remains in this project were divided into three areas, Areas A, B, and C. With the Changhua County Cultural Affairs Bureau's approval and supervision and the Bureau's full support, the current stage of rescue excavation operation in the construction of Wanxing Drainage Path in Area A was completed; the 30-meter ring road and pipeline construction in Area B continued under supervision; and maintenance for Flood Retention Pond B in Area C was completed. Coordination and cooperation made it possible for park development and heritage sites to coexist in harmony.



Attention to Community Development

To promote appropriate leisure activities, boost a harmonious relationship between employers and their employees, and advance the exchange among manufacturers, service providers, and the adjacent neighborhoods, the CTSP Bureau organized multiple worker-oriented recreational and welfare events in 2014, such as the CTSP Film Festival, Labor Day series of events, and CTSP Sports Events (softball and basketball) among others. These activities are aimed at encouraging employees to be healthy and happy both physically and mentally. The highly popular CTSP Film Festival recently concluded its seventh year. In total, 16 films were played in 2014, including "Monsters University". The Park's 350" mega screen attracted approximately 2,000 people, including those who worked at CTSP and residents in nearby neighborhoods. To also recognize the contributions of workers at CTSP to the industries at CTSP and the economic developments of the country, the Bureau organizes model employee voting campaign on a yearly basis. Enterprises referred their best employees and the CTSP 2014 Model Employee Screening Committee selected 24 model employees on January 27, 2014. The selected employees were publicly recognized during the dinner party for high-ranking supervisors in the park on May 5 for their outstanding performance at work and impressive contributions.



To accomplish the Park's goal of fostering "Friendly Neighbors" and being "Neighbor-Friendly", we organized the "Clean Homeland: A Nationwide Movement" in 2014. CTSP-based manufacturer representatives, neighborhood chiefs and residents were invited to take part in the event. They led other participants in cleaning up the streets and beaches, turning words into action. It was hoped that the events would inspire more people to join the environmental conservation movement so that everyone could have a better quality living environment. To maximize the effects of demonstrating friendliness to the neighbors, each Clean Homeland undertaking had other related activities such as recycling, creating a green environment, energy-saving and carbon reduction, environmental education, and festive activities. Diversified activities attracted participation from more people so that CTSP becomes a "friendly neighbor" that works hand in hand with everyone. A total of six rounds were organized with a headcount of up to 776 participants in 2014.

In order for local people to understand how the Park is developed and the sewage treatment process at the Park, on April 27 we organized the visit by a group of more than 70, consisting of Chief Feng of Gongguan Village of Houli District, the faculty and students from the Department of Sociology of Tunghai University, and Houli residents, to infrastructures at Houli Science Park. They were able to see for themselves the sewage treatment mechanism at the Park and have their concerns addressed through face-to-face communication. They were also able to witness the accomplishment the Park has accomplished in sewage treatment before it is discharged outside the Park. In addition, neighborhood chiefs in Houli District were invited every week to attend the environmental monitoring department's inspection of the quality of water discharged from the park's wastewater processing facility. The neighborhood chiefs had visited the facility many times to inquire about the facility's performance and management mechanisms.

Proactive Promotion of Friendly Working Environment

Under the Bureau's campaign and assistance, the CTSP Industrial Safety Promotion Association now has 58 participating manufacturers. The Occupational Disease Prevention and Health Promotion Plan and the Data Verification and Assistance Program for Chemicals at Key Disaster Prevention Sites were organized in 2014. Proactive efforts were made to reinforce communication and assistance provided to CTSP-based manufacturers in order to help the latter enhance spontaneous safety and health management mechanisms. Emerging chemicals at CTSP were regulated and identification and defense against industrial hazards for operators were enforced. In response to the amended Occupational Safety and Health Act that came into force on July 3, 2014, the Bureau adopted innovative assistance mechanisms and organized the 2014 H2 Inspection and Assistance Program for Compliance with Occupational Safety and Health Act. Systematic campaigns and assistance regarding the new regulations were conducted by class, and supervision and inspection under the Occupational Safety and Health Act were conducted as special projects. A total of six rounds on the amended Occupational Safety and Health Act and related training and 12 rounds on health and safety were held over the year. To facilitate exchange on safety and health techniques and management, a total of three rounds of visits to



outstanding industrial safety performers and for health promotion purpose and one round of the industrial safety seminar and industrial safety device exhibition were organized in the year.

To safeguard the health and well-being of workers and minimize occupational hazards, the Bureau co-organized with the Chinese Taipei University Sports Federation the Industrial Park Run 2014, which drew more than 1,000 participants. The hope is to create a healthy and comfortable workplace where physical and mental health, work, and life can reach a balance.

Devoted to building a friendly environment, the Bureau has been proactively organizing regulatory education on the Labor Standards Act and the Act of Gender Equality in Employment, combining various events while carrying out tasks, such as assigning budget to subsidize employers that offer childcare measures, holding meetings on gender equality in employment to heed advice from members, and developing gender equality seed teachers. The Bureau also organizes various MOL projects and handles complaints filed by employees at CTSP to constantly reinforce labor condition checks and consolidate and secure the rights of employees. We also proactively mediate disputes between employers and employees and provide them with guidance on compliance with regulatory requirements in order to resolve the disputes adequately with reasonable solutions.

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- 1 | 2 | 3 | 4
1. 2014.05.05 Model employee award ceremony
 2. 2014.05.29 Clean Homeland: A Nationwide Movement and Dragon Boat Festival celebration
 3. 2014.11.19 2014 Occupational Safety and Health Act campaign and health promotion visits
 4. 2014.02.26 Health promotion visits

Environmental Impact Assessment Settlement

Chising Park withdrew the administrative complaint regarding the conclusions of an environmental impact assessment, and settlement was reached on August 8, 2014. The settlement was based on easing community dispute while balancing environmental and economic considerations and protecting the public's right to participate. As tension grew between economic development and environmental consciousness in Taiwan, this case was a precedent where the parties involved were willing to set aside prejudice and achieve a win-win result. It opened a new path for environmental disputes involving large development projects in Taiwan that allowed a consensus to be reached above conflicts between different values and eased the hostility between environmental and economic opinions.

It had been more than seven years since the Chising site passed the environmental impact assessment in 2006. The CTSP Bureau followed the Environmental Impact Assessment Act and submitted the environmental impact instructions to the Environmental Protection Administration for review, which delivered a passing result. The Bureau proceeded with park development and operations, and the manufacturers' business activities had not caused any major impact on the environment. The environmental surveillance data also complied with the commitment criteria in the environmental impact assessment. Having settled the case, the park will continue to work on construction and development of the park within the constraints of the applicable environmental laws and maintain a dependable business venue for manufacturers.

Higher Public Participation in Second Stage of Eia

Regarding the environmental impact analysis for Erlin Science Park, the Environmental Protection Administration announced the review conclusions on the environmental impact of transformation on March 12, 2013. The environmental impact of Erlin Science Park had been reviewed and verified by environmental impact experts. The sale of residential and farm land at the Xiangsiliao settlement was registered for ownership transfer on September 12, 2014. The existing farmers could continue with the farm work and the farming lifestyle. The direction for the future is to become a park that balances the environment, the industries, and local prosperity. The park will be a development project that meets the community's expectations while allowing higher public participation and following the Environmental Protection Administration's resolutions in the environmental impact assessment meeting in order to start the second stage of the assessment.



2014.02.24 Stage 2 environmental impact assessment session for Chising Park Development Project

Workplace safety inspection for effective control

To improve the efficiency of disaster prevention and mitigation, the Reporting and Response Guidelines for Disaster Prevention and Mitigation and the Procedures for Emergency Response Teams have been reviewed and revised, and reporting and preliminary response measures for chemical and fire emergencies have been added to the rules. To improve efficiency of prevention and mitigation of toxic chemical disasters in the park, the Bureau, the 427th Tactical Fighter Wing of the Air Force, and the 36th Chemical Warfare Group of the 10th Army Corps entered a joint prevention and mitigation initiative on April 9, 2014, and the launching ceremony for the joint initiative among the allied institutions in the park was held on July 4. In addition, the 2014 Joint Emergency Response Drills were held on July 10. The joint initiative effectively integrates prevention and mitigation resources from around Central Taiwan Science Park, including the armed forces and the fire bureau, and from the allied institutions in the park in order to facilitate mutual support in the area. To enable the supervisors at the Bureau to better respond promptly to disasters and coordinate rescue resources, the Emergency Response Coordination Training for CTSP Executives and Supervisors was held at the National Fire Agency Training Center in Chushang, Nantou on December 5. Director-General Wayne Wang led the first-rate supervisors and other colleagues to attend training. CTSP-based manufacturers and nearby prevention and mitigation organizations were invited to join the session. The training sessions not only made the executives and emergency response coordinators at the Bureau better prepared for emergencies, but also facilitated and maintained friendly interaction between the park and nearby prevention and mitigation organizations, which would strengthen response and communication in case of emergency.

The promotion of occupational safety and health education, assistance in and implementation of labor inspections and review of environmental protection permits are done through one-stop service with prior safety assessment and counseling mechanisms on the basis of information technology. Meanwhile, spontaneous management of enterprises is reinforced and park-wide participation is encouraged. Diversified disaster prevention resources are also utilized in order to effectively enhance the overall safety and health standards in the Park areas and advance labor health and labor inspection efficacy for a safe, healthy, and humane work environment.

A total of 17 special inspections were conducted under the workplace supervision and inspection plan, and a total of 611 sessions of workplace supervision and inspection were carried out.



2014.07.10 "2014 Joint Emergency Response Drills"

Strong Local Roots Supporting Thriving New Life

Well Implemented Sustainable Development

Effluent quality has always been an indicator for the treatment capability of environmental protection facilities at a science park. To reinforce the spontaneous management capability of the sewage treatment plant in the testing of effluent quality, ensure quality, and enhance the precision, accuracy, and credibility of the test, the laboratory at the sewage treatment plant of Houli Science Park obtained the TAF Certificate (No. 2823) on September 29, 2013. The laboratory submitted an application for the NIEA water quality and quantity certificate to the Environmental Analysis Laboratory in April 2014. After three months of application and rigorous review, the laboratory received the NIEA water quality and quantity certificate (EPA-Huan-Jian No. 121E) on July 16, 2014. The certified items included samples, water temperature, pH value, conductivity, COD, SS, fluoride, and acute biological toxins. The

laboratory was the first sewage laboratory certified by the Environmental Analysis Laboratory of the Environmental Protection Administration of the Executive Yuan. It helps with not only further providing water quality test data but also increasing the confidence and satisfaction that related authorities in the treatment of waste water at Houli Science Park have about water quality.

The laboratory at the sewage treatment plant of Huwei Science Park started preparation for the application for TAF Certification in June 2013. The tasks included collecting certification information, undergoing related education and training, preparing certification documents, and organizing laboratory quality activities. The application for certification was submitted on March 28, 2014. The onsite inspection was conducted on August 26. The certification (Certificate No. 2945) was approved on November 21 of the same year. The five certified items were water temperature, pH, conductivity, COD, and SS. The laboratory was the second agency to receive the honor after the laboratory at the sewage treatment plant of Houli Science Park.



Huwei Science Park



Advanced Research Park



Houli Science Park

Consolidating Global Volume Control and Environmental Protection Permit Review

CTSP is a centrally controlled park. Before a manufacturer is permitted to apply to establish a presence, it is required to submit the "Business Estimated Global Pollution Volume Form" to the CTSP Bureau for review in order for the latter to keep track of the possible pollution volume that the manufacturer is likely to generate after official operation. It will help prevent against pollution and with global volume control. When it is required for a business to apply for air, water, or waste environmental protection permits or approval documentation according to law during the entry process, the application should be submitted to the Bureau following required procedures. The review for fixed pollutant permits needs to be done jointly with the local competent authority. In 2014, a total of 213 environmental protection applications were submitted and 182 of them were approved.

Comprehensive and Efficient Sewer System

All parks under the jurisdiction of the CTSP Bureau are equipped with comprehensive and efficient sewage systems. Waste water generated by CTSP-based businesses, whether domestic or process-related, are discharged to the sewage systems and collected at the sewage treatment plant for proper treatment and eventually discharged outside CTSP after being verified to meet national effluent and environmental impact assessment criteria. Rainwater and polluted water are separated in the sewers in the parks. The rainwater sewers collect runoff water on the surface of the ground. Aside from collection of rainwater in public areas, manufacturers must design a complete rainwater collection system on their own premises as soon as they build their manufacturing facilities and set up an outlet for rainwater so that rainwater enters the rainwater sewer at CTSP, followed by the flood retention pool, and eventually converges into the receiving water. Statistics show that a total of 124 manufacturers at Taichung Science Park, 17 at Houli Science Park, two at Chising Science Park, and six at Huwei Science Park were included in the regulation in 2014.

All sewage treatment plants at the CTSP follow a tertiary model. Effluent quality in 2014 met the effluent criteria and the commitment criteria during the environmental impact assessment. The total volume of pollution discharged is also below the ceiling of the global volume.

Best Available Control Technology (BACT) Reduces Pollution

(1) Curtailment rate of volatile organic compounds (VOCs)

Optoelectronics and semiconductor manufacturers in parks mostly adopt BACT and the pollution prevention and control equipment treatment efficiency reaches above 90% to 95%, leading to a curtailment rate of VOCs discharge 5% to 10% above the regulatory requirement, effectively reducing discharged pollutants.

(2) Reutilization of waste:

The Bureau proactively encourages re-utilization of waste generated by manufacturers based at CTSP. Statistics show that the volume of waste generated and declared by CTSP-based businesses in 2014 totaled 149,213.8 tons. Of this amount, 120,195.6 tons were re-utilized, yielding a re-utilization rate of 80.55%. The volume of waste generated and declared by optoelectronics and semi-conductor manufacturers at CTSP was 85,496.5 tons and 52,177.7 tons, respectively. The re-utilization volume was 65,314.7 tons and 46,344.6 tons, respectively. The re-utilization rates were 76.39% and 88.82%, respectively.

Environmentally Friendly Local Services

Consolidated Environmental Monitoring

An environmental impact assessment was conducted for all parks under the jurisdiction of the CTSP Bureau in accordance with the Environmental Impact Assessment Act. The assessment comprises a range environmental monitoring items including air quality, noise and vibration, effluent quality, surface water quality, ground water quality, bottom mud, soil, ecology, traffic volume, and cultural heritage in accordance with the environmental monitoring plan specified in the environmental impact instructions on a yearly basis. Meanwhile, parallel monitoring and concurrent detection ensures the accuracy of monitoring data. Environmental monitoring was performed at a total of 2,727 points in 2014.

Environmental Protection Monitoring Team Meetings

In collaboration with the Bureau of Environmental Inspection of the EPA, the CTSP Bureau organized seven field inspections for environmental impact assessment and monitoring (including Taichung Science Park, Houli Science Park, Advanced Research Park, and Erlin Science Park) and four meetings of the monitoring team based on conclusions reached in the environmental impact assessment regarding Stage 3 (Houli Site - Houli Farm) Development Plan of CTSP.

In addition, the competent authority of the CTSP Bureau, the Ministry of Science and Technology holds the meeting of the Environmental Impact Assessment Follow-up Group regarding the developments at science parks under the jurisdiction of the Ministry of Science and Technology on a quarterly basis. A total of two such meetings were held in 2014.

The CTSP Bureau organized the Environmental Protection Monitoring Team meeting at each of the parks based on contents described in the environmental impact instructions and the requirements of the competent authority in charge of environmental protection. Such meetings were held at Taichung Science Park (four), Houli Science Park (four), and Erlin Science Park (two) in 2014.

Disclosure of Environmental Monitoring Information and Information on Environmental Monitoring Team

Real-time results monitored at the air quality stations, monitoring results in accordance with the environmental monitoring plan, minutes of the environmental protection monitoring team at Houli Science Park, the poisonous chemical information map at science parks, and the CTSP occupational safety and health management information system of 2014 were published on the website of the CTSP Bureau. For increased transparency, the data and results are also freely available to the public to demonstrate the environmentally-friendly contributions of CTSP.

Regulatory Seminar and Workshop

To enhance the professional capability of businesses based at CTSP and communicate latest regulatory requirements, the Bureau authorizes professional consultation companies, experts, and scholars to organize regulatory seminars and workshops aperiodically. A total of six rounds were held in 2014.

Environmental Education

Article 3 of the Environmental Education Act stipulates that environmental education is to help people understand the ethical relationship with the environment through education and accordingly boost knowledge, skills, attitude, and value that people have about environmental protection and urge people to care about the environment. Article 19 of the same Act also says that public agencies, state enterprises, and schools of senior high or a lower level and corporations with more than 10% sponsorship from the government should establish an environmental education plan and specify that all employees, teachers, and students should attend four hours of environmental education on a yearly basis. The CTSP Bureau held a total of six rounds of learning courses in 2014, with more than 200 participants.

Environmental Optimization for Sustainable Living

Regarding the construction of Taichung Science Park, the park has become very attractive after the setbacks of factory buildings are merged. Large areas of green space form a flood detention ecological park play multiple roles in the community, in the ecosystem, in sports and in culture. It is a new face of sustainable development in Dadu Mountain, and it sets up a successful ten-year model for the ongoing "CTSP Taichung Science Park Expansion (formerly the ammunition depot on Dadu Plateau) Development Plan".

In 2014, two large public art pieces, "Speed" and "Palette", were installed under the theme of "Silicon Lights" at Taichung Science Park. The pieces utilized curvy lines and shapes to express the idea of "dancing freely with nature" in the park. Bicycle powered generators were also installed to let visitors play a game of speed and light by powering colorful LED lights. The devices encouraged the public to participate in and interact with public art.



Public art - Bicycle powered generators

Houli Science Park takes advantage of a flood retention ecological park to combine greenbelts and preserve trees suitable for afforestation left by Taiwan Sugar. The large flood detention ecological park at Houli Plateau contained winding green hiking paths and cycle paths. Combined with local tourism resources at the Ho-Feng Biking Trail, the green space in the park becomes the most suitable link between the businesses in the park, local culture and tourism.

In spite of being the tiniest park under CTSP management, the flood detention pond at Huwei Science Park makes full use of the elevated groundwater level in the area to support a steady flow all year round. It is one of the most beautiful water landscapes at CTSP, and one of the best places where park employees and local residents take a rest and relax.

Since its transformation to the Advanced Research Park, the Zhongxing New Village has been endeavoring to exercise more care and caution in its construction projects in order to comply with the Cultural Heritage Preservation Act. The completed public infrastructure improvement on Guangming Road and the partially completed development in the southern core section of the park have effectively improved the amenities in Nanneilu and created a better R&D environment for the manufacturers in the park.

Going into the second decade, areas under construction include Erlin Science Park, the Advanced Research Park, Taichung Science Park Expansion (formerly the ammunition depot on Dadu Plateau) Development Plan, and the junior high school program at the National Experimental Junior High School at Central Taiwan Science Park. Erlin Science Park has been transformed into an industrial park featuring low water consumption and low emission. The flood detention pond and infrastructure including bordering drainage and roads and pipelines under construction are projects contracted out before the second stage of the environmental impact assessment. The completed 60 meters of main road (eastern section) opened in February 2015 and provided better road services for local residents.

Integrated Research and Development in Cultural Park

At present, 90% of the land in the Advanced Research Park was designated as cultural landscapes by the Nantou County Government. All renovation or construction projects in the areas must be submitted to the Nantou County Government's cultural heritage committee for review before proceeding. Therefore, the Advanced Research Park still retains the appearance of the Zhongxing New Village.

The Advanced Research Park primarily introduces high-tech research and development and the cultural and creative industry aiming to boost the R&D momentum in Taiwan. Preliminary improvements of existing buildings (construction and business recruitment already completed in 2013) at the park and construction of public infrastructures in the southern core area already began one after another in 2012. As of the end of December 2013, approval has been granted for the Industrial Technology Research Institute's Central Region Campus, the Institute for Information Industry's New Intelligent Technology Research Center, and seven companies entering the park. The planned investment value is up to NT\$4.1 billion. In September 2014, the main building of the Industrial Technology Research Institute's Central Region Campus received the first Diamond Class green building certificate and became a landmark carrying the smart building symbol in the park.



2014.09.15 Opening ceremony for ITRI's Central Region Campus, presided by Vice President Den-Yih Wu

Continuing Excellence Based on Successes

Future Prospects

Having written another page in history with excellent performance in revenue, employment, and manufacturer occupancy in 2014, CTSP looks to the future and still has to complete the following tasks.

- (1) Promoting Taichung Science Park Expansion Development Plan: To build up basic technology in Taiwan's IC industry and help businesses leave their roots in Taiwan in order to secure Taiwan's leading position in the IC industry, urban planning and environment impact assessments have been completed for the expansion plan, and the space can be expected to be made available to manufacturers on schedule in 2015 Q2.
- (2) Science parks represent one of the driving forces behind industry upgrading and transformation and economic growth in a country. Faced with challenges of a constantly changing high tech industry, the park is always trying to inject creative momentum. The CTSP Bureau will work with the Ministry of Science and Technology (MOST) to promote innovation and entrepreneurship, academia-industry cooperative research, and training programs. Efforts will continue to be devoted to improving quality of the parks, supporting startups, helping manufacturers invest in R&D and innovation, facilitating academia-industry cooperative programs, and ensure effective product realization of R&D results so that the parks shift from efficiency-oriented to being innovation-oriented and facilitate transformation and upgrade of domestic industries.
- (3) Efforts will be made to accelerate the second stage of environmental impact assessments for Phase 3 and Phase 4 of CTSP development and the corresponding review processes in order to make the space available to manufacturers.

2014

Year in Review

The Legislative Yuan passed the organization acts for the Ministry of Science and Technology and the Bureau. The acts were promulgated by the President on January 22. The National Science Council of the Executive Yuan was restructured as the Ministry of Science and Technology.

- 01.07 At the CTSP Joint Job Fair, Director-General Wayne Wang and Deputy Director-General Robert Lai of the MOL Workforce Development Agency attended the opening ceremony. The job fair offered 1,518 job openings and was attended by about 3,000 job-seekers.
- 02.22 Director-General Wayne Wang was invited to the signing ceremony between the National Applied Research Laboratories and the Taichung Entrepreneur Club.
- 03.01 The Organizational Act of the Ministry of Science and Technology and the organizational acts for the three subordinate Science Park Bureaus came into force. Simon Chang was named the first Minister of Science and Technology. On the same day, President Ma Ying-jeou presided over the minister appointment and unveiling ceremony, which was also attended by Vice Premier Chi-Kuo Mao and Minister without Portfolio Been-Huang Chiang of the Executive Yuan, former Minister Chin Yi Chu of the National Science Council, Vice President Chien-Jen Chen of Academia Sinica, President Cheng-Hong Ho of National Tsing Hua University, President Yan-Hwa Wu of National Chiao Tung University, and Director-General Wayne Wang of the CTSP Bureau.
- 03.03 The unveiling ceremony for the CTSP Bureau of the Ministry of Science and Technology and the appointment ceremony for Director-General Wayne Wang of the Bureau took place.
- 03.05 The Urban Planning Committee under the Construction and Planning Agency of the Ministry of the Interior met to review and pass urban planning proposals for specific CTSP areas.
- 03.18 The CTSP Bureau and the armed forces signed the Joint Civil and Military Disaster Prevention and Mitigation Initiative.
- 04.09 Vice Premier Chi-Kuo Mao of the Executive Yuan inspected the progress of development in the Advanced Research Park.
- 05.23

- The CTSP Huwei Science Park Business Recruitment Workshop was co-organized with the help of the Yunlin County Government. Director-General Wayne Wang of the CTSP Bureau led Deputy Director-General Ming-Huang Chen and Chief Secretary Mei-Hsiu Lin along with other supervisors to attend the event, which received more than 130 business representatives.
- 05.26** Minister Simon Chang of the Ministry of Science and Technology visited CTSP along with Vice Minister Ter-Shing Chen and other supervisors in the Ministry. The purpose of the onsite inspection was to gain a better understanding of the development status at CTSP.
- 06.09** AUO and Sungen solar power plants were completed and opened. Chairman Kuen-Yao Lee, Taichung Mayor Chih-Chiang Hu, and Director-General Wayne Wang of the CTSP Bureau cut the ribbon together at the ceremony.
- 06.16** The CTSP joint initiative was activated and had integrated the disaster prevention mechanisms across the government, the armed forces, and the CTSP-based manufacturers.
- 07.04** The CTSP Bureau held the "Eleven Wonderful Years" series of celebrations. The events were attended by 250 participants, including Chairman Kuo-Jung Shen of the Allied Association for Science Park Industries, Legislators Chiung-Ying Yang and Kuan-Heng Yen of the Legislative Yuan, Chief Executive Officer Hui-Hsian Ho of the Central Taiwan Joint Services Center of the Executive Yuan, Deputy Magistrate Tian-Fu Lin of Changhua County, Secretary General Mei-Liang Cao of the Taichung City Government, representatives of CTSP-based manufacturers, and staff of the Bureau.
- 07.24** An opening ceremony was held for the Industrial Technology Research Institute's Central Region Campus located in Central Taiwan Innovation & Research Park. The ceremony was presided over by Vice President Den-Yih Wu and attended by Vice Minister Ter-Shing Chen of the Ministry of Science and Technology and Deputy Director-General Ming-Huang Chen of the CTSP Bureau.
- 09.15** The CTSP Bureau was honored by the Labor Affairs Bureau of Taichung City Government for its contributions as a disability friendly institution.
- 10.24** Director-General Wayne Wang of the CTSP Bureau was chosen to receive a short term scholarship to study abroad for senior civil servants in 2014. Director-General Wang received the award from Premier Chi-Kuo Mao of the Executive Yuan.
- 10.31** The CTSP Bureau and 18 CTSP-based manufacturers teamed up to create the CTSP booth at the 2014 Taiwan International Machine Tool Show (TMTS). The team also held business recruitment sessions and press conferences, which were attended by both Director-General Wayne Wang and Deputy Director-General Ming-Huang Chen of the Bureau.
- 11/5~11/9** The limited-service post office was upgraded to the CTSP Post Office. An opening ceremony was held to celebrate the addition of banking and insurance services.
- 12.01** Payments were made for land owned and managed by the armed forces and the National Property Administration within the scope of the Taichung Science Park Expansion Development Plan. In other words, acquisition of all public land in the expansion area has been completed.
- 12.16 / 12/25** Transfer of the ownership of the land held by Taiwan Sugar was registered and completed. In other words, acquisition of all private land in the expansion area of Taichung Science Park has been completed.
- 12.29**



中部科學工業園區
Central Taiwan Science Park

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