

# CH5 Safe Workplace and Social Inclusion

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### Performance Highlights

- ✓ Employee turnover rate: **2.14%**
- ✓ Employee education and training: **22.2** hours/person
- ✓ Zero lost time due to disabling injury: **5.32** million hours
- ✓ Donation to the USI Education Foundation: **NT\$5** million

### Material Topics

- Talent attraction and retention
- OH&S
- PSM

### SDGs Correspondence



### Certified management system



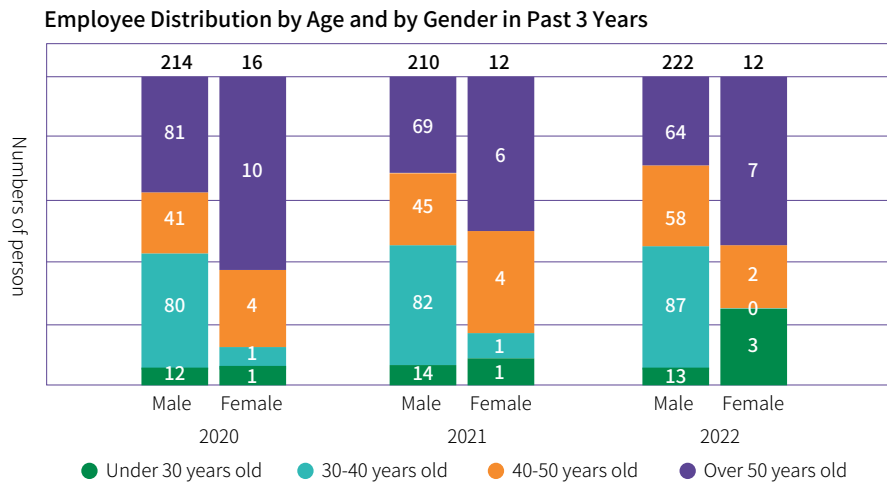
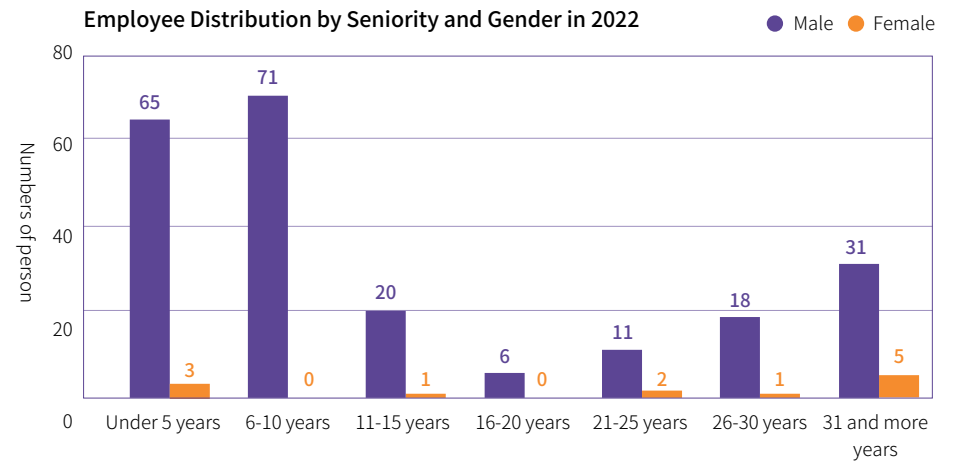
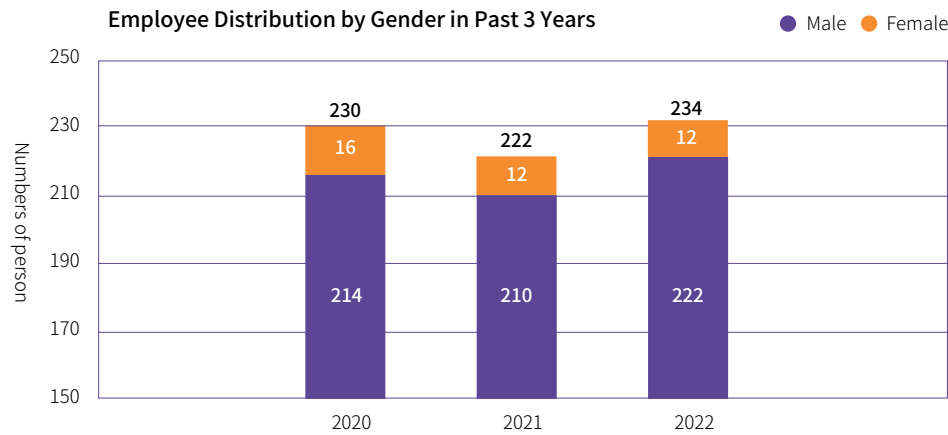
ISO 45001 Occupational Health and Safety (OH&S) Management Systems  
 Validity: 13 May 2022 - 23 April 2025



# 5.1 Talent selection

## Workforce structure GRI 2-7

By 31 December 2022, APC had a total of 234 employees, including 222 male employees and 12 female employees. All were full-time employees on non-fixed-term contracts. Due to the characteristics of the petrochemical sector, there are more male employees than female employees. The average service length of employees is 13.8 years; the average age of employees is 44.5 years old; and 82.1% of employees hold a bachelor's or higher degree. All employees are hired locally, mainly from Taipei and Kaohsiung.



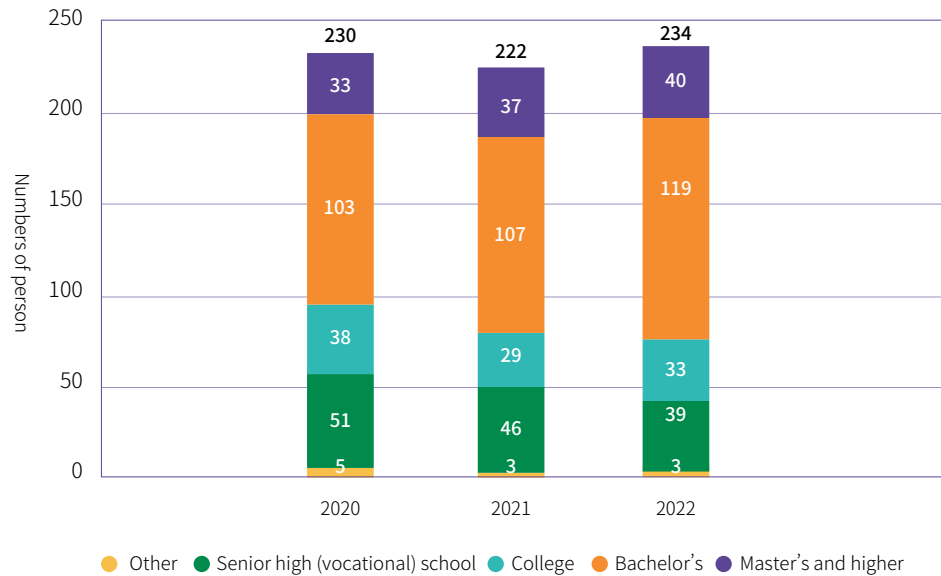
### Total Number of Employees by Gender and by Region in 2022

Regions	Taipei HQ		Kaohsiung Linyuan Plant	
	Male	Female	Male	Female
Permanent employees	13	3	209	9
Temporary employees	0	0	0	0
Non-guaranteed hours employees	0	0	0	0
Full-time employees	13	3	209	9
Part-time employees	0	0	0	0

## Talent distribution

Based on the characteristics of the petrochemical sector, we emphasize education attainment, work experience, and professional competencies in employee recruitment. Then, we arrange job-related professional training and field training to develop professional petrochemical talents. The rate of in-service quality employees holding a bachelor's or higher degree increases every year. In 2022 up to 96% new employee hires hold a bachelor's or higher degree, raising the technical and operational levels.

Employee Distribution by Education Attainment in Past 3 Years



Employee Distribution by Job and by Gender in Past 3 Years



All junior and intermediate officers (foremen and section chiefs) and senior officers (department chiefs and above) of Taipei HQ and Kaohsiung Linyuan Plant are Taiwan citizens to facilitate the understanding of local culture and needs and increase local economic benefits.

## Talent attraction and retention

Material issue: Talents attraction and retention; Corresponding sustainability principle: Safety and harmony GRI 3-3

Management Approach and Its Components	Impact Management	Targets and Performance of Management Approach	Evaluation of Management Approach
<p style="text-align: center;"><b>Significance to APC</b></p> <p>Employees are an important asset. Through well-structured salaries and benefits and the provision of a safe workplace environment, we attract and retain talent to raise the bar for sustainable development.</p> <hr/> <p style="text-align: center;"><b>Management Practice and Target</b></p> <p>Excellent and appropriate talents are selected through a fair, open, impartial, and efficient recruitment system, while the basic human right to employment equality is maintained to achieve the right job for the right person through talent selection, talent development, and talent retention to ensure the competence of new employee hires and stability of employment to strengthen the corporate structure.</p> <hr/> <p style="text-align: center;"><b>Strategy</b></p> <p>Enhance organizational commitment</p> <ul style="list-style-type: none"> <li>Establish multifaceted recruitment channels to find like-minded talent to join us through a fair, open, impartial, and efficient recruitment system.</li> <li>Offer attractive salaries and comprehensive benefits and build a friendly, harmonious, and safe workplace environment to retain talent.</li> </ul>	<p style="text-align: center;"><b>Positive/Negative Impacts</b></p> <ul style="list-style-type: none"> <li>Negative Potential Impact-No succession plan</li> </ul> <hr/> <p style="text-align: center;"><b>Measures to remediate and prevent negative impacts</b></p> <ul style="list-style-type: none"> <li>Prioritize the stabilization and retention of excellent talent and give employees a raise each year based on the consumer price index (CPI) and personal performance.</li> <li>We participate in the petrochemical sector compensation survey each year to assess the salary standard in the market so as to give employees an appropriate raise. We will also give a special promotion to excellent talent with outstanding performance.</li> <li>We also timely replenish the workforce and plan the handover schedule based on the sales volume in response to employees at the retiring age. We also arrange education and training and business succession for new employees.</li> <li>Every year we send employees to receive external training and obtain the relevant licenses to prevent the talent gap.</li> </ul>	<p style="text-align: center;"><b>2022 Goals</b></p> <ul style="list-style-type: none"> <li>Maintain the right to work of workers</li> <li>Employee turnover rate ≤ 5.0%</li> <li>Rate of implementation of education and training programs: 100%</li> </ul> <hr/> <p style="text-align: center;"><b>2022 Performance</b></p> <ul style="list-style-type: none"> <li>No violation of human rights and labor conditions.</li> <li>Employee turnover rate: 2.14% (✔)</li> <li>Rate of implementation of education and training programs: 100% (✔)</li> <li>Average hours of training per employee: 22.2 hours</li> </ul> <hr/> <p style="text-align: center;"><b>2023 Goals</b></p> <ul style="list-style-type: none"> <li>Maintain the right to work of workers</li> <li>Employee turnover rate ≤ 5.0%</li> <li>Rate of implementation of education and training programs: 100%</li> </ul> <hr/> <p style="text-align: center;"><b>Planning Medium- &amp; Long-Term Goals</b></p> <ul style="list-style-type: none"> <li>Improve the corporate image to attract fresh graduates and reduce employee turnover rate to below 1%.</li> <li>Develop appropriate training courses, improve training quality, and increase the average hours of training to over 30 hours/person.</li> </ul>	<p style="text-align: center;"><b>Effectiveness Assessment</b></p> <ul style="list-style-type: none"> <li>Group internal audit</li> <li>Labor inspection of competent authorities</li> </ul> <hr/> <p style="text-align: center;"><b>Grievance Mechanism</b></p> <ul style="list-style-type: none"> <li>Linyuan Plant Labor Union</li> <li>APC Grievance Hotline</li> </ul>

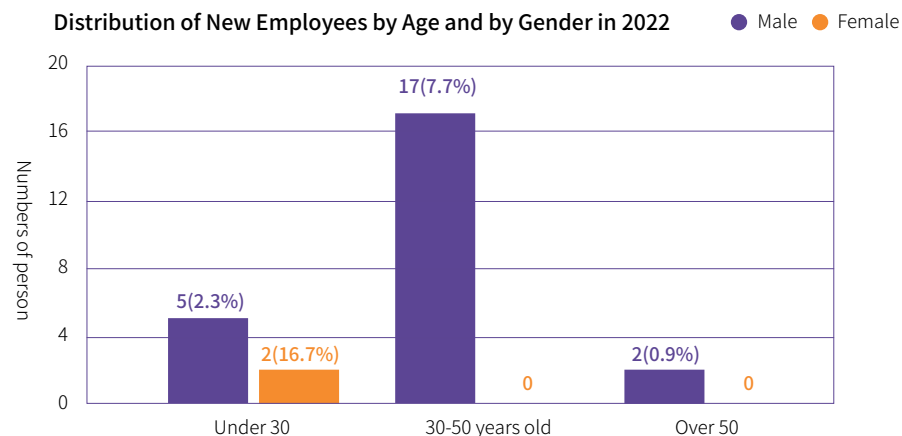
In response to the need for workforce and experience succession due to employee retirement, each unit timely replenish the substitute workforce based on the employee turnover condition. We select excellent and competent talent based on professional competencies and experience through a fair, impartial, open, and efficient recruitment system. Through talent selection, talent development, and talent retention, we ensure the competence and steady employment of new employees to strengthen the corporate structure. We also review the workforce composition and implement workforce dispatch and control at any time in routine operations, as well as analyze and improve the status of employee turnover to ensure workforce competence and experience succession.

When a unit needs to fill an existing position or expand the workforce due to business needs, organizational planning, or employee resignations, with the approval of their current supervisors, active employees interested in such openings may voluntarily submit their resume to the human resources unit. After further screening, the human resources unit will forward the resumes of eligible candidates to the supervisor of the requesting unit to provide multiple options to the unit and a better career development mechanism for employees.

We also recruit employees from outside of the organization through newspapers, human resources websites, human resources consulting agents, schools and employment service stations. For job openings at the Kaohsiung Plant, we give priority to local citizens as a way of giving back to the local communities.

✓ **In 2022 there were 26 new employees hired aged between 22-57 years old. All were male and accounted for 11.1% of the total number of employees.**

The table below shows the distribution and proportion of employees by gender and by age. GRI 401-1



Note: 1. Entities of APC, including Taipei HQ and Kaohsiung Linyuan Plant, are all located in Taiwan, thus considering as one region.

2. The rate of new employee hires of different age groups is calculated with the total number of male and female employees as the denominator.

### Current management practices for retention

To improve workforce competence, develop management talent, and coordinate with the organizational development needs, we encourage employees with outstanding performance and developmental potential to take the entrance examinations of the related graduate programs, such as EMBA, of domestic universities and receive management assistant training. We also fund their study and arrange job accommodations for them so as to improve the professional competencies of employees in different fields and actively develop executive talent. To stabilize the workforce and retain outstanding talent, apart from giving employees a salary raise according to the CPI and the personal performance of employees every year, we also participate in a compensation survey of the petrochemical sector to assess the salary standards in the market to make appropriate adjustments and planning. We also give a special raise to employees with outstanding performance to ensure that our pay is competitive with the market.

## Talent turnover

The position change and resignation of employees are handled in accordance with the relevant regulations. Full-time employees may apply for retirement at 65 years old in accordance with the Labor Standards Act or for voluntary retirement at earlier ages by law. That is, all employees are entitled to voluntarily terminate employment by law. The rights, obligations, and labor conditions of resignation are handled with by law. When there are significant operational changes, such as closure, transfer, operating losses, or business contraction, that workforce reduction is required, we will notify employees from 10-30 days in advance based on the seniority of employees in accordance with the Labor Standards Act.

✓ In 2022 there were 14 employees resigning from APC (including 9 retirees). After deducting the retirees, the actual rate of employee turnover was 2.14%.

The table below shows the distribution and proportion of employees by gender and by age.

GRI 401-1

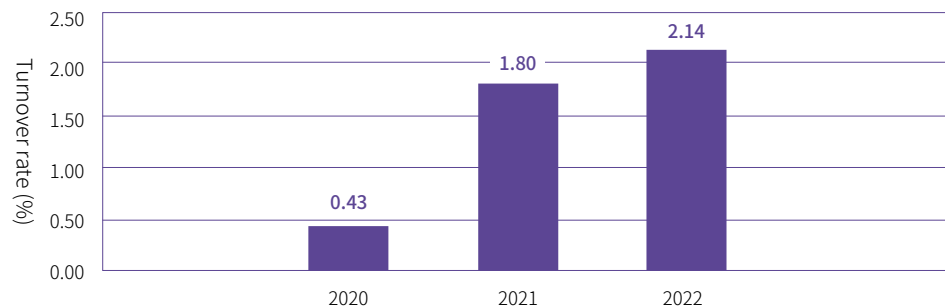
Gender	Under 30 years old		30-50 years old		Over 50 years old	
	Number (persons)	Proportion (%)	Number (persons)	Proportion (%)	Number (persons)	Proportion (%)
Male	1	0.45	3	1.35	0	0.00
Female	0	0.00	1	8.33	0	0.00

Note: 1. The rate of employee turnover by gender and by age group is calculated with the total number of male and female employees as the denominator.

2. The turnover rate is calculated based on the actual number of resigned employees (after deducting the number of retirees).

3. Entities of APC, including Taipei HQ and Kaohsiung Linyuan Plant, are all located in Taiwan, thus considered as one region.

Rate of Employee Turnover in Past 3 Years



## Talent cultivation and development

Based on the macroeconomic environment, business policy, operational goals, department performance, and employee career development needs; in accordance with the labor safety and environmental protection laws and regulations; and in compliance with the requirements of the quality, environmental, energy, and OH&S management systems, we establish an education and training system to provide training courses for all types of talent.

The training framework is made up of four parts: in-service (on-the-job) training, competency training, e-learning and self-growth learning. Training courses are planned and designed comprehensively and systematically according to the development needs of employees and connect with the lifelong learning and training system of employees.

The career development training for active employees can enrich their competencies, skills, and learning capability of employees, which will become the foundation of personal lifelong learning. When employment is terminated due to retirement or resignation, such training can become the skills enabling employees to find new jobs or make retirement planning.



### In-service training

- Job instructions by supervisors
- Mentoring
- Technological and vocational certification
- Job rotation



### Competence training (internal/ external training)

- Management general education
- Hierarchical training
- Competence training
- Talent Development
- Employee self-education



### e-Learning

- New employees orientation training
- New employees certificate courses
- Multimedia learning platform
- Commonwealth Leader Campus



### Self-growth learning

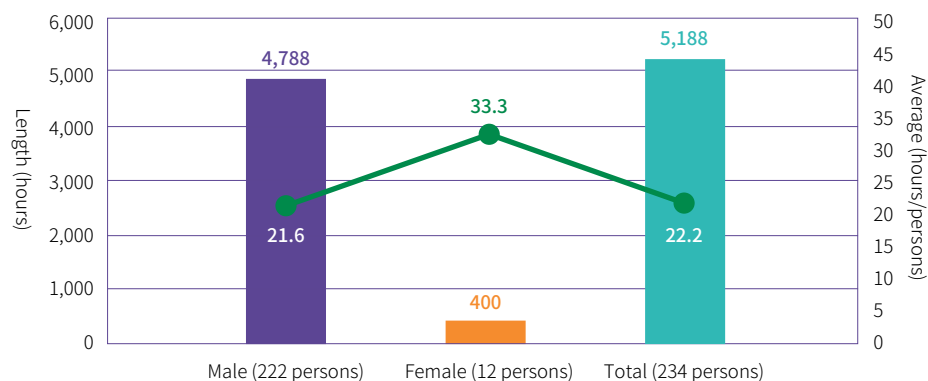
- Study group
- Humanities intellectual talks
- Seminars
- Health talks

### Performance in education and training

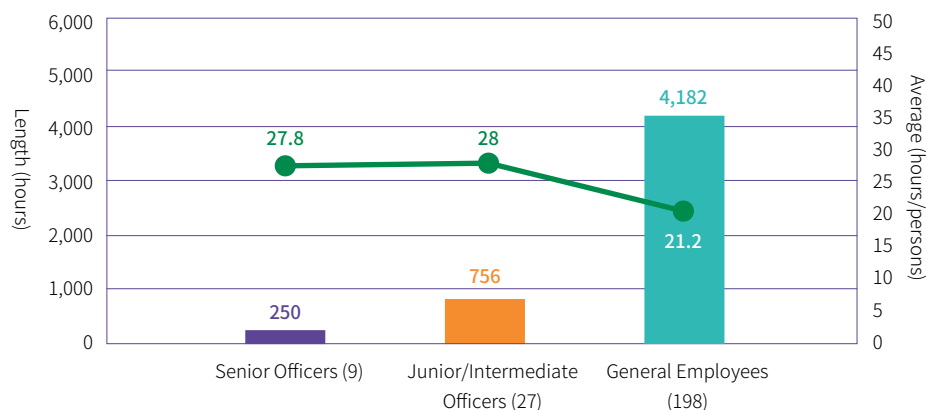
We always value the education and training of employees and arrange orientation training, on-the-job training, and work instructions for employees based on the training needs of employees and their units. We also offer education and training through DVDs and the e-learning platform to improve the competency and skills of employees. We also maintain a record of employee education and training and include them in the monthly and annual performance evaluations. Each department sets the criteria for “hierarchical training” and “competency training” for identifying the required skills of employees at different positions and in different areas so as to provide a reference for training assignment and ensure employees are competent for their jobs.

In 2022, the total hours of employee training were 5,188 hours, and the average hours of training per employee were 22.2 hours. The tables below show the total hours of employee training by gender and by hierarchy.

Total Hours of Employee Training by Gender in 2022



Total Hours of Employee Training by Hierarchy in 2022



### Education and training for new employees

USIG has developed a complete orientation training program for new employees to introduce in detail USIG’s corporate culture, corporate spirit, systems, and regulations so as to help new employees get familiar with the workplace environment more quickly to demonstrate their talent and enhance their organizational commitment and loyalty. Additionally, we can verify the learning effectiveness of new employees through USIG’s e-learning platform.

The personnel and industrial safety units immediately arrange awareness training courses for new employees of Linyuan Plant. These courses include the introduction, environment, organization and regulations, welfare system, and labor safety and health regulations of the company, and the concept training on the quality, environmental, energy, and OH&S management systems and product, environment, and quality assurance systems.

### On-the-job training

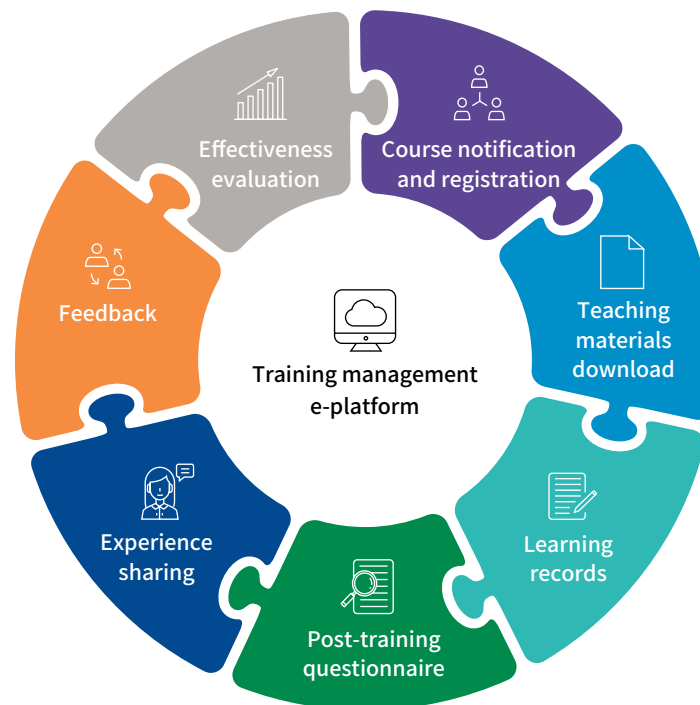
To improve the work competencies of employees when they are in service, work-related skill training is offered through supervisors and senior employees to ensure employees are competent for their jobs.

Each unit provides on-the-job training (OJT) based on the needs of jobs, missions, and training. The hiring unit shall arrange work instructions for new employees, transferred employees, related personnel after a process modification, personnel whose jobs will affect quality and product, environment, and quality assurance, personnel who will cause significant environmental impact and hazards to occupational safety and health, or after a system information update to ensure that they are competent to carrying out their jobs.

To raise the PSM awareness of onsite workers so as to ensure the plant's operational safety, apart from organizing training for the required training items as stipulated in the Occupational Safety and Health Education and Training Rules, related units should also enhance the education and training for operation instructions, repair and maintenance, emergency response, and safety of machinery and arrange examinations (including written or oral examinations or practical examination) based on the actual needs for the reference of recurrent training.

Additionally, to ensure that each employee has comprehensive competencies and a broad vision, apart from their own jobs, they also engage in other research projects, including probationary customer complaint handling, interpersonal relationship development, and problem-solving so as to enrich knowledge and improve skills.

We arrange education and training courses periodically, including professional skill training, leadership and management, computer, and general education courses, to provide internal training for potential management personnel.



Occupational safety and health education and training course



### Performance in external training

Based on the needs of operations and work and the demand for internal instructor training, supervisors will send related personnel to participate in the technology seminars organized by external training and academic institutions and obtain the relevant certificates and licenses to raise the technical standards and operating safety. **In 2022 we obtained 109 related certificates and licenses (including 11 new certificates and licenses and 98 recurrent training certificates and licenses) through external training. All certificates and licenses were retained by the personnel section for future reference.**

Additionally, we encourage and train successors and actively encourage them to participate in external management training courses to learn the latest management knowledge so as to enhance management competence. We also fund employees with strong learning motivation and high developmental potential to receive further education in universities at home and abroad and arrange duty adjustment to give them complete training and cultivate leader talent for the company.

Performance in external training Linyuan Plant in 2022

Serial number	Certificate/license type	Number
1	Supervisor in charge of dusty operations	1
2	Supervisor in charge of organic solvent operations	1
3	Acetylene operation	1
4	Specified high-pressure gas equipment	1
5	Category A pressure vessels operation	2
6	Lifting equipment operation	2
7	Forklift operation	2
8	PSM	1
Total		11

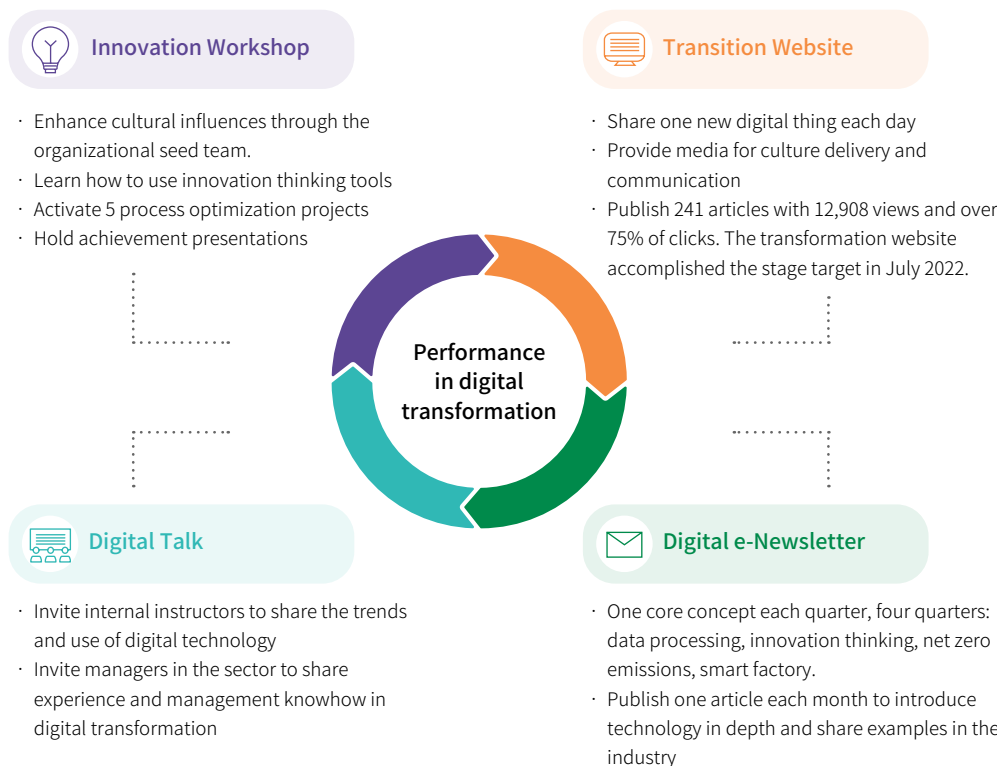
### USIG e-training

To rid the confines of time and space of classroom courses, USIG has established the “USIG e-Learning Platform” to provide employees of all USIG businesses with a ubiquitous learning environment.

### Cultivation of talent for digital transformation

The digital wave arose following the technology innovation in recent years. Pushed by the pandemic, digital transformation has become a heat in all industries, and there is no exception to USI. Besides engaging in industry-academia collaboration with academic units, we all invited professional instructors to give instructions to constantly transform toward smart manufacturing.

In addition to the use of technology, we understand that digital transformation needs a new way of thinking in employees and a change in the organizational culture. Hence, we have actively implemented data-driven and process improvement in the organization through talents cultivation. All employees can learn digital transformation through the Group’s transformation website, e-newsletter, and digital talks in order to enhance their awareness of digital transformation. We also held workshops and AI training courses for seed members to practice digital transformation in real work to enhance promotion.



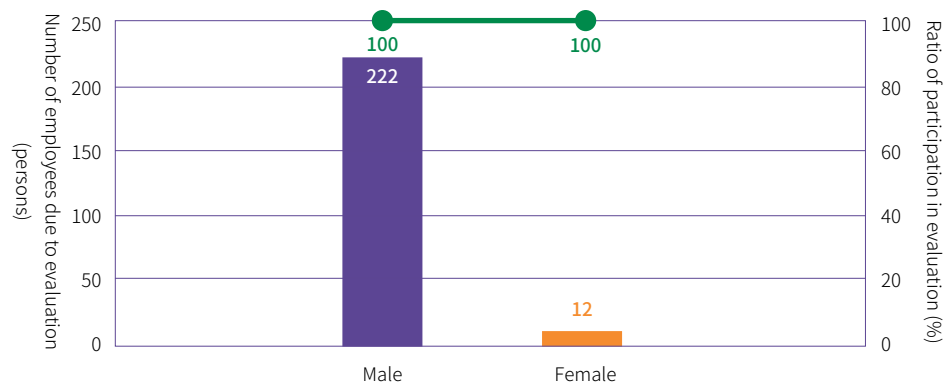
## 5.2 Talent development

### Performance evaluation system

To reasonably evaluate the organizational commitment, work competence, and contribution of employees, we boost employee morale and strengthen teamwork spirit through monthly target management and annual performance evaluation and combine them with training and promotion to facilitate the personal development of employees and corporate HR management.

The evaluation items of monthly target management include the workload, work quality, cooperativeness, as well as the implementation performance of the four major management systems and training performance of employees. The annual performance evaluation aims at evaluating the work performance and personal competitiveness (including vision, leadership, implementation, self-development, organizational commitment, innovation, and planning capabilities) of employees. Employees receiving the annual performance evaluation are full-time employees completing the probation. The table below shows the ratio of performance evaluation of women to men in 2022.

Ratio of Participation in Performance Evaluation of Women to Men in 2022



### Employee compensation plan

To attract, retain, develop, and incentivize excellent talent in different areas, we introduce comprehensive and competitive compensation plans. In addition to a pay higher than the minimum wage, new employees will be compensated based on their education attainment and work experience, with different position-based allowances.

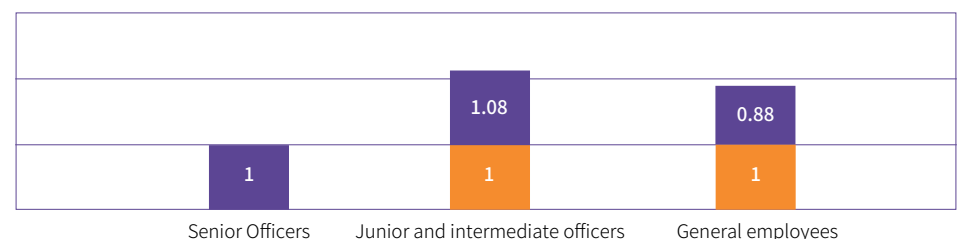
We will give employees a salary raise based on their work performance regardless of gender. In 2022, the ratio of basic salary and remuneration of women to men nears 1:1, which is much better than other companies in the same sector.

The table below shows the difference in the number and mean and medium compensation of non-management full-time employees between 2022 and 2021.

Description	2021	2022	Difference from the Previous Year
Number of non-management full-time employees (persons)	219	216	-3
Non-management full-time employees Mean compensation (NT\$ thousands)	1,439	1,490	51
Non-management full-time employees Median compensation (NT\$ thousands)	1,346	1,407	61

As there were three employees less than that of 2021 and some administrative personnel were transferred to USIG affiliate USI Management Consulting Corporation (UM), the number of full-time employees reduced in 2022. The amount of mean and medium compensation increased mainly because of the salary raise and year-end bonuses.

Ratio of Basic Salary and Remuneration of Women to Men in 2022



Note: 1. In the calculation, the base for women was "1", including basic salary, bonuses, and benefits.

2. Employees with seniority less than one year were excluded from the statistics.

3. All senior management members were male, and no female supervisor was thus recorded.

## Pension system GRI 201-3

We handle employee pensions in compliance with the Labor Standards Act, and the pension reserve is contributed based on the Regulations for Employee Retirement, with a contribution rate of 10%.

Apart from setting up the Pension Reserve Supervisory Committee, we began to contribute monthly to the pension of employees choosing the LPA plan to their personal pension account at the Bureau of Labor Insurance based on the Monthly Contribution Classification of Labor Pension and the contribution rate stipulated by the government from 1 July 2005.

Item	Proportion of Contribution	Employee Participation in the Retirement Plan
Pension as per the Labor Standards Act (LSA, old system)	Employer contribution: 10% of the employee's monthly wage.	100%
Pension as per the Labor Pension Act (LPA, new system) the Labor Standards Act (LSA, old system)	Employer contribution: 6% of the employee's monthly wage. Employee contribution: 0-6% of the employee's monthly wage.	100%

## Reward System

To boost employee morale and promote the teamwork spirit, employees with special work performance or timely response to and proper management of emergencies will immediately receive a monetary reward as an encouragement.

Additionally, to encourage employees to engage in improvement activities and stimulate their creativity, we have established the Regulations for Improvement Suggestions. After the acceptance and review of suggestions for optimization and improvement of process technology, product quality, repair and maintenance, engineering, warehousing, production management, and routine operations; improvement of safety and health, environmental protection, energy conservation, and cost reduction, we will issue a monetary reward to the proposing employee based on the level of innovation and performance in improvement.

## Comprehensive benefits GRI 401-2

We value employee benefits. The table below shows the benefits entitled to all employees.

Item	Contents
Bonus	Year-end bonus and performance bonus
Leave	Parental, menstrual, family care, maternity, pregnancy checkup, pregnancy checkup accompaniment, and paternity leaves.
Insurance	Accident insurance, life insurance, employee/family group insurance, employee relief payment, employee travel group insurance
Food	Employee canteens and meal allowances.
Transport	Employee parking spaces and travel allowances
Entertainment	Employee gym, employee tours, and regular employee gatherings.
Allowances	Subsidies for on-the-job training, domestic/overseas further education
Other benefits	Birth funding, wedding/funeral funding, travel funding, senior employee commendation, cash gifts for three major folk festivals, and periodic health checkup.

### Insurance

Employees are the biggest corporate asset and the main drive of sustainable business operations and development. Hence, in addition to the mandated Labor Insurance and National Health Insurance, we also plan the group insurance plans for employees, including term life insurance, critical illness insurance, accidental injury insurance, occupational accident insurance, cancer insurance, and dependent health benefits. By paying all the premiums (self-financed for dependents) for employees, we aim to provide employees with appropriate coverage, so that they can dedicate themselves to their work without worries to create better sales performance.

## Health care benefits

Every year we arrange health checkups (general and special checkups) for employees. We equip Taipei HQ with exercise and fitness equipment and Linyuan Plant with an infirmary and registered nurses to provide employees with health care, health consultation, and medical assistance. We also organize health promotion activities in coordination with health education institutions and hold health talks from time to time to invite health professionals to give talks on the prevention of cardiovascular disease, hypertension, and diabetes to protect the physical and mental health of employees.

Additionally, apart from providing female employees with menstrual leave and independent breastfeeding space, we also offer childcare and after-school club services through collaboration with childcare and educational institutions. Parental leave is granted by law to employees with children under three years old. In 2022 no employee applied for parental leave.

To support the government’s birth encouragement policy and enrich benefits for employees, we have specifically established the Regulations for Employee Birth Allowance to fund employees with NT\$10,000 for each baby. The allowance increases according to the number of births each time.

Rate of Application Parental Leave for and Rate Return to work After Parental Leave in 2022 (GRI 401-3)

Gender	Total number of employees entitled to parental leave	Total number of employees taking parental leave	Total number of employees due to return to work after taking parental leave	Total number of employees retained 12 months after returning to work in 2021	Return to work rate of employees after taking parental leave	Retention rate of employees after taking parental leave
Male	10	0	0	0	--	--
Female	0	0	0	--	--	--

As no employee took parental leave in 2021, there was no employee retained 12 months after returning to work.

## Employee Assistance Program

USIG has established the Employee Assistance Program Service Center (EAPC) to promote the Employee Assistance Program (EAP), organize various celebration activities, and provide employees with consultation and counseling services for employees to enjoy all-round care and assistance in psychological adjustment, career management, health promotion, life quality improvement.

## Employee Welfare Committee

We contribute welfare funds according to the Employee Welfare Fund Act. In 2022 we contributed a total of NT\$14.53 million (accounting for 5.48% of the annual compensation) as the fund for the Employee Welfare Committee (EWC) to fund employee travels, birthday, birth, wedding, and funeral; organize dependent socializing activities; and pay for the group medical insurance so as to compensate for the hard work of employees.

In employee club activities, we have 15 employee clubs, including the cycling, snooker, fishing, dart, tennis, photography, softball, basketball, mountaineering, badminton, road running, bowling, hiking, study, and art clubs. Guided and funded by the company and EWC, these clubs enable employees to relieve work stress, balance work and life, and promote health to boost employee morale and enhance organizational commitment.

## Employee club activities



## EWC travels



## Labor union GRI 2-30

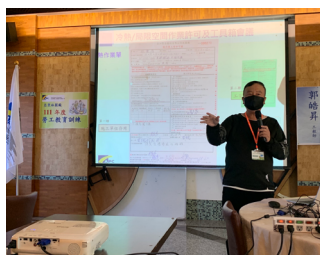
The APC Linyuan Plant Labor Union was established on 4 January 1988 to promote mutual cooperation among members, enhance member intelligence, protect the rights and interests of employees, assist with production development, promote labor-management harmony, and assist with the outreach of laws and regulations. The labor union holds the “Union Board Meeting” regularly, with the guest attendance of relevant APC officers to fully discuss and communicate with union representatives regarding labor rights and interests, health and welfare, occupational safety, labor conditions, and others. The union also organizes member education and training every year to cohere member understanding and promote labor-management cooperation. These education and training activities are welcome by members. **As we maintain sound communication with employees through the labor union and labor-management meeting, no collective bargaining agreement has been concluded.**

In 2022 the union had 205 members, including 197 males and 8 females, accounting for about 87.6% of all employees. The “Pension Reserve Supervisory Committee”, “Employee Welfare Committee”, and “Occupational Safety and Health Committee” are formed by labor and management representatives and hold committee meetings periodically. They provide channels for labor-management communication and maintain the rights and interests of employees. In 2022, the labor union held four union board meetings, two extraordinary union board meetings, and one union general meeting.

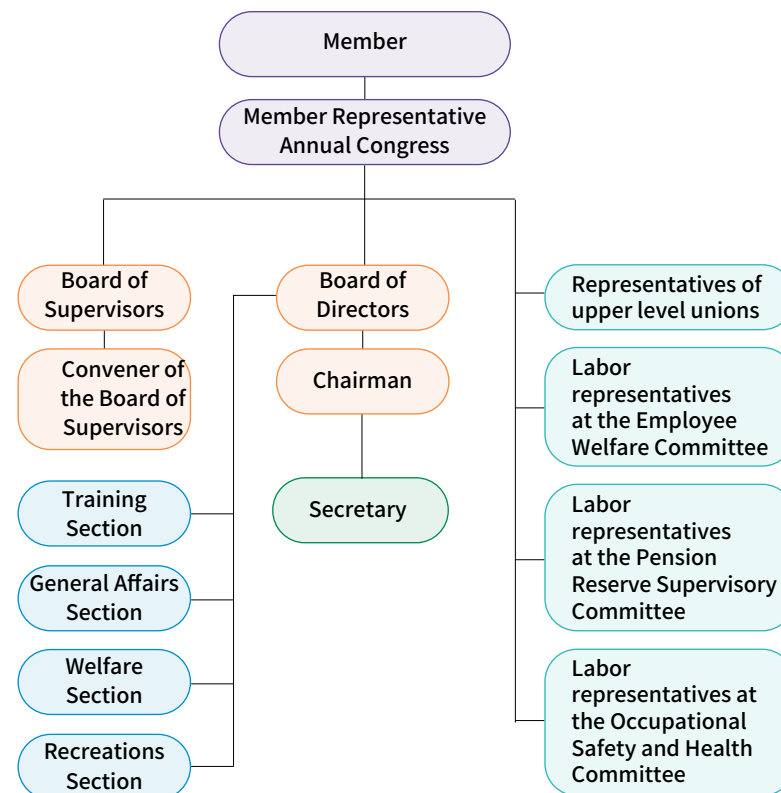
Union general meeting



Union member education seminar



### Organizational Chart of Linyuan Plant Labor Union



# 5.3 Healthy workplace

## Occupational safety and health

**Material issue: Occupational safety and health; Corresponding sustainability principle: Safety and harmony** GRI 3-3

Management Approach and Its Components	Impact Management	Targets and Performance of Management Approach	Evaluation of Management Approach
<p style="text-align: center; color: #0072bc;"><b>Significance to APC</b></p> <p>A healthy and safe workplace environment concerns workers most. Hence, it is our responsibility to implement safety and health management and provide employees and other workers with a healthy and safe workplace environment.</p> <hr/> <p style="text-align: center; color: #0072bc;"><b>Management Practice and Target</b></p> <p>Implement occupational safety and health management through routine tour inspections, health and safety audits, and contractor management to provide workers with a safe and worry-free workplace environment to achieve the goal of zero occupational accident.</p> <hr/> <p style="text-align: center; color: #0072bc;"><b>Strategy</b></p> <p>Enhance safety prevention</p> <ul style="list-style-type: none"> <li>· Implement the OH&amp;S management systems</li> <li>· Implement the PSM system and cross-plant audits</li> </ul> <p>Enforce health management</p> <ul style="list-style-type: none"> <li>· Employee periodic health checkups</li> <li>· Hire contractual physicians to provide onsite health consultation services</li> <li>· Provide onsite health consultation services by factory nurses</li> </ul>	<p style="text-align: center; color: #00b09d;"><b>Positive/Negative Impacts</b></p> <ul style="list-style-type: none"> <li>· Positive Actual Impact: Building a friendly workplace environment</li> <li>· Positive Potential Impact: Becoming a happy workplace business</li> </ul> <hr/> <p style="text-align: center; color: #00b09d;"><b>Measures to remediate and prevent negative impacts</b></p> <p>NA</p>	<p style="text-align: center; color: white;"><b>2022 Goals</b></p> <ul style="list-style-type: none"> <li>· Injury rate (IR): 0</li> <li>· Lost day rate (LDR): 0</li> <li>· Employee periodic health checkups</li> <li>· Onsite health consultation by physicians: 6 times</li> <li>· Average health consultation by nurses: 6 times/month</li> </ul> <hr/> <p style="text-align: center; color: white;"><b>2022 Performance</b></p> <ul style="list-style-type: none"> <li>· Injury rate (IR): 0 (✔)</li> <li>· Lost day rate (LDR): 0 (✔)</li> <li>· Four sessions of health checkups for 214 persons in total (✔)</li> <li>· Onsite health consultation by physicians: 6 times (✔)</li> <li>· Average health consultation by nurses: 7 times/month (✔)</li> </ul> <hr/> <p style="text-align: center; color: white;"><b>2023 Goals</b></p> <ul style="list-style-type: none"> <li>· Injury rate (IR): 0</li> <li>· Lost day rate (LDR): 0</li> <li>· Employee periodic health checkups</li> <li>· Onsite health consultation by physicians: 6 times</li> <li>· Average health consultation by nurses: 6 times/month</li> </ul> <hr/> <p style="text-align: center; color: white;"><b>Planning Medium- &amp; Long-Term Goals</b></p> <ul style="list-style-type: none"> <li>· Complete the PSM system in June 2024</li> <li>· Zero accident through underground pipeline safety management</li> <li>· General industrial safety, environmental protection, and fire safety inspections in Linyuan Plant</li> </ul>	<p style="text-align: center; color: #e67e22;"><b>Effectiveness Assessment</b></p> <ul style="list-style-type: none"> <li>· Hold the OSHC meeting each quarter to review and follow up the status of safety and health improvements.</li> <li>· Hold the management review meeting of the OH&amp;S management systems to review the effectiveness of the OH&amp;S management systems.</li> </ul> <hr/> <p style="text-align: center; color: #e67e22;"><b>Grievance Mechanism</b></p> <ul style="list-style-type: none"> <li>· Establish the “Procedures for Implementation of Communication and Consultation” to establish, implement, and maintain channels and processes for communication, engagement, and consultation of ESH issues. Please refer to the “Environmental impact grievance channels” section for more information.</li> </ul> <hr/> <p style="text-align: center; color: #e67e22;"><b>Evaluation of the management approach</b></p> <ul style="list-style-type: none"> <li>· Timely review the occupational safety and health improvements for workers through the OSHC meeting.</li> </ul>

## OH&S

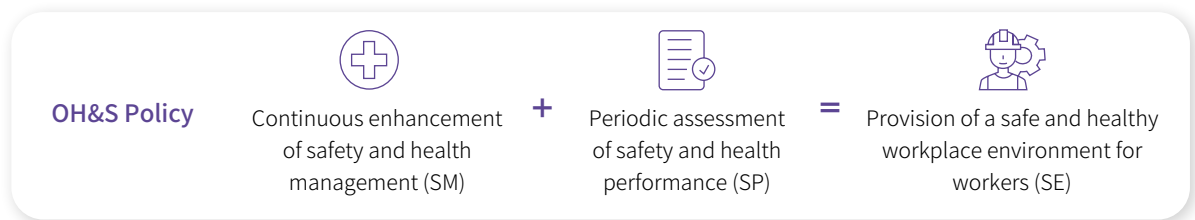
By implementing the OH&S management systems in Linyuan Plant and coordinating with USIG’s “USIG Safety and Health Partnership Regional Joint Defense” system, we conduct onsite tour inspections to enforce OH&S management through mutual supervision and experience sharing among USIG businesses. Each month we attend the “Linyuan Industrial Park Safety and Health Promotion and Industrial Park Regional Joint Defense” meeting held by the Linyuan Service Center. Through the experience and concept exchange on regional joint defense among park businesses, we improve park safety and health. We conduct legal compliance audits in response to the general inspection of industrial safety, environmental protection, and fire safety of Linyuan Industrial Park implemented by MOEA and also establish relevant compliance KPIs and process leading indicator to implement routine inspection and ingrain industrial safety and environmental protection awareness to lower the industrial safety and environmental protection risk in operations.

Linyuan Plant passed the certification of the ISO 45001 OH&S management systems in 2019 and the certificate renewal certification on 13 May 2022. The validity of the new certificate will expire on 23 April 2025. We also pass third-party verification every year.

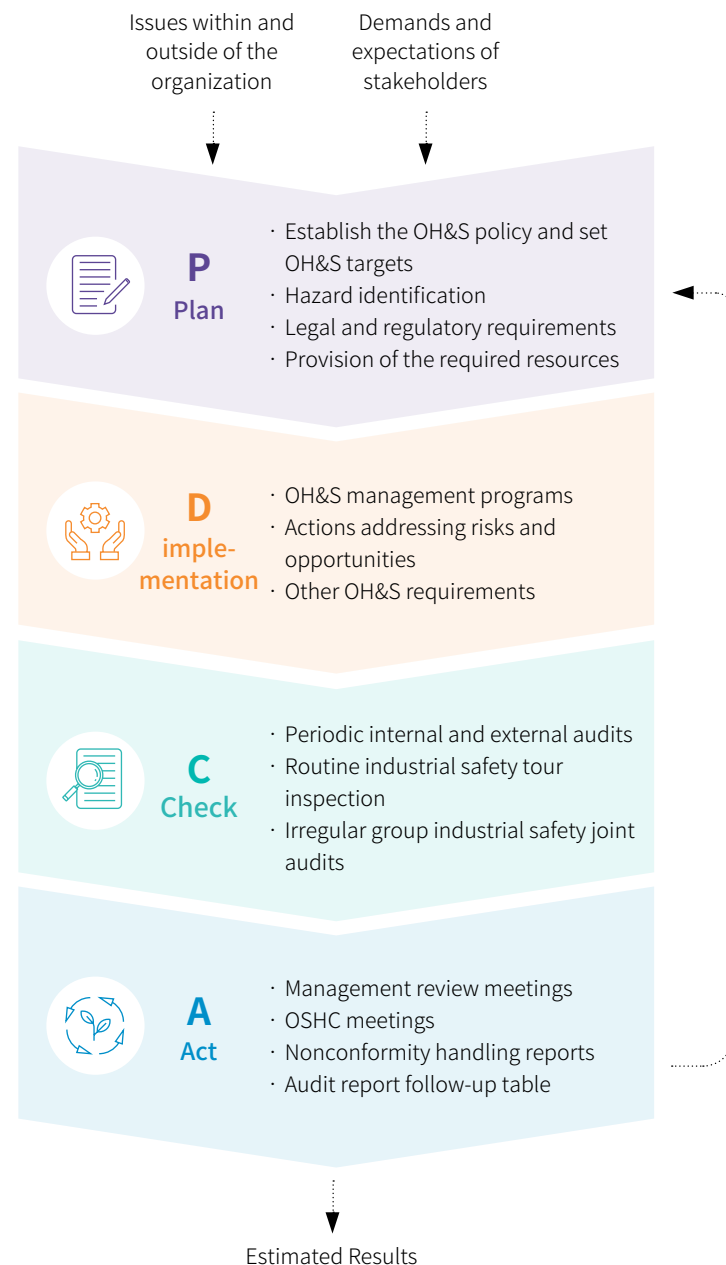
**The scope of management system verification is Linyuan Plant, covering both the employees and workers who are not employees of Linyuan Plant. After excluding the employees of Taipei HQ, the employee coverage rate is 90%. The coverage rate of workers who are not employees (including contractors, outsourcing service providers, contract workers, and visitors whose work and/or workplace is controlled by the organization, same as below) is 100%. [GRI 2-8, 403-1](#)**

In October 2020, Occupational Safety and Health Administration (OSHA) approved the extension of our occupational safety and health performance for three years (expiry: 28 June 2023). We are among one of the 91 businesses (updated on 3 January 2023) passing the OSHA performance review and recognition. The review content includes safety and health policy, hazard identification, change management, procurement management, hazardous chemicals assessment and management, incident report, accident investigation and statistics, workplace health management and health protection, and emergency response action.

The diagram below shows the operation of the management system. Through the plant, do, check, and act (PDCA) cycle, we accomplish the safety and health management targets of the OH&S management systems. We also continuously check and discover problems and timely take corrective action, develop a complete OH&S management system, create a safe and comfortable workplace environment, and protect the safety and health of employees and workers who are not employees.



## Process of Linyuan Plant’s OH&S Management System



Performance of OH&S management systems in 2022:

### Safety and Health Performance

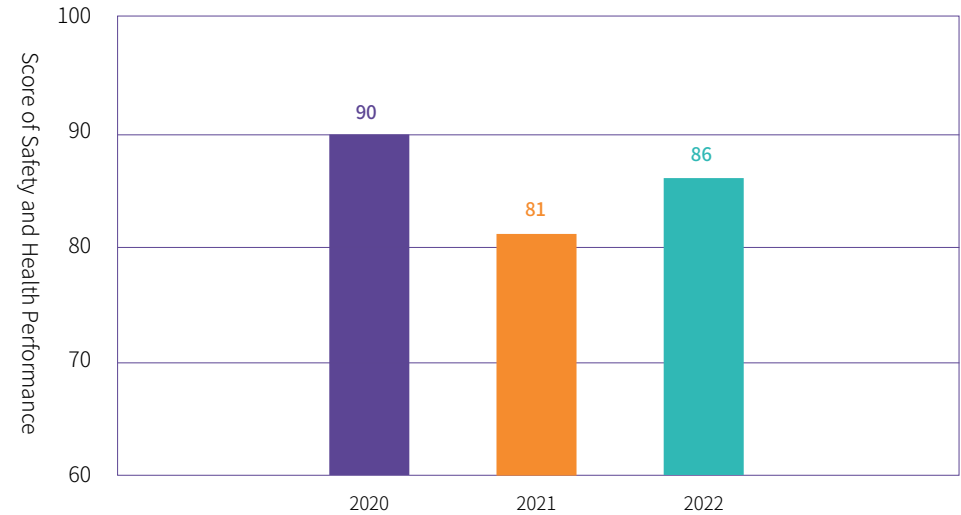
#### Active Indicators

1. Accomplishment rate of safety and health management programs
2. Operation environment test
3. Allowable concentration of organic solvents in operating environments.
4. Health checkups and health talks
5. Safety and health publicity, education, and training

#### Passive Indicators

1. Number of accidents (including close calls)
2. Violations and fines

Score of Safety and Health Performance of Linyuan Plant in Past 3 Years



We scored performance through the self-assessment of active and passive indicators. The total score of safety and health performance in 2022 was 86. Marks were deducted from the passive indicators--number of accidents and violations and fins--due to the explosion panel breakage of reactor R-1201 on 28 March 2022.

By identifying related hazards and assessing related risks and opportunities within the organization through employee competence and behavior, work, activities, facilities, and changes, we can identify more clearly the hazards of risks required for prioritized handling in the OH&S management systems and the opportunities for early action to improve OH&S performance so as to control risks within the acceptable level and improve OH&S performance. [GRI 403-2](#)

### Processes for Hazard Identification and Risk and Opportunity Assessment



$$\text{Risk level} = \text{Frequency} \times \text{Severity} \times \text{Loss Likelihood}$$

- Frequency, severity, and loss likelihood are divided into five levels by significance
- **Unacceptable risk: Risk level  $\geq$  30 marks**



**Results of Hazard Identification and Accident Investigation in 2022** GRI 403-2

Unacceptable risks:

Operation	Deviation from Standard	Control	Corresponding Action Plans and Performance
TPC Power Supply	System halt due to power undersupply or low reliability	Administration	Four emergency response drills each quarter
Recycle line Xylene CIP	Pipelines or equipment are not emptied, diaphragm valves are not closed.	Engineering control	Plan budgets, make modifications, increase online xylene CIP equipment
External thickness inspection of pressure vessels and pipelines.	Burn risk due to measurement negligence and equipment contact	Personal protective equipment (PPE)	Inspectors are required to wear gloves or use infrared thermometers to check temperatures in advance.
Reactor (R-1101/R-120) stop	Uncontrolled reaction due to failure to stop the catalyst pump.	Administration	Implement scenario simulated drill from time to time each month for operators to get familiar with various situations, organize four emergency response drills each quarter
Ethylene underground pipeline management	Underground pipeline ethylene leakage	Engineering control	There was no ethylene leakage in 2022 due to the implementation of action plans with one emergency response drill each year
Equipment lockout, out of service	Failure to meet the government requirements in the resumption procedures or contents when applying for resumption.	Administration	Request for assistance from experts, scholars, or government units to meeting the government requirements.
Sample analysis with differential scanning calorimetry (DSC)	Nitrogen pipeline leakage	Engineering control	Install oxygen alarms

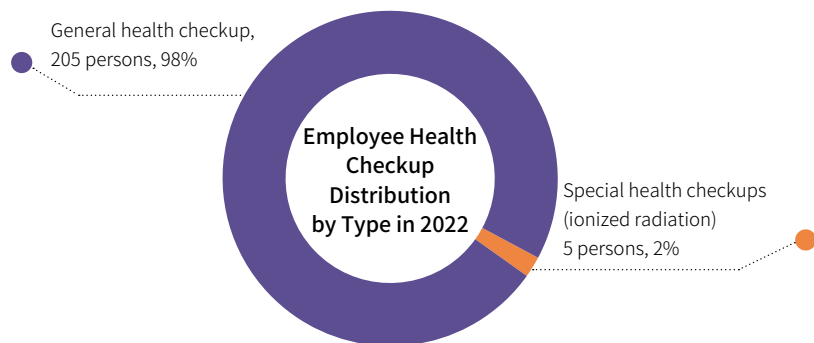
Investigation of incidents:

Accident Type	Situation Description	Corrective and Prevention Action
Critical accident	On 22 January 2022, there was a steam leakage caused by the abnormal action of the protective device (explosion panel) of steam bumping tank V-1227 of line 2.	<ol style="list-style-type: none"> <li>1. Wrap up the explosion panel pipeline with aluminum foil to prevent rainwater from entry.</li> <li>2. Organize training for safety equipment maintenance and diaphragm valve removal.</li> <li>3. Revise the related SOPs of safety equipment maintenance.</li> <li>4. Remove the related front diaphragm valve and explosion panel and install the blind flange.</li> </ol>
Critical accident	On 28 March 2022, the reactor experienced a rapid temperature and pressure rise, and the safety device (explosion panel) broke as the pressure exceeded the pressure limit.	<ol style="list-style-type: none"> <li>1. Formulate new catalysts to replace the deteriorated catalysts.</li> <li>2. Examine catalysts when they are not used for 10 days. If they are not used for 14 days, they should be unloaded and stored in the cold storage for further processing.</li> <li>3. Revise in-house SOPs to include it in the PSM items.</li> <li>4. Arrange education and training to strengthen personnel training on catalyst management.</li> <li>5. Further guidance and optimization of the PSM system.</li> </ol>

## Occupational health management GRI 403-3 SASB RT-CH-320a.2

We request new employees to receive physical checkups to understand their physical condition so as to assign them an appropriate job. Additionally, we also arrange health checkups for employees at OSHA-accredited hospitals each year at the company's expense to protect the physical and mental health of employees.

In August 2022, we arranged four sessions of health checkups for a total of 210 employees of Linyuan Plant. We also implemented the graded management system for special health checkups and reported the results to the competent authorities for reference. The graph below shows the health checkup distribution by type.



Note: Special health checkups include additional checkup items based on the nature of jobs.

Although workers of Linyuan Plant are working in a high-risk and special operation areas, **there was no occupational accident or health hazard**, as well as work-related ill health in 2022. **The health checkup results of all employees were included in levels 1 and 2 management and follow-up.** Factory nurses provided at least six times of onsite consultation each month, and contracted physicians provided onsite service in every even month to control and produce statistics of the health checkup results.

## Health promotion GRI 403-6



### Onsite health service by contracted physicians

**6** times/year, contracted physicians provide onsite health service for employees and workers who are not employees every even month.

**40** persons, number of employees and workers who are not employees receiving health service.

### Health talks

**47** persons, number of employees participating in health talks

In 2022 we organized two health talks to provide health consultation service

### Factory nurse health service

**7** times/ month, 89 times of factory nurse health service for employees and workers who are not employees

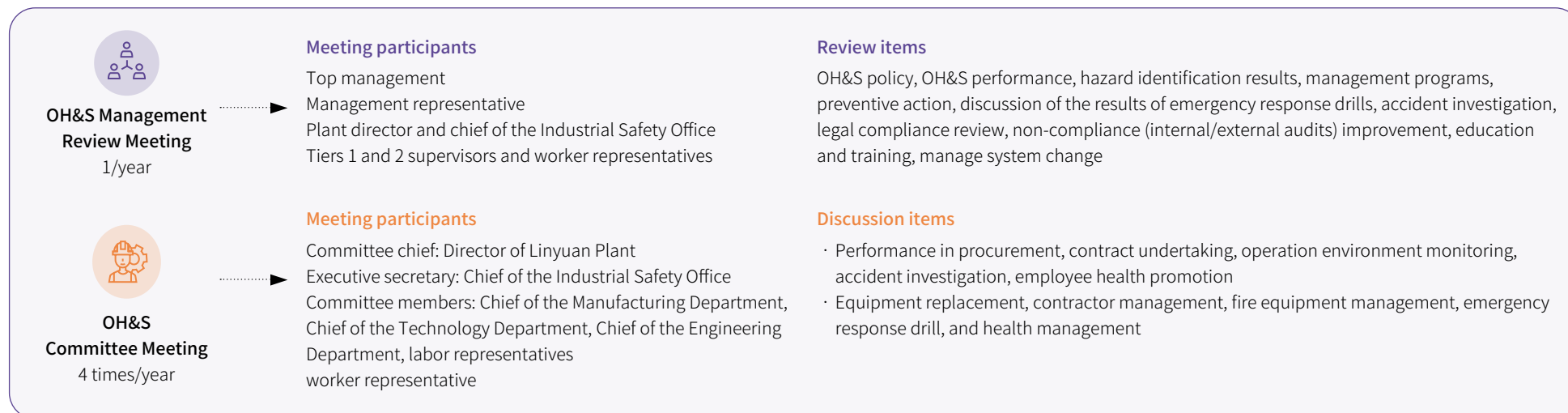
### Employee club activities

**251** persons/year

Following the gradual decline of COVID-19, some employee clubs began to organize club activities in 2022, although the epidemic control measures were maintained. Currently, 7 of the 15 employee clubs established by EWC have started organizing annual events with more participants than in the previous year for employees to relieve stress and improve physical health.

### Worker participation, consultation, and communication on occupational health and safety GRI 403-4

We periodically hold the OH&S management review meeting (at least once a year) and OSHC meeting (quarterly) for the plant director, chief of the Industrial Safety Office, tiers 1 and 2 supervisors of all units, labor representatives (6), worker representative (1, chairperson of the labor union) to communicate and discuss matters relating to OH&S management, hoping to achieve the goal of zero occupational accident.



### Education and training on occupational health and safety GRI 403-5

The table below shows the hours of OH&S education and training of Linyuan Plant in 2022:

Education, training, and publicity on occupational health and safety are the foundation to enhance the OH&S awareness in employees. We have established the “Regulations for Education and Training on Occupational Health and Safety” to arrange training on the related knowledge and skills for all types of employees based on the actual needs. Apart from external training, we also hold various sessions of internal education and training on occupational health and safety in collaboration with the labor union each year. We also hire physicians to give health education and talks to employees based on the results of health checkups. **The total hours of employee industrial safety training in 2022 were 4,078 hours, covering occupational health and safety (2,883 hours) and PSM (1,195 hours), accounting for about 79% of the total hours of training (5,188 hours) in 2022**

Type	Number of participants	Hours of training
OH&S OTJ training (including workers who are not employees)	328	2,376
PSM	281	1,195
Fire prevention training	40	240
Underground pipeline personnel training	22	88
Health management training	49	103
Hazardous chemicals training	5	76

**Contractor management** GRI 2-8, 403-7

The safety management of contractors and suppliers is very important to Linyuan Plant. Hence, apart from establishing “Regulations for Safety and Health Management of Joint Operations with Contractors” and the “Workplace Health and Safety Rules for Contractors”, we also hold the consultative organization meeting to inform contractors of the hazards in the workplace environment and counteractions before their entry for construction. Additionally, we conduct onsite inspection before construction to ensure that workers have completed training on the occupational health and safety notification before construction and only those passing the test are allowed to enter the plant for construction so as to ensure the safety and health of contractors’ employees.

Every day the Industrial Safety Office conducts occupational safety and health tour inspection on both employees and workers who are not employees. In 2022 a total of 187 nonconformities were found during onsite tour inspection. Violation of the occupational safety and health regulations in general operation was the most common nonconformity (e.g., content and flow indication, pressure gage anomaly, improper operation checks). By 31 December 2022, a total of 166 nonconformities were corrected, with a completion rate of 89%. The remaining 21 nonconformities were hardware nonconformities, including pipeline corrosion (9), road surface damage (5), fire coverage (1), equipment foundation damage (2), ladder (1), containment dike damage (2), and refractory mortar replacement (1). In consideration of operation safety, corrections can only be made when the whole plant stops operations.



Safety and health education and training



Training on occupational health and safety for contractors



Onsite construction coordination of contractors 2022.01.13



Employee health talk

2022.11.21

<p><b>61 times</b></p> <p>Number of consultative organization meetings held before contractors started construction in the plant.</p>	<p><b>100%</b></p> <p>Rate of training on occupational safety and health of works before construction</p>
<p><b>187 cases</b></p> <p>Number of nonconformities found during occupational safety and health onsite tour inspection</p>	<p><b>89%</b></p> <p>Rate of completed corrections of nonconformities found in occupational safety and health onsite tour inspection</p>



Labor education and training



PSM training

### Workers covered by the occupational health and safety management systems GRI 403-8

The scope of verification of the occupational health and safety management systems is Linyuan Plant, covering both employees and workers who are not employees.

#### Internal Audit

Apart from establishing the “Occupational Safety and Health Audit SOP” and the “Process Safety Management Audit SOP”, we draw up the internal audit program in accordance with ISO 45001:2018 and the Regulations for Periodic Implementation of Process Safety Assessment to audit the management systems periodically. The audit covers both employees and workers who are not employees.

**218 persons**

Number of employees  
of Linyuan Plant

**100 %**

Audit coverage rate

#### External Audit

Third-party audit unit: SGS  
Audit reference: ISO 45001:2018

**7,620 persons**

Number of workers (contractors) who are not  
employees working in Linyuan Plant

**100 %**

Audit coverage rate

### Statistics of Types of Disabling Injuries of APC in 2022

Injury Class	Fall/tumble	Inhalation/ intoxication/ anoxia	Pinch	Burn	Roll	Electric shock	Cut/scratch	Noise	Sprain	Impact	Fire Explosion	Falling Object
Employees	0	0	0	0	0	0	0	0	0	0	0	0
Non-employee	0	0	0	0	0	0	0	0	0	0	0	0

When an incident breaks out, the concerned party should make an emergency response, immediately request for assistance from the supervisor, and secure the integrity of the incident scene. Then, the party concerned should report the causes, status, and process of the incident to the supervisor to start an investigation, submit an incident investigation report, and propose corrective action. After report approval, the supervisor should follow up the corrective action and close the file after corrective action is completed.

### Work-related injuries GRI 403-9

Statistics on work-related injuries of APC in 2022: SASB RT-CH-320a.1

Regions Gender	Employees in Taipei		Employees in Kaohsiung	
	Male	Female	Male	Female
Injury rate (IR)	0	0	0	0
Occupational Disease Rate (ODR)	0	0	0	0
Lost day rate (LDR)	0	0	0	0
Work-related deaths	0	0	0	0

- Note1. Injuries (disabling): Included employees could not go to work on the following day after treatment and applied for work-related sick leave or work-related injury with fatalities. Minor injuries (resolved after first aid or medical attention) were excluded.
2. Lost days: Started from the day following the injury and the day of work-related sick leave, calculated by calendar day.
3. Injury rate (IR) = Number of injuries x 200,000 hours worked ÷ total hours worked
4. Lost day rate (LDR) = Number of lost days ÷ total hours worked (8 hours as one day)
5. Occupational disease rate (ODR) = Number of employees suffering from occupational diseases ÷ Total number of employees
6. Workers who are not employees included contractors, visitors, and those having activities in the plant. ODR and LDR were excluded because no data was collected.



### COVID-19 epidemic prevention measures

1. Employees are requested to measure body temperature before entry and get medical attention and rest at home if they have a fever. Records are maintained for each time of measurement to facilitate traceability. Employees with probable symptoms, such as fever (forehead temperature  $\geq 37^{\circ}\text{C}$  or ear temperature  $\geq 37.5^{\circ}\text{C}$ ) or symptoms of respiratory tract infection or loss of smell, are not allowed to enter the building.
2. Employees are requested to wear a facemask and are not allowed to drink or eat at all times on the company bus.
3. Employees are requested to minimize domestic/overseas business trips and business visits and replace them with videoconferencing. During epidemic control, domestic/overseas business trips must be approved by the president in advance.
4. Contractors, visitors, and government personnel must measure the forehead temperature before entry. Those with a forehead temperature over  $37^{\circ}\text{C}$  are not allowed to enter the plant.
5. All are requested to maintain the social distance. The employee canteens supply meals in boxes. Employees may select food from the canteen (always wearing a face mask).

In addition to the above epidemic control measures, we have also set up the “Self-Imposed Health Management Report System” to request employees report the relevant conditions every day to ensure total epidemic control.

日期	姓名	年龄	部门	项目	体温	状况	完成
05/28				晨检	36.5	良好	完成
05/29				晨检	36.5	良好	完成
05/30				晨检	36.5	良好	完成
05/31				晨检	36.5	良好	完成
06/01				晨检	36.5	良好	完成
06/02				晨检	36.5	良好	完成

### Emergency response exercise plan

As a member of the Taiwan Responsible Care Association (TRCA), the safety and health promotion committee and regional joint defense organization of Linyuan Industrial Park, we organize fire and underground pipeline emergency response drills every year to develop the emergency response and self-imposed safety management capabilities of employees.

#### List of Fire and Underground Pipeline Emergency Response Drills of Linyuan Plant in 2022

Date	Emergency Response Drilling Item
May 27, 2022	Self-Defense Fire Safety Taskforce Drilling Plan for 2022H1. (Location: APC Linyuan Plant)
August 23, 2022	Annual Self-Imposed Drill of the 3rd Industrial Pipelines of the Underground Pipelines Organization. (Location: Linyuan No. 11 Park)
November 12, 2022	Self-Defense Fire Safety Taskforce Drilling Plan for 2022H2. (Location: APC Linyuan Plant)

### ! Fire Emergency Response Drill !



### Zero disabling injury

From 14 October 2010 to 31 December 2022, we accumulated a total of 5,321,152 hours of zero disabling injury, and the accumulation continues.



### List of Process Safety Emergency Response Drills of Linyuan Plant in 2022

Date	Process Safety Emergency Response Drilling Item
March 17, 2022	Process Power Supply Disruption Emergency Response Drill
May 19, 2022	Ethylene Supply Disruption Emergency Response Drill
November 23, 2022	Process Nitrogen Supply Disruption Emergency Response Drill
November 23, 2022	Tap Water Supply Disruption Emergency Response Drill

### Process Safety Emergency Response Drill

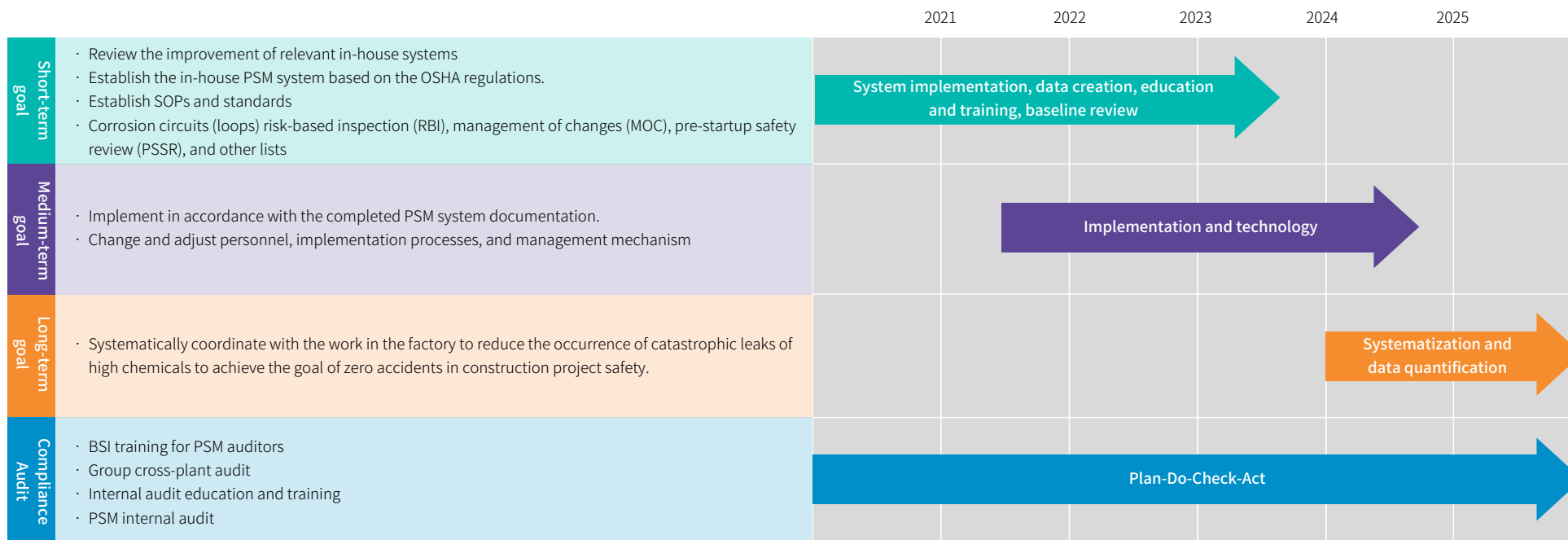


## Operation Safety Management

**Material issue: Process safety management (PSM) ; Corresponding sustainability principle: Safety and harmony** GRI 3-3

Management Approach and Its Components	Impact Management	Targets and Performance of Management Approach	Evaluation of Management Approach
<p style="text-align: center;"><b>Significance to APC</b></p> <hr/> <p>APC is a Category C hazardous workplace. To prevent low-likelihood high-hazard critical incidents, strengthen the in-house process safety management (PSM) mechanism, and meet the comprehensive inspection requirements of Linyuan, we need to continuously improve and implement PSM.</p> <p style="text-align: center;"><b>Management Practice and Target</b></p> <hr/> <p>Implement the PSM system and optimize the management mechanism in accordance with the Regulations for Periodic Implementation of Process Safety Assessment and the OSHA PSM spirit to lower the likelihood of high-hazard and high-risk incidents and so to reduce property losses and enhance worker safety.</p> <p style="text-align: center;"><b>Strategy</b></p> <hr/> <p>Implementation and promotion of PSM</p> <ul style="list-style-type: none"> <li>· Provide technical consultation for in-house process safety and plan and coordinate the implementation items of each unit; maintain coordination with all units to understand the implementation needs of their improvements.</li> </ul> <p>Establishment of process safety performance management</p> <ul style="list-style-type: none"> <li>· Follow up on the progress of PSM implementation and design the key monthly management objectives and the annual KPI management system based on OSHA's PSM system and PdM &amp; ERM Division's policy to enhance work performance.</li> </ul>	<p style="text-align: center;"><b>Positive/Negative Impacts</b></p> <hr/> <ul style="list-style-type: none"> <li>· Negative Actual Impact: Improper process safety management</li> <li>· Negative Potential Impact-Accidents of highly hazardous chemical substances</li> </ul> <p style="text-align: center;"><b>Measures to remediate and prevent negative impacts</b></p> <hr/> <ul style="list-style-type: none"> <li>· We have implemented the PSM system and will prevent accidents through systemic management.</li> <li>· The PdM &amp; ERM Division audits our PSM progress and supervises our PSM performance.</li> <li>· We have designed the A, B, and C checklists for in-house chemicals for periodic inspection.</li> <li>· Run the hazard and operability study (HAZOP) on process modifications with higher risk as proven by the preliminary hazard analysis in the management of change (MOC) to ensure process safety.</li> <li>· Implement periodic equipment maintenance to lower the risk of leakage of high-hazard chemical substances.</li> <li>· Arrange education and training for related personnel after the completion of new process construction or process modification</li> </ul>	<p style="text-align: center;"><b>2022 Goals</b></p> <hr/> <ul style="list-style-type: none"> <li>· Process safety incident: 0</li> <li>· Completion of 70% of information lists required by PSM implementation.</li> </ul> <p style="text-align: center;"><b>2022 Performance</b></p> <hr/> <ul style="list-style-type: none"> <li>· Process safety incident: 1 (✘)</li> <li>· Completion of 85% of the information lists required by PSM implementation (✔)</li> </ul> <p style="text-align: center;"><b>2023 Goals</b></p> <hr/> <ul style="list-style-type: none"> <li>· Process safety incident: 0</li> <li>· Completion of 97% of the information lists required by PSM implementation (✔)</li> </ul> <p style="text-align: center;"><b>Planning Medium- &amp; Long-Term Goals</b></p> <hr/> <ul style="list-style-type: none"> <li>· Total participation and continual improvement of the PSM policy.</li> <li>· Complete creating all information lists (100%) required for PSM implementation and associate them with the existing jobs.</li> <li>· Conduct PSM compliance audits on a triennial cycle.</li> <li>· Make continual improvement to support USIG's cross-plant audits.</li> <li>· Lower the likelihood of catastrophic leakage of high-hazard chemicals to achieve zero accident through PSM.</li> </ul>	<p style="text-align: center;"><b>Effectiveness Assessment</b></p> <hr/> <ul style="list-style-type: none"> <li>· Hold the PSM implementation and status meeting and coordination meeting each month.</li> <li>· Write the PSM implementation report and status report of commissioned construction research project.</li> <li>· Design the performance management system based on the information lists required for APC's PSM implementation based on PMERM's follow-up policy to assess and review the completion rate of data creation.</li> </ul> <p style="text-align: center;"><b>Grievance Mechanism</b></p> <hr/> <ul style="list-style-type: none"> <li>· Report the PSM progress of Linyuan Plant in the executive meeting, plant affairs meeting, and monthly coordination meeting.</li> <li>· Provide technical consultation related to in-house process safety and plan and coordinate the implementation items of each unit; maintain close contact with the supervisors of all departments and sections, PdM &amp; ERM and the consultants to understand the implementation needs and reach consensus at all times.</li> </ul> <p style="text-align: center;"><b>Evaluation of the management approach</b></p> <hr/> <ul style="list-style-type: none"> <li>· Report the PSM progress of Linyuan Plant in the executive meeting, plant affairs meeting, and monthly coordination meeting.</li> <li>· Make continual improvement in response to the request of external experts and legal amendments to meet the expectation for PSM implementation of external units.</li> <li>· Implement subsequent PSM tasks as scheduled and associate them with the existing tasks to internalize PSM and maintain traceability.</li> </ul>





### Process Safety Management (PSM)

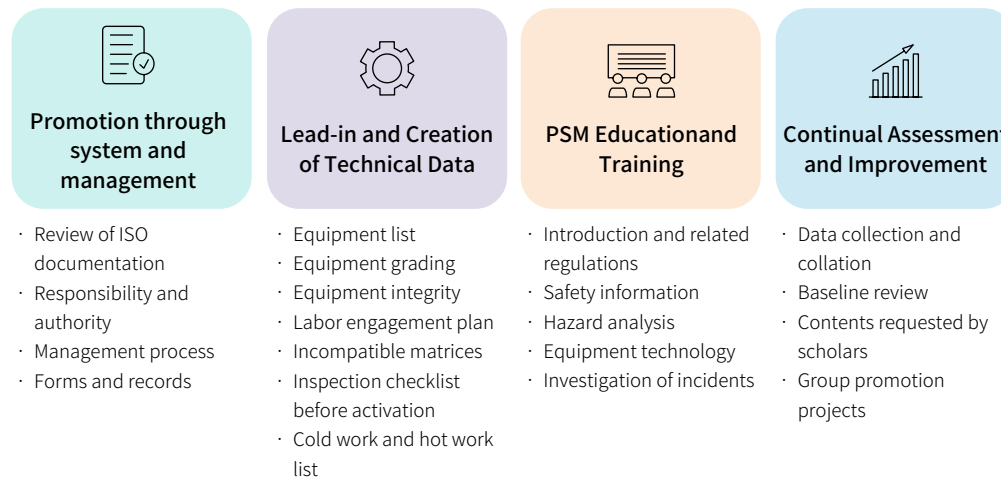
Process safety is a critical issue to the global petrochemical sector, and PSM system implementation has become a global trend. Apart from ensuring safe process operation and reducing the loss on unnecessary unexpected operational interruption for a plant, a sound PSM system can also lower the impact on local communities.

As PSM has become a trend in the petrochemical sector, to prevent low-likelihood and high-hazard critical accidents, PSM is crucial to APC.

In recent years Linyuan Plant has been actively implementing PSM based on OSHA’s PSM system and set up short-, medium-, and long-term goals to implement 14 major PSM items.

In 2021 and 2022, we implemented PSM in terms of four short-term goals: system management, technology data lead-in and creation, PSM education and training, and continual assessment and improvement. Today, the in-house PSM has outperformed the current legal requirements, and we are making continual improvement to exceed the legal and policy requirements. In 2023 we will implement subsequent tasks as scheduled and associate them with the existing tasks to internalize PSM and maintain traceability.

### Process Safety Management (PSM)



## Process safety incident

We establish SOPs relating to initiator operation, arrange personnel education and training, and improve the PSM system to maintain process operation safety.

In 2022, there was one process safety incident, and we were fined by the Kaohsiung Environmental Protection Bureau and Kaohsiung Labor Affairs Inspection Office.

### Incident description

On 3 March 2022, a TPC power outage caused an unplanned stop of all four production lines in the plant. Affected by the power disruption, the production equipment of line 1 was unable to resume feeding materials for LDPE production. On 28 March 2022, when producing LDPE with line 2, heat released from the reaction and initiator flow became unstable because the originally formulated initiator deteriorated. This thus triggered an ethylene pyrolysis and a surge of the reaction temperature and pressure of levels 2 and 4 of the reactor. As a result, the explosion panel of the reaction was activated to release pressure and produce black smoke. We were then fined by the Kaohsiung Environmental Protection Bureau.

### Cause analysis

1. Direct cause (estimated energy or hazardous substances)  
Reactor R-1201 experienced a rapid temperature and pressure rise, and the safety device (explosion panel) broke as the pressure exceeded the pressure limit, leading to an ethylene leakage.
2. Indirect cause  
Unsafe situation: High-temperature initiator deteriorated, initiator flow became unstable during the reaction, causing the heat of reaction and leading to the reactor temperature and pressure surge.  
Unsafe behavior: Failure to verify initiator quality and use of deteriorated high-temperature initiator.
3. Basic cause: Deterioration of high-temperature initiator due to prolonged storage.

### Corrective action

1. Replace the safety explosion panel and implement strict control of initiators.
2. Revise initiator-related SOPs and arrange education and training for related personnel.
3. Improve the in-house PSM system to maintain process operation safety.

## Statistics on Process and Transportation Safety Incidents of Linyuan Plant in 2022

PSIC	Process safety incident		Process safety incident Transportation safety incident
	PSTIR	PSISR	
1	0.36	0.36	0

Note 1: Total count of process safety incidents (PSIC)

Note 2: Process safety total incident rate (PSTIR) = (Total process safety incidents x [200,000 working hours] ÷ Total hours worked by workers)

Note 3: Process safety incident severity rate (PSISR) = (Total severity score for all process safety incidents x [200,000 working hours] ÷ Total hours worked by workers)

Note 4: There was one process safety incident. Based on the process safety index of the Center for Chemical Process Safety (CCPS), the severity level was grade 2, and the total score was one mark.

Note 5: Total hours worked by workers: Employees 458,184 hours + Contractors 90,632 hours = 548,816 hours

[SASB RT-CH-540a.1](#) • [540a.2](#)

## Transportation safety management

The safety management of process operation, materials transportation, and product transportation are important to us, and we have established safety management SOPs for related operations.

## Materials transportation

Ethylene and VAM are the major production materials of APC Linyuan Plant. They are transported through underground pipelines and tankers.

In consideration of materials transportation safety, most major production materials are transported via underground pipelines, while others are transported by tankers. We have established relevant maintenance measures for the safety management of underground pipelines, such as preventive maintenance, routine tour inspection, anomaly management, and emergency response drills. We also select qualified tankers to transport materials, establish well-planned emergency response procedures and plans, and comply with the relevant control regulations and management measures.

The table below shows the method, quality, and proportion of transportation of major materials in 2022.

### Method of Materials Transportation and Proportion of Linyuan Plant in 2022

Transportation Methods	Quantity (MT)	Proportion (%)
Underground Pipelines	107,936	81.6
Tanker	24,270	18.4

Based on the “equipment maintenance operations” and “safety and health operations” under the internal control system, we have established the “Underground Pipelines Inspection Work Instructions” to implement preventive maintenance, routine tour inspection, anomaly management, and emergency response on our underground pipelines within and outside of the plant to prevent corrosion and leakage of underground pipelines. In 2022 we completed the “2023 Underground Pipelines Maintenance and Operation Plan” and the “2022 General Implementation Report” and submitted them to the Kaohsiung City Economic Development Bureau.

In addition to organizing emergency response training and drills, we also actively take the necessary preventive action and implement management programs. The table below shows the major maintenance measures of underground pipelines management of Linyuan Plant.

### Underground pipeline maintenance measures

- Double protection including petrolatum tapes and impressed current cathodic protection.
- Daily routine inspection in collaboration with the pipeline joint defense organization.
- Outsourcing legally registered professional contractors to check the potential of cathode protection quarterly.
- Periodic pipeline pressure-holding test and real-time system monitoring of the transmission and receiving ends to ensure pipeline operation safety.
- Establishing relevant emergency response plans and reporting mechanisms and implementing emergency response training and exercises regularly.
- Stray current interference monitoring of underground pipelines along the Circular Light Rail in 2022.
- Full-length pipeline thickness test according to the test cycle requested by the self-governance ordinance of Kaohsiung Environmental Protection Bureau.



### Product transportation

We transport products with trailers, trucks, and container trucks. To ensure product transportation safety, we hire only qualified transporters and establish management regulations related to transportation outsourcing to maintain product transportation safety.

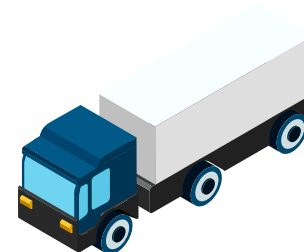
The table below shows the methods, quantity, and proportion of product transportation in 2022.

Methods of Product Transportation and Proportion of Linyuan Plant in 2022

Transportation Methods	Quantity (MT)	Proportion (%)
Trailers	30,147	23.1
Trucks	94,875	76.9

### Product transportation management

- Legally registered transporters.
- Passed ISO 9001 certification with qualified health and safety management personnel.
- Annual evaluation of performance, efficiency, cooperation and quality and proposals for improvement programs based on customer feedback at the transportation review meeting.
- Regular vehicle examinations according to the relevant regulations.
- Holding transportation safety meetings quarterly to ensure that contractors can safely transport products to the destination to minimize environmental impacts caused by transportation.



## 5.4 Social engagement

We actively engage in social welfare and community activities and have established the USI Education Foundation in collaboration with USI Corporation (USI), China General Plastics Corporation (CGPC), and Taita Chemical Co., Ltd. (TTC) to sponsor education for remote townships and the vulnerable to give vulnerable students the opportunity to flip their life through educational reform so as to end educational inequalities. We also establish long-term partnership with local communities, support local community development, assist in selling local agricultural products, and sponsor community environmental protection activities so as to promote local development and achieve mutual prosperity with local communities.

### Charity Events

**In 2022, we donated NT\$5 million to the USI Education Foundation.** In 2022, USI Education Foundation sponsored various activities with a total amount of NT\$13.61 million, including NT\$3 million for scholarships and grants; NT\$2 million for The Alliance Cultural Foundation, NT\$6 million for Junyi School of Innovation in Taitung; and NT\$2.61 million for other educational and charitable activities. To invest more resources in cultural and art development, we also supported the Cloud Gate Culture and Arts Foundation to promote its performances at home and abroad, as well as art education and residents' arts and cultural activities in the Tamsui community, enriching the cultural life of Taiwan and the world.

### Scholarships and grants

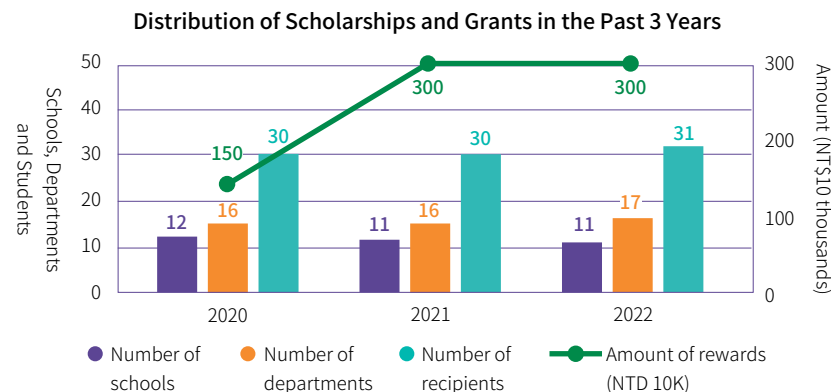
We offer scholarships to students from low-income families with outstanding performance and specializing in disciplines relating to chemical engineering, materials science, chemistry, and applied chemistry of 15 public and private universities to promote education and talent cultivation in related fields, encourage university students of related disciplines to study hard and cultivate outstanding industrial talent for society. 2022 marked the 11th year of the scholarships, and we have distributed scholarships amounting to NT\$17.1 million to 297 students over the past 11 years.

In 2022, we offered scholarships and grants of NT\$3 million in total to 31 students from 17 departments of 11 public and private universities, including 10 from doctoral programs, 16 from master's programs, and 5 undergraduates, and 23 of them were from low-income families. To encourage scholarship-winning students, the presentation and commendation ceremony was held at noon on December 9, 2022. USI officers attended the event to exchange opinions and experience with students, wishing them to keep studying in order to demonstrate positive influence and contribute to society.



**Expenditure on Sponsoring of USI Education Foundation in 2022**

- Taitung Junyi School of Innovation, NT\$6 million
- Scholarships and grants, NT\$3 million
- Other educational activities, NT\$2.61 million
- The Alliance Cultural Foundation, NT\$2 million



## The Alliance Cultural Foundation and Taitung Junyi Experimental High School

To invest more resources in rural education and the sustainable development of Hualien and Taitung, the foundation sponsors the Alliance Cultural Foundation and Junyi Experimental High School on a long-term basis. Established 13 years ago, The Alliance Cultural Foundation always has a blueprint: hoping that Junyi Experimental High School will become the base in Hualien and Taitung for developing future talent. It also helped building the Paul Chiang Art Center into an international cultural and art landmark in Taitung and even in Taiwan, while the Forest Culture Museum in Yingping, Taitung, and GS Forest in Fengbin, Hualien, are demonstrations of indigenous culture and arts distributed in all parts of Taitung and Hualien.

Based on his personal experience, Chairperson Stanley Yen of the Alliance Cultural Foundation (ACF) proposes the four stages of public interest. “Generosity” is Public Interest 1.0. It aims to feed and clothe those in need of food and clothes, to fund those in need of education funds, and assist others in need of emergency assistance. Many religious groups solve these immediate problems and support the basic needs of society with compassion. “Accommodation” is Public Interest 2.0. It aims to set the education or work environment in order for people to find the meaning of life and dignity of work. “Enhancement” is Public Interest 3.0. It means to provide a long-term accompaniment mechanism, like the case of Junyi School for Innovation that integrates primary and secondary education, to offer a better vertically integrated learning environment for the competent to change their fate and future. “Reproduction and Dissemination” is Public Interest 4.0. It aims to extend influence for others to learn by combining with government policies or sharing the experience of success and failure. At this stage of 3.0, ACF and Junyi School of Innovation will advance the teacher training program to “Public Interest 4.0”, hoping to continuously disseminate the experimental education model of Junyi School and turn it into the reference for the government to revise the remote township education policy. It is believed that the sustainable development of Hualien and Taitung will bear fruit in the next three to five years. In recognition of the care for Taiwan’s remote township education and concern about sustainable cultural development of Mr. Stanley Yen, the USI Education Foundation sponsors various projects for remote township education development proposed by ACF and Junyi School of Innovation.



The Waldorf education for the elementary school department and senior students participated in the “Mianshan School: Jiafeng Adventure 2-day 1-night Camp Course”

### Taitung Junyi Experimental High School: Realization of education for remote townships

The “Rural Education Seeds Cultivation Program” founded in 2012 supports children from economically vulnerable families in remote townships in Hualien and Taitung (also Pingtung in recent years) to go to Junyi School of Innovation in Taitung. Every year the program offers a third of the vacancies for grade 7 students and opens application for admissions of grade 10 students. 2022 marked the onset of program’s second decade. So far, the program has benefited a total of 210 students from low- and medium-income families, single-parent families, skipped-generation families, or families dedicating to indigenous culture promotion but cannot afford the full tuition and fees.

Over 80% of them are indigenous students from ethnic groups including Amis, Puyuma, Bunun, Payuan, Drekey, Tao, Truku, Cou, and Atayal. They hope that each education seed can become youth with “good character”, “cultural and art” literacy, and “critical thinking” and a world citizen who embraces enthusiasm, self-confidence, and international perspective and return to indigenous communities to become the seeds that change indigenous communities.

Schoolchildren in remote townships with less resources need connection with the world more in order to create more possibilities for their hometowns. Hence, in 2017 ACF activated the “Innovation and Overseas Study Education Program” to provide scholarships for highly potential students of Junyi School of Innovation to apply for overseas study at two-year community colleges, the United World College, or four-year university programs as a new start to connect with the world, develop specialties, and broaden their international view, so that they can become the power to change their communities and hometowns in the future. A total of 22 Junyi senior high school

students have studied in six foreign countries under the program. Due to the slowdown of the pandemic and through the experience sharing and encouragement of senior students, students began to consider about and prepare for studying overseas, including studying English more intensively. In 2022, the number of students applying for overseas student increased to 7.

### Toufen Junior High School Music Program

By integrating with the Harvest 365 Music Program of the Harvest 365 Foundation (Harvest 365), The Alliance Cultural Foundation collaborated with Toufen Junior High School to introduce the Toufen Junior High School Music Education Program in September 2021.

The professional choir instructors of Harvest 365 collaborated with the music teachers of Toufen Junior High School to form the Harmony Choir with 7th and 8th graders. Currently the choir has 25 members. Apart from the routine school club time, the choir also practices after class. It is hoped that vocal art can keep students in company through their growth and motivate students to perform on stage at the annual music festival so as to develop self-confidence in students.

Instead of selecting talent for competitions, this Music Program enables children to learn happily and sing for happiness. Through this choir course, we hope to let every child develop self-confidence and the courage to challenge through singing and develop their character and team spirit through the choir. This is the very reason for naming the choir “Harmony”. Rather than singing techniques or musical knowledge, the meaning of “choral--singing together” is the real progress in students. Through the influence of music, they feel the power, self-confidence, and happiness of one another. This program also hopes that students can continue to show their self-worth.



The “Creativity Module” of the senior high school department enables students to learn more about themselves through “exploration, inspiration, and achievement”.



Students of the “Creativity Module-International Hospitality” course of the senior high school department coordinates the Thanksgiving dinner.



The capstone project of students of the senior high school department presents the achievements of “self-learning” over the past three years



Harmony Choir of Toufen Junior High School

### Sponsoring other educational and philanthropic activities

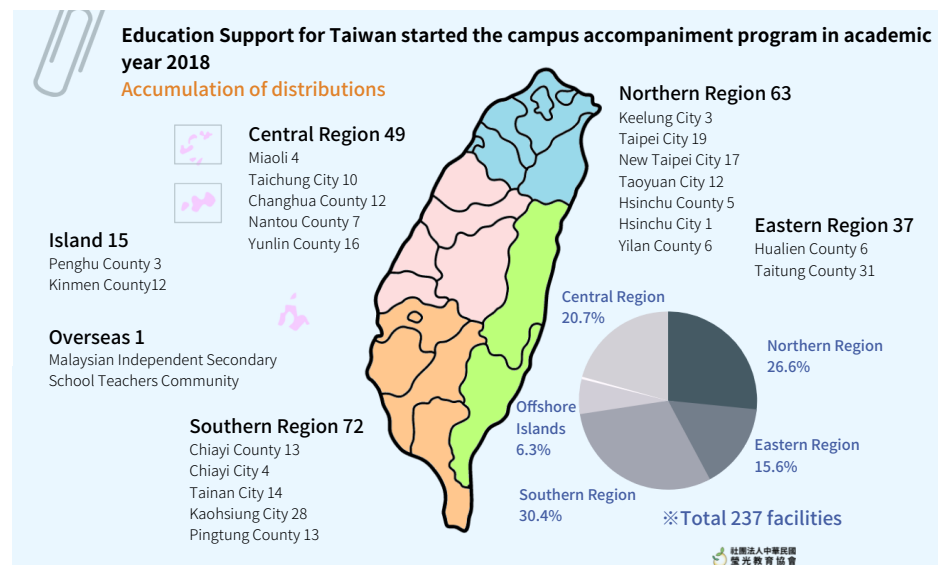
Other major sponsorships in 2022 included BOYO Social Welfare Foundation, Teach for Taiwan Association, Education Support for Taiwan, Cloud Gate Culture and Arts Foundation, and Taitung Blue Ocean Daily.

- 1 Founded in 2002, **BOYO Social Welfare Foundation** provides free “remedial instruction” after-school club services for junior high school and elementary school students from low-income families in the belief that “education gives hopes for children living in poverty” so as to achieve its mission “End Poverty with Education”. Additionally, the foundation also provides “care guidance” to remedy learning instability for each child from vulnerable groups to receive an appropriate education environment so as to develop their basic capacity and social competitiveness to end poverty in the future with their own ability. Since BOYO Social Welfare Foundation was established 20 years ago, each year it invests a large amount of labor and resources in curriculum design, develops remedial teaching materials, and trains parents in the community. Currently, there are 17 locations to provide after-school club service for over 2,000 students.
- 2 Founded in 2013, **Teach for Taiwan (TFT)** is a non-profit organization caring for “education inequity”, hoping to create equal opportunities in education for every child. Upholding the belief in “one for all and all for one”, through training competent youth with a sense of mission to teach at elementary schools in low-income rural communities for at least two years, TFT resolves the long teacher shortage and high turnover rate problems in the rural area. In 2014, it sent the first group of nine TFT teachers to eight schools in Taitung and Tainan, making this the onset of a change. So far, it has sent over 300 quality talents to the rural areas, including Taitung, Tainan, Pingtung, Yunlin, Hualien, and Nantou, to help over 6,000 children from vulnerable groups.



Children teaching scene of TFT

- 3 **Yingguang Education Association support for Taiwan** was founded in 2019 to start services with school accompaniment. It is now in over 230 schools and regional groups in all cities and countries, including offshore islands, to help schools solve problems and find developmental advantages. In 2022 it began promoting the “No-License Substitute Teacher Support Program” starting from Taitung. Through cultivating teachers for remote townships, it improves teaching quality and enhance the learning enthusiasm of students. By accompanying substitute teachers with “partner teachers”, the program provides corresponding



- 4 **Cloud Gate Culture and Arts Foundation** is a non-profit business aiming to “promote cultural development and international exchange through creation, performance, and promotion of dance and other arts and cultural activities”. The foundation includes Cloud Gate Dance Theater founded in 1973, Cloud Gate 2 established in 1999, and Cloud Gate Theater in Danshui founded in 2015. Apart from promoting domestic and overseas performance over time to enrich the cultural life of Taiwan and the world, it also directs the “Art Makers Project” to fund young choreographers to create new works and rehearse at Cloud Gate Theater and the “Wanderer” project to support young artists to broaden their horizons overseas. It also engages in promoting community art education and citizen arts and cultural activities in Danshui.

5 **Taitung Blue Ocean Daily** is a brand-new Taitung-specific ocean culture exchange activity promoted by the Taitung County Government in 2022 for the first time. For two consecutive weekends from 17-25 September, based on the slow travel and downshifting concepts, they launched the immersive ocean recreation life experience in Sanyuan Bay, Huosui Lake, Jinjun, and Green Island. Additionally, as Taiwan is the origin of Austronesian language family and culture, they specially combined with the Austronesian culture to provide ocean culture education and training and outrigger canoe experience, invited Hawaii national treasure grade master Kimokeo Kapahulehua and international professional canoeing coach Denes Szaszak to provide a skills exchange and organized the Hawaii “canoe blessing” to help more citizens to understand the Austronesian culture. Additionally, these two honorable guests also engaged in two-way exchange on Austronesian culture with National Taitung University, Taitung County Tunghe Elementary School, Junyi School of Innovation, and Fudafudak and Torik villages of the eastern coast of Taitung to progressively start connecting Taitung’s recreation development with the world.



## Community involvement

We actively care about and engage in community charitable activities, such as community environmental protection activities, community socializing activities, community sports club activities, community competitions, and others. Apart from maintaining friendship with community residents, promoting harmony with local communities, and fulfilling our corporate social responsibility, we also hire local workforces to enhance community recognition. In 2022 we hired 81 residents from Linyuan District. In 2022 we stopped all socializing activities in response to the government’s tightened epidemic controls due to COVID-19 and in consideration of possible community infection. This thus indirectly reduced our community engagement. We resumed some community welfare since the decline of COVID-19.

### Donation of protective clothing and N95 masks to sanitary personnel of Kaohsiung City Environmental Protection Bureau

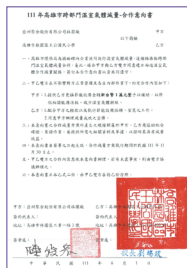
To empathize the hard work and danger in epidemic control of the sanitary personnel of Kaohsiung City Environmental Protection Bureau, five USIG businesses (USI, APC, TTC, TVCM, CGPCP) donated 250 sets of protective clothing to the Kaohsiung City Environmental Protection Bureau to ensure the operation safety of sanitary personnel. Additionally, we also sponsored rapid test kits to ensure the safety of workers working in other cities.





### Cross-sector GHG reduction collaboration

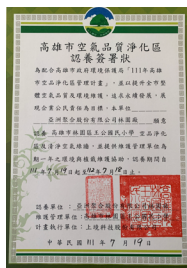
In response to the “Cross-Sector GHG Reduction Matching Plan” promoted by the Kaohsiung Environmental Protection Bureau, APC Linyuan Plant collaborated with Wang Gung Elementary School implemented GHG Reduction Program with Wang Gung Elementary School in Linyuan District to help the school purchase new energy-efficient equipment to reduce energy consumption and GHG emissions. The cooperation ended on 30 November 2022, and Headmaster Liu of Wang Gung Elementary School presented a certificate of appreciation to us.



Cross-sector GHG reduction collaboration with Wang Gung Elementary School of Kaohsiung City

### Air Quality Purification Area Management Program 2022 of Kaohsiung City Environmental Protection Bureau

We supported the Air Quality Purification Area Management Program 2022 of Kaohsiung City Environmental Protection Bureau to improve the air quality and maintain the environment of the whole city to pursue sustainable development and demonstrate our corporate social responsibility. We adopted the air quality purification zone base in Wang Gung Elementary School to provide the management unit with assistance in environmental and plantation maintenance during 19 July 2022 to 18 July 2023.



2022 Air Quality Purification Zone Management Program of Kaohsiung City Environmental Protection Bureau

### Sponsoring Children Are Us Kitchen

We organized the USIG Charitable Softball Competition and invited five USIG businesses, including USI, APC, TTC, TVCM, and CGPCP to the game. At the same time, we also sponsored Children Are Us Kitchen together with the USI Education Foundation. Apart from promoting friendship among employees of USIG businesses through the ballgame, we also encouraged employees to actively engage in social welfare activities for vulnerable groups to allow them to feel the warmth and care from society at the end of the year.



USIG sponsored Children Are Us Kitchen

### Socialization with ballgames

#### The 12<sup>th</sup> Petrochemical Sector Softball Competition: Champion

To promote healthy leisure activities and employee physical and mental health, enrich the knowledge of occupational accident protection and labor insurance related regulations of employees, and enhance the labor-management harmony and work efficiency of the petrochemical sector, the Petrochemical Business Division of CPC Corporation Taiwan and Kaohsiung City Confederation of Petrochemical Industry Associations co-organized the 12<sup>th</sup> Petrochemical Sector Softball Competition to invite petrochemical industry associations in Kaohsiung to form teams to join the competition. After the two-day competition, we stood out from all 21 teams. Through the enthusiastic engagement and strong determination of employees, we won the champion of the 12<sup>th</sup> Petrochemical Sector Softball Competition.



#### The 20<sup>th</sup> USI Cup Tennis Tournament

Together with USIG businesses TTC and TVCM, we commissioned the Linyuan Tennis Association to organize the “USI Cup Tennis Tournament”, and it has been 20 years now. The event aims at promoting friendship and harmony among USIG employees, the industrial park, and community tennis teams through the game. The event took place in Linyuan Senior High School on 22 October 2022. Despite the unpleasant weather, all players demonstrated their practice achievements and enjoyed playing with others. The organizers also prepared thoughtful small gifts and encourage employees to actively join this friendship game with communities.

