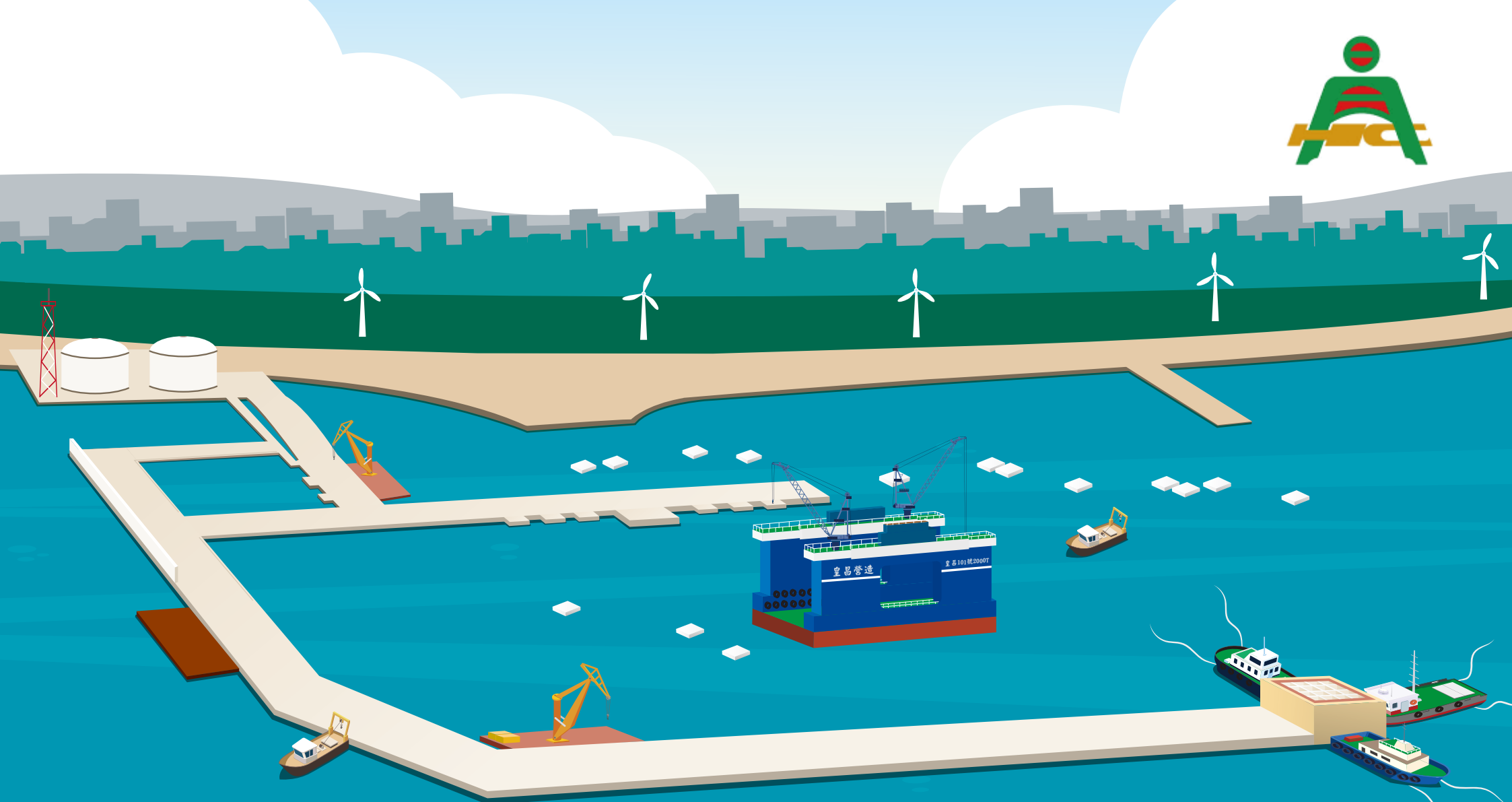




2024

皇昌營造永續報告書

HWANG CHANG
GENERAL CONTRACTOR
CORPORATE
SUSTAINABILITY REPORT

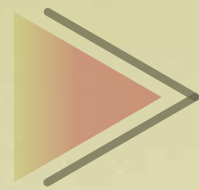


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Corporate Sustainability Report 2024 of Hwang Chang General Contractor Co., Ltd. ◀

About This Report

The Company upholds the principles of openness, transparency, and integrity to investigate and understand stakeholders' material issues of concern, discloses environmental, social, and governance strategies, actions, and communications with stakeholders. By publishing the corporate sustainability report, we hope that all relevant stakeholders can have a deeper understanding of Hwang Chang's firm commitment to sustainable development.

Report boundaries and principles

The information disclosed in this report is mainly focused on Hwang Chang and covers the performance of governance, environment and society from January 1, 2024 to December 31, 2024. The reporting boundary is not entirely consistent with the consolidated financial statement entities. The disclosed information is primarily based on Hwang Chang as the parent company, which accounts for 92% of the consolidated revenue. This report has been prepared with reference to the GRI Standards published by the Global Reporting Initiative (GRI) in 2021 as the main disclosure framework with reference to the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies, the Sustainability Accounting Standards Board (SASB), and the TCFD. All financial figures in this report are denominated in NTD and are consistent with the financial statements. Relevant descriptions are presented using internationally accepted indicators or annotated beside the data charts. In 2024, the Company did not experience any significant changes in scale, structure, ownership, or supply chain. If the scope of coverage of each chapter is different, it will be annotated in that paragraph.

Internal review

The members of the Sustainable Development Team collected, compiled, reviewed, and ensured the accuracy of the information before finalizing the report. It was reviewed by the heads of various units, and finally submitted to the Board of Directors for confirmation before publication.

Publication date

This report was last published in August 2024, and the current report is published in August 2025. In the future, it will be published before the end of August each year and also on the Company's website (<https://www.hcgc.com.tw/company/display/society>) for online reading and download.

Report Content Assurance

This report has been verified by SGS Taiwan Ltd. with reference to The GRI 2021 Standards and The AA1000 AS v3 Type 1 Moderate Assurance Level. The SGS Assurance Statement is attached in the appendix of this report.

Contact information

In order to continuously improve the quality and content of Hwang Chang's corporate sustainability report and to facilitate communication with stakeholders, please feel free to contact our contact person to provide any suggestions:

Address: 23F, No. 539, Tammei Street, Neihu District, Taipei City

Official website: <http://www.hcgc.com.tw/>

Contact point: Ms. Li

Contact email: esg@hcgc.com.tw



Message from Managers ◀

In 2024, global enterprises faced pressures and challenges from various dimensions—large-scale changes in climate and demographic structures, geopolitical turbulence caused by resource scarcity, digital waves triggered by accelerated technological advancement, and other issues that test corporate resilience and adaptability in addressing sustainability risks.

Confronting the numerous challenges of the new era, Hwang Chang proactively responds by establishing short-, medium-, and long-term objectives based on the United Nations Sustainable Development Goals (SDGs), transforming the concept of sustainable management into concrete measures, regularly tracking goal achievement rates, and ensuring the Company steadily advances toward its targets.

In terms of corporate governance, Hwang Chang operates with integrity as its foundation, adopting transparent policies in all governance matters. The Company strictly complies with relevant laws, maintaining communication and cooperation with shareholders, customers, employees, suppliers, and government entities to maximize protection of the rights and interests of both internal and external stakeholders.

In terms of environmental protection, Hwang Chang embraces green construction methods as its mission, championing environmental friendliness through the adoption of energy-efficient equipment, measures, and eco-friendly materials. The Company implements resource recycling and reuse practices, along with environmental management strategies to reduce the negative environmental impact of corporate operations.

In terms of social responsibility, Hwang Chang upholds the "people-oriented" management philosophy, adhering to gender equality and ensuring fair employment. To strengthen talent retention and foster workplace cohesion, Hwang Chang implements humanized management practices within the organization, providing generous remuneration and benefits, and adopting a transparent promotion system. Additionally, the Company provides professional education and training, conducts regular health examinations to enhance employees' professional competencies while ensuring employee health.

For Hwang Chang, the complex and ever-changing contemporary environment is not an obstacle, but rather a crucial opportunity for the Company to advance toward sustainable development. In the future, we will steadfastly advance toward our sustainable development goals, coexisting and thriving in harmony with the environmental ecosystem.



Performance highlights in 2024 ◀

- ▶ ' Annual revenue reached a record high of NT\$12.4 billion. ✓
- ' Earnings per share of NT\$5.25 ✓
- ' No significant dishonest conduct incidents occurred in 2024 ✓
- ' Received the 24th National Golden Award for Public Works ✓
- ' Received 2024 Taoyuan Golden Excellence Award ✓
- ' Received 2024 Taiwan Real Estate Excellence Awards ✓
- ' Received the 32nd Chinese Golden Stone Award for Architecture ✓
- ' Received the 26th National Golden Award for Architecture ✓
- ' Received the 2024 Concrete Quality Award ✓
- ' Received the 2024 Engineering Excellence Award ✓
- ' Received the 2024 Golden Road Award from the Ministry of Transportation and Communications ✓





Awards and recognitions in 2024 ◀

Hwang Chang has been recognized and rewarded by government agencies and academic organizations at all levels for many years. The awards are in the quality, occupational safety, environmental protection, and social charity fields. The 2024 awards won by Hwang Chang are listed in this report to demonstrate our endeavors:

Quality category



Won the 24th National Gold Award for Public Works

Additional system project for the interchange connecting National Highway No. 3 and Provincial Highway 66 (Tender No. 336) was awarded the 24th National Gold Award for Public Works - Honorable Mention.



25th 2024 Golden Road Award from the Ministry of Transportation and Communications

The Freeway No. 2 Dayuan Interchange to Provincial Highway No. 15 New Freeway Construction Project received "Third Place" for Outstanding Engineering at the 25th Golden Road Award in 2024 from the Ministry of Transportation and Communications.



2024 Taoyuan City Government Golden Excellence Award for Public Works

The Zhongli Sports Park Section Expropriation Project in Taoyuan City received "Honorable Mention in First-Class Civil Engineering Category" at the 2024 Taoyuan City Government Golden Excellence Award for Public Works.





Awards and recognitions in 2024 ◀

Quality category



Taiwan Real Estate Excellence Awards 2024

The construction project for the main structure of the renovation of the public Huannan Market under the administration of Taipei City Market Department received the "National Golden Award for Best Construction Quality in Public Works Category."



2024 Chinese Golden Stone First Award for Architecture

The Zhonghe Anbang Section Youth Social Housing New Construction Turnkey Project received the Golden Stone First Award at the 32nd Chinese Golden Stone Award for Architecture in the categories of Excellent Public Works/Excellent Space Activation/Construction Group.



Awards and recognitions in 2024 ◀

Quality category



The 2024 Chinese Golden Stone Award for Architecture

Acting as proxy for the Taipei City Market Office for the main construction work of the reconstruction project of the public-owned Huannan Market, the Company won the Golden Stone Award in the Outstanding Public Works Category/Outstanding Space Revitalization Category/Construction Group at the 32nd Chinese Golden Stone Award for Architecture.



The 26th National Golden Award for Architecture

Agency-operated main construction project for the reconstruction of the public Huannan Market under the jurisdiction of the Taipei City Market Office, accredited by the review committee for the National Golden Award.



Awards and recognitions in 2024 ◀

Quality category



The 26th National Golden Award for Architecture - Grand Award

The CQ860 Section Contract Project of the Wanda-Zhonghe-Shulin Line (Phase I Project) was approved by the review committee as the National Golden Award - National Grand Award.



2024 Concrete Engineering Excellence Award

The Wanda-Zhonghe-Shulin Line (Phase I Project, CQ860 Section Contract Project) won the "2024 Concrete Engineering Excellence Award – Distinguished Excellence."



2024 Concrete Engineering Excellence Award

The turnkey project for the construction of Zhonghe Anbang Section youth social housing won the "2024 Concrete Engineering Excellence Award – Excellence."



Awards and recognitions in 2024 ◀

Occupational safety



Distinguished Excellence Award in the Bureau-wide Construction Site Safety and Health Competition

The Wanda Line Phase I Project CQ860 Section Contract won the Distinguished Excellence Award in the Construction Contractor Category at the 2024 Taipei City Government Department of Rapid Transit Systems Construction Site Safety and Health Competition



Second Class Six Star Award for Zero Casualties and Zero Major Accidents

CQ860 Section Contract of the Wanda-Zhonghe-Shulin Line Phase I Project was honored with the Second Class Six Star Award for 8 consecutive years of zero casualties and zero major accidents by the Department of Rapid Transit Systems, Taipei City Government in 2024.





Awards and recognitions in 2024 ◀

Other categories 🏆



TOP 5000

Hwang Chang General Contractor Co., Ltd. was ranked 482nd in the 2024 TOP 5000 Large Enterprises.



Happy Enterprise

Hwang Chang General Contractor Co., Ltd. was honored with the "Happy Enterprise" award by 1111 Job Bank in 2024.



Contributing to national highways

Hwang Chang General Contractor Co., Ltd., contributing to National Highway 2A, enhancing gateway transportation excellence.



Stakeholder identification and communication channels ◀

Hwang Chang Construction, with reference to the principles of the AA1000 SES, we has identified six major groups of stakeholders: owners, investors, employees, community, suppliers, and government agencies. Through a systematic analysis model, corporate social responsibility issues that are of concern to stakeholders with a significant impact on the Company's sustainable operations are identified as a reference for information disclosure in the report. Hwang Chang attaches great importance to communication channels and results with relevant stakeholders, and takes ESG management-related indicators, annual reports, and financial reports, among other public information to share with stakeholders are our achievements in governance, environmental ecology, and social charity.

Stakeholders	Significance to Hwang Chang	Issues of concern	Frequency of communication	Implementation in 2024
► Owner	We respond to the expectations of the owners seriously, complete each construction project with the most rigorous attitude, and establish a good reputation.	Customer satisfaction Product stability and quality	Phone communication/ad hoc Professional evaluation presentations given according to the owners' needs. Regular/irregular meetings Independent service email and hotline/ad hoc	Establishing a public supervision hot-line to oversee construction safety and quality Safety and quality Conducting regular and irregular construction meetings Annual customer satisfaction survey
► Investors	Investors' capital contributions and support are the solid backing of the Company. We will strive to operate and continue to grow to meet their expectations.	Financial performance Governance	Shareholders' meeting/once a year Investor conference/ad hoc every year	A dedicated section for investors has been set up on the Company's website to regularly disclose the Company's financial and business information. Holding of shareholders' meetings to disclose business performance
► Employees	Employees are the foundation of an enterprise. The Company will create a safe, healthy, and equitable work environment so that employees can work with peace of mind.	Rights (salary and leave) Education and training Related benefits	EIP - real-time updates Twice a year (salary evaluation) At least once a month (education and training) At least once a month (related benefits)	Regular employee health checkups Organizing health promotion activities Holding club activities



Stakeholders	Significance to Hwang Chang	Issues of concern	Frequency of communication	Implementation in 2024
► Community	Construction will inevitably affect the local community and neighborhoods. The Company is committed to mitigating the impact on the surrounding areas and maintaining friendly relations with the local community.	Social charity activities Community care activities Reduced impact on the operations of nearby stores	Before construction Ad hoc Personal visit to village heads/ 2-3 times a year	Establishment of communication channels Neighborhood relations Village teambuilding activities
► Suppliers	We treat suppliers as partners and work together to ensure construction safety and quality.	Supplier management Product quality	Supplier evaluation/once a year Supplier meetings/ad hoc Two-way communication with suppliers by phone and email/ad hoc	Regular review meetings Establishment of an evaluation system with rights and obligations of both parties specified in contracts
► Government agencies	Compliance with law is the Company's basic principle, and employees are required to strictly comply with laws and regulations for any construction project.	Legal compliance Occupational health and safety Risk management Employment	Official correspondences/ad hoc Telephone communication/ad hoc Face-to-face visits/ad hoc Laws and regulations/ad hoc Government briefings/ad hoc	Reporting as required by law. Communication with competent authorities through phone calls and letters. Participation in seminars organized by government agencies.



Contact point for stakeholders

Contact point for stakeholders

Investors	➡	Ms. Guan / pr@hcg.com.tw
Employees	➡	Mr. Hua / rickhua@hcg.com.tw
Customers	➡	Mr. Lin / ccb.bc01@hcg.com.tw
Suppliers	➡	Mr. Hsu / busn@hcg.com.tw
Community	➡	Person in charge of each construction site



Management of material topics ◀

The Company continuously reviews the appropriateness and relevance of material topics in accordance with the GRI Standards and the spirit of sustainability disclosure practices. The 2024 sustainability report continues the identification procedures established in the previous year based on GRI (2021) and conducts an internal reassessment during the current year to confirm whether material issues still maintain representativeness and responsiveness. The related procedures are divided into the following three steps:

Identification procedure

1 Continuously monitoring stakeholder issues

Based on the daily operations and external interactions of each department, the Company continuously tracks stakeholder concerns and receives feedback on communication situations from various departments as a reference for topic monitoring. Based on the identification results from the previous year, the AA1000 SES principles, and the organization's actual operational structure, the Company has confirmed six core stakeholder groups: property owners, investors, employees, neighboring communities, suppliers, and government agencies.

2 Sustainability topics maintain relevance and completeness

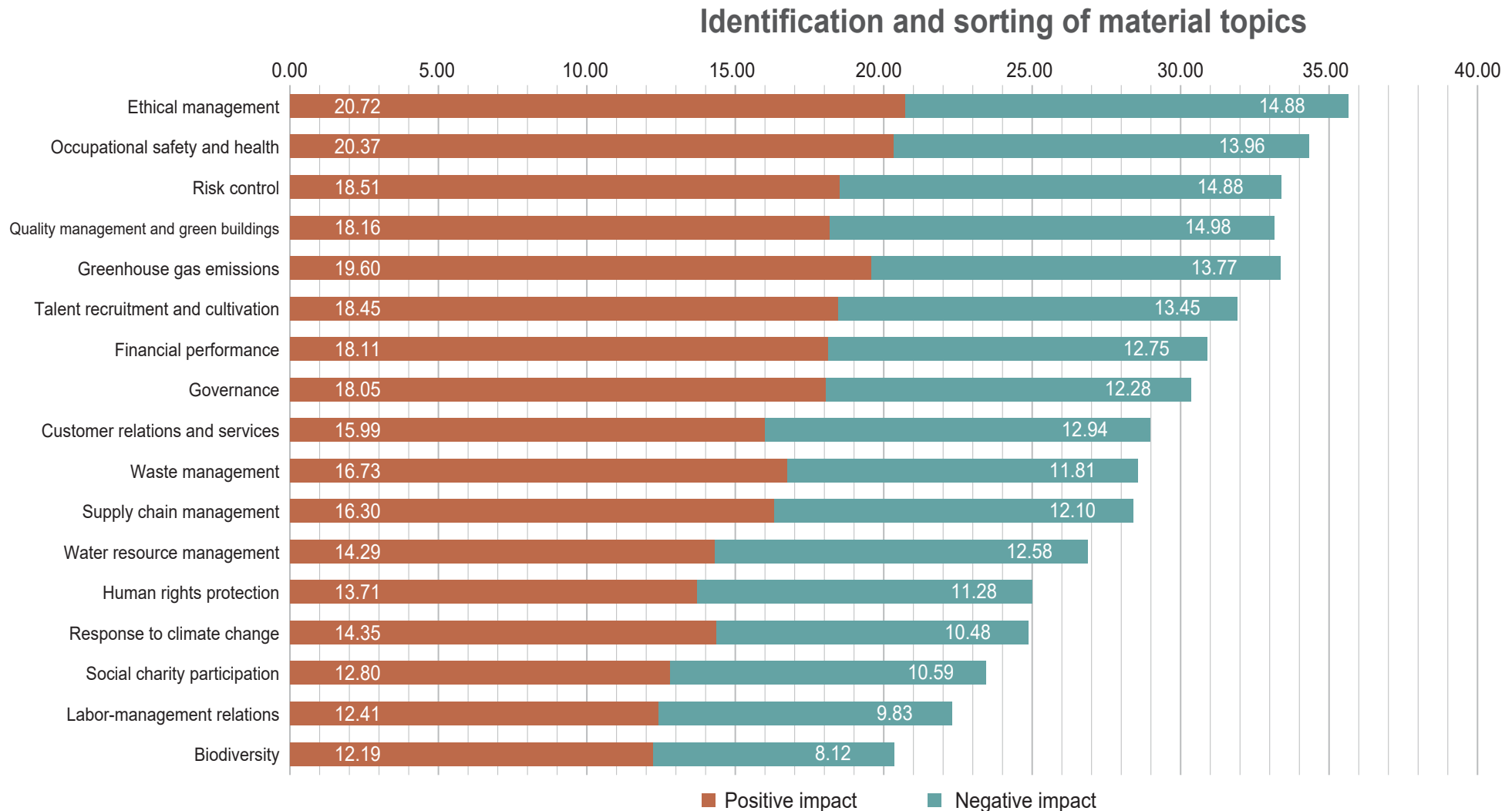
This year's sustainability report team, together with external consultants, comprehensively reviewed the 17 sustainability topics identified in the previous period based on GRI Standards, SDGs objectives, domestic and international policy trends, construction industry issues, and the Company's operational strategies. After comprehensive analysis, it was confirmed that the existing topics still cover the main impact dimensions faced by the organization, possess continuity and representativeness, and can adequately respond to the expectations of internal and external stakeholders. Therefore, no adjustments to the materiality ranking or addition of new topics were made this year.

3 Confirming the stability of material topics and continuously disclosing management measures

The 2024 sustainability report continues the 6 material topics established in 2023 and continues to disclose the management approach, advancement objectives, and implementation results for each topic, responding to stakeholder concerns with concrete actions and ensuring transparency and consistency in information disclosure.



Sorting of material topics of Hwang Chang by impact





Corresponding material topics

Corresponding chapter of this report	Material topic	Significance to Hwang Chang	Value chain impact boundary ●Direct impact ○Induced impact			Corresponding SDGs	Corresponding topics of GRI Standards
			Upstream	Hwang Chang General Contractor Co., Ltd.	Down-stream		
Professional governance and strategic layout	Ethical management	Hwang Chang complies with laws and regulations, and implements all plans of the Company in accordance with government regulations. Any illegal activities or violations of business integrity are strictly prohibited, and ethical management is the foundation.	○	●	○		205 Anti-corruption
Professional governance and strategic layout	Risk control	The risk management of construction projects directly affects the Company's lifeline and core values. Only by establishing complete risk management procedures can we safely and securely implement a construction project.	●	●	●		Self-defined material topics
Value creation as a leader in the future	Quality management and green buildings	Hwang Chang is deeply aware of the importance of environmental protection and the implementation of the concept of sustainable circulation. In our construction projects, we constantly improve the construction quality and create more representative green buildings as our primary task.		●	●		Self-defined material topics
Employee care, happiness, and inclusion	Occupational safety and health	As a construction company, Hwang Chang is constantly striving to engage in construction works in various regions, and the safety of employees at construction sites is an important issue to us.		●	○		403 Occupational safety and health
Sustainability cycle	Greenhouse gas emissions	Hwang Chang is very concerned about issues related to the environment and will continue to invest resources and technology in the development of green building technologies in the future. Effective energy management can not only improve usage efficiency but also reduce greenhouse gas emissions. Energy conservation, carbon reduction, and environmental protection are our important development strategies.	○	●			305 Emissions
Employee care, happiness, and inclusion	Talent recruitment and cultivation	Hwang Chang attaches great importance to talent cultivation and retains good talent to enable the Company to grow and advance.		●			401 Labor Relations 404 Training and education



Material topic management approach

Ethical management

Policy/Commitment	Core objectives	Performance and outcome
Implement ethical corporate management, complying with laws and regulations, and eliminating corruption and bribery	Strengthen education and training on work ethics for employees and strictly prohibit the acceptance of kickbacks and gifts	In 2024, a six-hour awareness-raising event on "Management Procedures for Handling Material Inside Information and Prevention of Insider Trading" and related laws and regulations was held for 43 current directors, officers, and management. In 2024, the Company conducted internal and external educational training programs related to ethical corporate management issues (including new employee training with corporate culture and ethical corporate management as the theme, compliance with ethical corporate management regulations, anti-corruption advocacy, risk management, environmental protection management, occupational safety, and health management, corporate social responsibility and other related courses), totaling 914 person-times and 4,728 person-hours.

Action plans	Targets for 2025	Medium- and long-term targets
- Establishment of the "Ethical Corporate Management Best Practice Principles" and "Code of Ethical Conduct", which are disclosed on the corporate website - Strengthened publicity during new hire training and monthly meetings to implement the ethical corporate management policy. - Establishment of a whistleblowing system, including whistleblowing channels, whistleblowing methods and standard operating procedures, protection of whistleblower's identity and related rights, confidentiality of reported content, and records of reports accepted and investigation results kept. - Matters to be followed by employees: - Do not accept any food, beverages, gifts, or holiday gifts from suppliers. - Do not accept inappropriate hospitality and go to inappropriate venues. - Suppliers' invitation to banquets must be reported to the unit supervisor. Violation of the preceding three points will be punished with dismissal.	- Continuous employee education and training on the topic of "anti-corruption" and the rule of law, aiming for 100% of all employees to receive training. - Diverse and smooth whistleblowing channels and whistleblower identity protection mechanism. - Implementation of the internal audit system and continuous monitoring.	The Company can ensure that its medium- and long-term targets are beneficial to the Company's development and are in line with the expectations and values of society. Through ethical corporate management, the Company is able to build a robust and sustainable business model to achieve long-term success.



Risk control

Policy/Commitment	Core objectives	Performance and outcome
Respond to possible major risks in the future to reduce the impact on the Company or grasp business opportunities early	Undergo the procedure annually to identify significant risks	In addition to identifying risks related to labor safety, construction environment, financial operations, business operations, and supply chain matters, corresponding measures are formulated through senior management meetings.
Action plans	Targets for 2025	Medium- and long-term targets
The responsible unit holds a discussion meeting to screen out significant risks and submits them to the management meeting for discussion, and the responsible unit proposes improvement or countermeasures.	Reduce the possibility of risks	We make adjustments and formulate measures according to the Company's specific needs and risk conditions, so that the Company can better cope with various risks, reduce the risk of loss, and improve the stability and sustainability of the business.

Quality management and green buildings

Policy/Commitment	Core objectives	Performance and outcome
Continue to improve and optimize product quality and construction methods	Continue to create more green and sustainable buildings for Taiwan	EEWH green building certificate 1. New youth social housing turnkey project in the Anbang section in Zhonghe 2. Public housing contract tender D turnkey project of the Guangci Boai Park overall development program 3. Social Public Housing on the North Side of the New Central Village of Xindian District New Construction Turnkey Project EEWH green building certificate candidate 1. New youth social housing turnkey project in the Guoguang Section (Phase II) in Sanxia Smart building certificate candidate 1. New youth social housing turnkey project in the Guoguang Section (Phase II) in Sanxia 2. New youth social housing turnkey project in the Anbang section in Zhonghe
Action plans	Targets for 2025	Medium- and long-term targets
1. Meet the needs of the Company and customers. 2. Have a spirit of pursuing continuous improvement and meeting various needs. 3. Can launch tasks to pursue quality goals. 4. Continue to make refinements and improvements.	Continue to develop green buildings and smart buildings, and pursue sustainable and environmentally friendly building technologies	Continue to implement internal quality inspections and follow-up management to ensure that quality meets customer expectations, and continue to improve enhancing customer satisfaction and establish the foundation for sustainable operations.



Occupational safety and health

Policy/Commitment	Core objectives	Performance and outcome
Improve occupational safety and health and reduce the risk of occupational safety accidents	The Company implements occupational health and safety regulations, promotes a healthy workplace and systematic management, and continuously strengthens risk control, employee health promotion, and contractor safety care.	1. Maintain at least 40% of employees holding occupational safety and health-related licenses in the Company. 2. Throughout 2024, maintained valid ISO/CNS (TOSHMS) 45001 certification. 3. Conduct monthly on-site services by physicians and nurses.

Action plans	Targets for 2025	Medium- and long-term targets
1. Strengthen risk management and audit improvement mechanisms: Continue to formulate improvement strategies through occupational safety audits and statistical analysis results to reduce accident risks and enhance occupational safety management effectiveness. 2. Implement site visits and health promotion activities. Regularly conduct on-site inspections and employee health promotion measures, focusing on workload management and preventive health management. 3. Create a healthy workplace environment. Promote health programs such as smoking cessation, weight reduction, and oral cancer screening, and include contractors and subcontractors as subjects of care. 4. Expand the scope of health protection programs to implement maternal care, workplace health, and other measures according to annual plans, covering more employee health issues. 5. Maintain occupational health and safety management system certification by continuously passing dual ISO 45001 and CNS 45001 occupational health and safety system certifications, optimizing workplace safety management.	Continue to offer employee education and training, and assist in obtaining occupational safety-related technician and operation manager licenses.	1. Monthly construction project occupational safety and health self-audit pass rate $\geq 90\%$ 2. ≥ 1 workplace health promotion activity per year



Energy management

Policy/Commitment	Core objectives	Performance and outcome
Implement green procurement, avoid energy waste, and fulfill corporate social responsibilities	Energy savings reduced by 1% compared to the previous year	In addition to monthly departmental meetings and public works meetings, it can strengthen colleagues' awareness of green consumption and energy conservation, to promote the concept to their family members and make joint efforts to save energy.
Action plans	Targets for 2025	Medium- and long-term targets
Cooperate with the government to fill out the "Letter of Intent for Green Procurement for Private Enterprises and Groups" once a year, and implement the procurement of green products with green, energy labels, water saving, green building materials labels, and carbon reduction labels.	Continue to implement green investment and procurement to maximize the efficiency of energy and resource use.	Continuously use energy-saving methods to reduce energy consumption and adopt local procurement to maximize the efficiency of resource utilization.

Talent recruitment and cultivation

Policy/Commitment	Core objectives	Performance and outcome
Recruit and retain talent through multiple channels to enhance the Company's competitiveness	Increase professional engineering talent	An average of 20 employees are hired every month (excluding migrant workers on an ad-hoc basis in the construction industry)
Action plans	Targets for 2025	Medium- and long-term targets
1. Find suitable candidates according to the application needs according to the personnel application form provided by each unit. 2. Participate in government and campus recruitment activities to attract talent.	Increase the number of new employees and increase the retention rate for new construction projects	Increase the number of new employees, reduce the number of resigned employees, and reduce the turnover rate.



1

Professional governance and strategic layout

1.1 Overview of the organization

1.2 Ethical management

1.3 Risk internal control

1.4 Information security management



01 Professional governance and strategic layout

1.1 Overview of the organization ◀

1.1.1 About Hwang Chang

Hwang Chang General Contractor Co., Ltd. has maintained steady and stable growth in business performance, adhering to the management philosophy of "Safety First, Proactive Attitude, Superior Technology, Quality Assurance" and the operational spirit of "Quality First, Efficiency Priority, Safety Supreme." Over the years, the Company has been committed to deepening its technical foundation and steadily expanding its engineering track record, earning recognition from clients and relevant authorities. In the future, the Company will continue to uphold the core attitude of "Continuous Improvement and Innovation Development," exploring greater possibilities in various product and engineering fields based on existing foundations, and persistently pursuing the corporate belief of "Value and Attitude, Commitment and Execution." The Company's operations are guided by the principle of balancing the interests of shareholders, employees, and customers.

The Company places great emphasis on the research and development of construction technologies and their continuous improvement, while persistently cultivating professional technical talent to enhance cost control, quality management, and operational efficiency. Simultaneously, the Company introduces diversified management strategies including "high efficiency, pragmatic planning, technical expertise, institutionalized administration, transparent promotion, financial transparency, and humanized management" to strengthen organizational operations and operational transparency. The Company actively participates in government public works projects, turnkey contracts, and most advantageous tender projects, aspiring to become an engineering enterprise with long-term development potential and social responsibility awareness.

Management philosophies

01

Safety first



03

Excellent technology



02

Positive attitude



04

Quality assurance



Company basic information

Company name	Hwang Chang General Contractor Co., Ltd.
Company type	Listed company
Stock ticker	2543
Date of establishment	February 16, 1981
Company address	23F, No. 539, Tammei Street, Neihu District, Taipei City
Chairperson	Chiang, Cheng-Chin
President	Huang, Chung-Lei
Paid-in capital	4,200,290,270
Number of employees (As of December 31, 2024)	1,906
Industry sector	General contracting industry
Main products and services	Rail engineering, maritime engineering, bridge engineering, construction work
Scope of operations	Taiwan
Revenue in 2024	NT\$12.4 billion



2024 engineering performance ◀

Wanda–Zhonghe–Shulin Line (Phase I Project) CQ860 Section tender project

Owner	First District Engineering Office, Department of Rapid Transit Systems, Taipei City Government
Date of winning bid	2015.08.31
	Construction in progress

New youth social housing turnkey project in the Anbang section in Zhonghe

Owner	Department of Urban and Rural Development, New Taipei City Government
Date of winning bid	2019.06.26
	Construction in progress

Expropriation project in the Zhongli Sports Park Section, Taoyuan City

Owner	Office of Public Construction, Taoyuan City Government
Date of winning bid	2021.03.18
	Construction in progress

Civil and Hydroelectric Control Section tender project of the Circular Line North Section stations Y20 (excluded)~Y23 (included)

Owner	First District Engineering Office, Department of Rapid Transit Systems, Taipei City Government
Date of winning bid	2022.12.28
	Construction in progress

Kuanghua Section Parking Lot and Youth Social Housing Construction Turnkey Project in Luzhou District, New Taipei City

Owner	Department of Urban and Rural Development, New Taipei City Government
Date of winning bid	2024.03.20
	Construction in progress

Commissioned reconstruction project for the main part of the publicly-owned Huannan market under the Taipei City Market Administration Office

Owner	Hydraulic Engineering Office, Public Works Department, Taipei City Government
Date of winning bid	2016.08.22
	Construction in progress

Additional system project for the interchange connecting National Highway No. 3 and Provincial Highway 66 (Tender No. 336)

Owner	Freeway Bureau, Ministry of Transportation and Communications
Date of winning bid	2019.11.21
	Construction in progress

New construction project for the breakwater of the Guantang Terminal expansion solution

Owner	CPC
Date of winning bid	2022.07.29
	Construction in progress

Civil and Hydroelectric Control Section tender project of the Circular Line North Section stations Y23 (excluded)~Y25 (included)

Owner	First District Engineering Office, Department of Rapid Transit Systems, Taipei City Government
Date of winning bid	2023.12.01
	Construction in progress

Shibitantzu Social Housing Section 1 Turnkey Project in Neihu District, Taipei City

Owner	Department of Urban Development, Taipei City Government
Date of winning bid	2024.10.18
	Construction in progress

New port and embankment construction project for the third liquefied natural gas receiving station

Owner	CPC
Date of winning bid	2018.10.26
	Construction in progress

New youth social housing turnkey project in the Guoguang Section (Phase II) in Sanxia

Owner	Department of Urban and Rural Development, New Taipei City Government
Date of winning bid	2020.04.22
	Construction in progress

North-facing entry and exit ramps improvement project for National Highway No.1 Wugu interchange (tender No. 1103S)

Owner	Freeway Bureau, Ministry of Transportation and Communications
Date of winning bid	2022.11.15
	Construction in progress

Railway Underground Project of Zhonglu Station Section, Tender CJ13, Taoyuan Section, Taiwan Railway Metroization Project

Owner	Railways Bureau, Ministry of Transportation and Communications
Date of winning bid	2024.03.06
	Construction in progress

Civil and Hydroelectric Control Section tender project of the Circular Line North Section stations Y25 (included)~Y27 (included)

Owner	First District Engineering Office, Department of Rapid Transit Systems, Taipei City Government
Date of winning bid	2024.12.03
	Construction in progress



Advantages of Hwang Chang ◀

Hwang Chang is committed to integrating internal resources and strengthening management efficiency to steadily advance the quality and progress of various engineering projects. The Company possesses the following operational characteristics:

1 Mobile support from marine and machinery brigade

The Company uniquely established a marine and machinery brigade within the industry, possessing diversified construction machinery and equipment that can be flexibly deployed to meet different site requirements, helping to enhance project progress control and construction quality stability.

2 Stable source of supply

Ho Chang International Contractor Co., Ltd, an affiliate of Hwang Chang, operates four ready-mixed concrete plants located in Neihu, Guanyin, Yangmei, and Xizhi. All plants have obtained ISO 9001 Quality Management System certification and premium ready-mixed concrete plant certification, providing stable and reliable concrete materials that strengthen material supply assurance during construction processes and effectively support project progress.

3 Engineering performance and quality recognition

The Company has won many awards from government agencies and engineering societies over the years (such as the Public Works Gold Award, the Public Works Golden Safety Award, the Taipei City Government Construction Excellence Award, the New Taipei City Government Construction Quality Award, the New Taipei City Government Construction Safety Award, and the National Golden Award for Architecture, the Engineering Excellence Award of the Chinese Institute of Engineers, Excellent Concrete Award, etc.), which have facilitated the Company's overall corporate image and given it an advantage when bidding for turnkey projects based on the most advantageous bid policy.

4 Implementing information management processes

The Company has implemented E-management for many years, from the EIP to the implementation of G2B, an electronic official document exchange system, the Public Works Information System of the Executive Yuan, and the Construction Business/Information Exchange Standards Program of the Construction and Planning Agency, Ministry of the Interior, to integrate various information and services to protect the environment, reduce management costs, and improve the Company's service efficiency and personnel competitiveness.



Category of construction project ◀

The main contracting and construction work for government public engineering projects is divided into four major categories: building, bridge, maritime, and rail engineering. We hope to share Hwang Chang's excellent construction quality and passionate service spirit to various locations.



Completed construction projects ◀

Since its establishment, the Company has undertaken 156 construction projects, totaling NT\$227.85 billion. Statistics for 2024 show 4 awarded contract cases with a total contract value of NT\$42.647 billion. Please refer to the following for the details of the number of cases and the cumulative amount of contracts for each category of construction project.

Construction category	Cumulative number of cases as of 2023	Number of new cases added in 2024	Total cumulative project amount
Construction works	22 case	2 case	NT\$35.456 billion
Bridge engineering	22 case	0 case	NT\$50.149 billion
Rail engineering	8 case	2 case	NT\$96.2009 billion
Maritime engineering	2 case	0 case	NT\$27.483 billion
Other construction projects	98 case	0 case	NT\$18.561 billion
Total	152 case	4 case	NT\$227.85 billion

Introduction to various representative buildings





Construction performance of Hwang Chang ◀



Commissioned reconstruction project for the publicly-owned Huannan market under the Taipei City Market Administration Office



New port and embankment construction project for the third liquefied natural gas receiving station



New youth social housing turnkey project in the Anbang section in Zhonghe



Sanxia Guoguang Section (Phase II)
Turnkey project for new construction of youth social housing



Expropriation project in the Zhongli Sports Park Section, Taoyuan City



North-facing entry and exit ramps improvement project for National Highway No.1 Wugu interchange (tender No. I103S)



Additional system project for the interchange connecting National Highway No. 3 and Provincial Highway 66 (Tender No. 336)



New construction project for the breakwater of the Guantang Terminal expansion solution



Construction performance of Hwang Chang ◀



Taipei Metropolitan Area Mass Rapid Transit System
Wanda-Zhonghe-Shulin Line
(Phase I Construction) - CQ860 Section Contract



Circular Line Northern Section
Y20 (exclusive) to Y23 (inclusive)
Civil and Hydroelectric Control Section Construction Project



Circular Line Northern Section
Y23 Station (exclusive) to Y25 Station (exclusive)
Civil and Hydroelectric Control Section Construction Project



Circular Line Northern Section
Y25 Station (inclusive) ~ Y27 Station (inclusive)
Civil and Hydroelectric Control Section Construction Project



Taiwan Railway Rapid Transit System in Metropolitan Areas
Taoyuan Section Underground Railway Construction
Project CJ13 Section - Underground Railway Construction
for Zhonglu Station Section



Kuanghua Section Parking Lot and Youth
Social Housing Construction Turnkey Project
in Luzhou District, New Taipei City



Shibitantzu Social Housing Section 1 Turnkey
Project in Neihs District, Taipei City

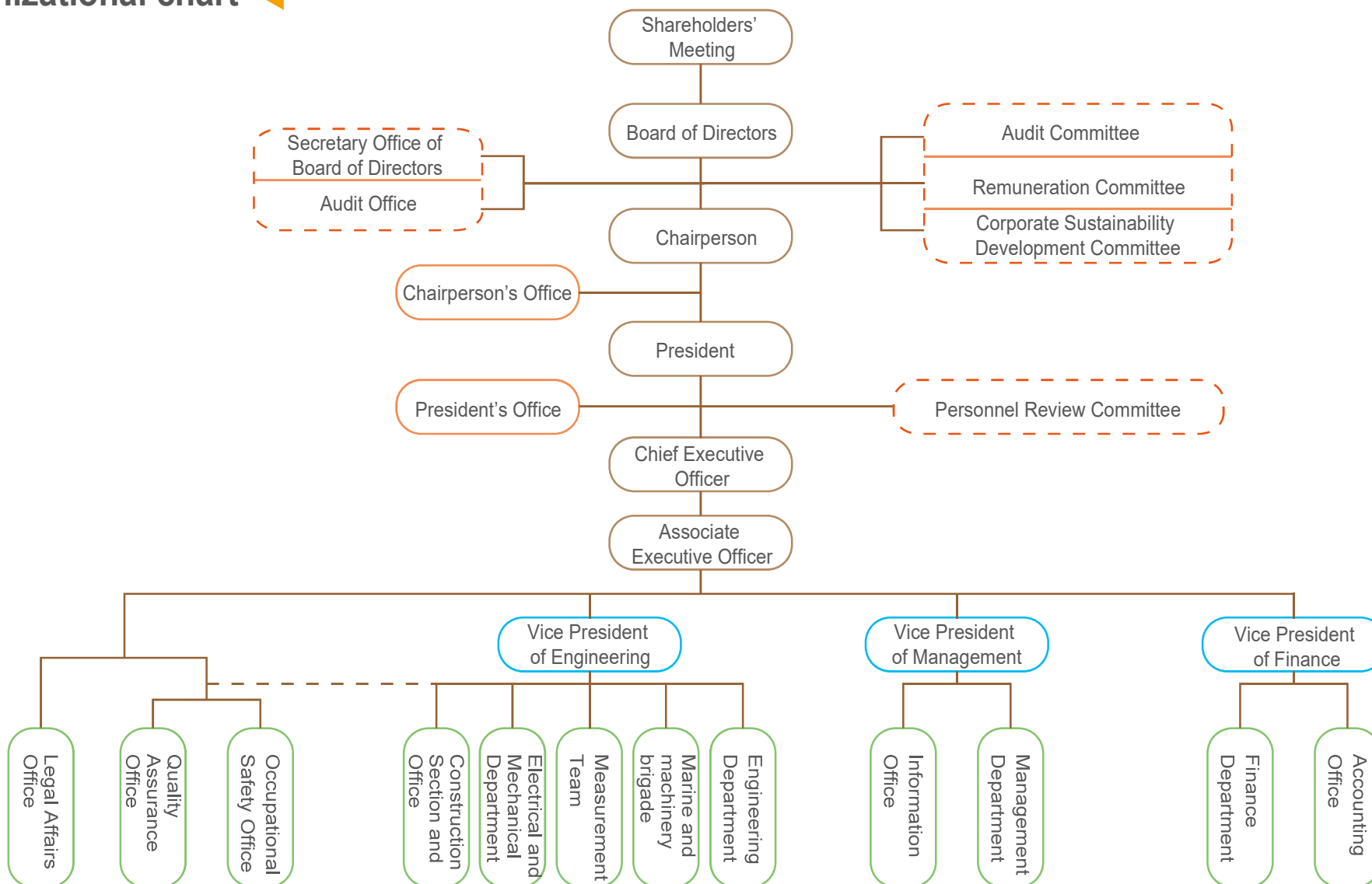


New freeway project from Dayuan
Interchange of National Highway No.
2 to Provincial Highway 15

Completed projects



Organizational chart ◀





Departmental authority ◀

Department	Section	Construction category
Remuneration Committee		Assist the Board in supervising the company's accounting, auditing, financial reporting processes, and the quality and reliability of financial controls.
Audit Committee		Formulate and periodically evaluate the performance and compensation systems and standards for directors, supervisors, and managers.
Secretary Office of Board of Directors		Assisting in matters related to the agenda and resolution compliance in the Board of Directors' and Shareholders' meeting
Audit Office		Planning and management of audit work and implementation of corrective and preventive actions for various administrative operations Supervision and promotion of ISO series certification and continuous implementation
Finance Department		Financial capital coordination and management, bills management, and holding of shareholders' meetings
Accounting Office		Accounting processing, tax filing, and preparation of various financial statements and annual reports
Management Department	General Affairs Section	Asset management and non-engineering procurement and management
Management Department	Human Resources Section	Personnel administration, human resource planning, education and training, and foreign migrant worker management
Engineering Department	Civil Engineering Team	Handling bidding matters, project contracting and material procurement, supervision of the construction quality and progress of each construction section, and participation in engineering meetings at all levels
Engineering Department	Architecture Team	Handling bidding matters, project contracting and material procurement, supervision of the construction quality and progress of each construction section, and participation in engineering meetings at all levels
Electrical and Mechanical Department		Handling bidding matters, project contracting and material procurement, supervision of the construction quality and progress of each construction section, and participation in engineering meetings at all levels
Quality Assurance Office		Quality control and supply work execution of each unit
Legal Affairs Office		Legal affairs related to disputes, arbitration, and litigation for construction projects
Information Office		Electronic operations, IT equipment procurement management, and document and file management
Occupational Safety Office		Supervision of labor safety and health implementation and relevant business of each unit
Construction Section and Office		Construction project bidding
Measurement Team		Implementation of each unit's measurement work
Marine and machinery brigade		Purchase, coordination, maintenance, and management of all construction machinery and materials



Participation in associations ◀

In order to keep abreast of domestic and foreign industry trends, we join associations and organizations to interact with relevant industry and academic circles, exchange business experience and market information, and understand the latest developments and future trends in the industry.

Organization	Role
Taiwan Regional Engineering Contractors Association	Membership
Northern Taiwan Construction Industry Occupational Safety and Health Promotion Association	Membership
Chinese Construction Industry Arbitration Association	Membership
Taiwan Arbitration Association	Membership

1.1.2 Financial performance

In recent years, despite facing external challenges including uneven global post-pandemic market recovery, inflationary pressures, and volatility in raw material prices, Hwang Chang has continued to steadily advance its operational management. Facing an environment of intensified overall competition in the construction industry and simultaneous increases in wages and costs in 2024, all employees of the Company have continued to uphold a pragmatic spirit, enhancing operational flexibility and market competitiveness through precise control of raw material costs, continuous optimization of construction methods, and steady introduction of innovative and green building technologies.

The Company establishes annual revenue and profitability targets based on market expectations and project scale each year, and regularly convenes cross-departmental operational review meetings to monitor the execution status and financial performance of various projects. For projects that fail to meet expected progress, strategies and resource allocation are adjusted in a timely manner to ensure overall operational direction remains stable, while continuously strengthening the Board of Directors' and senior executives' grasp of the Company's financial performance and business strategies, safeguarding shareholders' rights and corporate sustainable development.

Unit: NTD thousand

Item	Subitem	2022	2023	2024
Direct economic value generated	Operating revenue	8,448,320	11,275,084	12,431,138
Distributed economic value	Operating costs	7,066,241	9,026,725	7,889,177
	Employee salary and benefits	1,031,027	1,503,702	1,953,481
	Payments to capital contributors	80,596	148,599	258,702
	Payments to the government	15,123	117,351	543,168
	Community investment (donation)	920	1,838	4,589
Retained economic value		254,323	476,869	1,782,021

Unit: NTD thousand

Item/Year	2022	2023	2024
Operating revenue	8,448,320	11,275,084	12,431,138
Gross profit	381,196	1,008,607	2,985,373
Operating profit and loss	350,132	742,819	2,583,891
Non-operating income and expenditure	(61,844)	(40,192)	3,123
Net profit before tax	288,288	702,627	2,587,014
Net profit (loss) for the current period	273,075	585,276	2,043,846
Other comprehensive income for the current period (net of tax)	(1,808)	(8,470)	(1,695)
Total comprehensive income for the current period	271,267	576,806	2,042,151
Earnings per share (NWD)	1.02	1.48	5.25



Tax governance

The Company adheres to principles of integrity and transparency, continuously strengthening tax compliance management to ensure all business activities comply with applicable legal regulations and tax practice standards. Tax-related affairs are handled by the accounting department, with the accounting supervisor providing regular supervision and review of implementation to ensure the Company's compliance with tax filing and payment obligations. Additionally, the Company has engaged external professional tax advisors to provide regulatory consultation and practical recommendations, serving as important references for financial and tax management.

To ensure the accuracy of overall financial information and the soundness of system operations, the Board of Directors has established an Audit Committee to oversee accounting treatment, financial reporting, and internal control matters. The Company has also engaged a reputable accounting firm to conduct audit work, thereby strengthening system transparency and regulatory compliance effectiveness.

Amount of government grants in 2024

Unit: NTD

Subsidies	Amount
Subsidies for automobiles and scooters	107,800
Youth employment subsidy	20,000
Total	127,800

1.1.3 Autonomy of the Board of Directors

Hwang Chang's highest governance body is the Board of Directors, with the establishment of an Audit Committee and Remuneration Committee to assist in strengthening corporate governance functions. The Board of Directors' primary responsibilities include guiding the Company's sustainable development strategy, supervising management execution effectiveness, and ensuring the exercise of powers in accordance with relevant laws, the Company's Articles of Incorporation, and shareholders' meeting resolutions, thereby protecting stakeholder rights and creating maximum shareholder value.

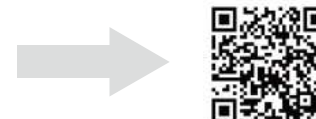
As of 2024, the Company's Board of Directors comprises 7 directors, including 3 independent directors. There are 6 male directors, representing 86% of all directors, and 1 female director, representing 14%. All directors are over 50 years of age and possess professional backgrounds and practical experience in industries, business, management, and legal fields. In 2024, the Board of Directors convened 9 meetings with an overall attendance rate of 96.83%.

The Board of Directors conducts annual self-evaluations in accordance with the "Rules for Performance Evaluation of Board of Directors," covering the operations of the overall Board of Directors, individual directors, and functional committees. The evaluation method adopts a questionnaire survey covering directors' understanding of company objectives, role awareness, operational participation, internal communication, professionalism and continuous learning, as well as internal control aspects. The evaluation results will serve as reference criteria for future director nomination and selection, and provide supporting evidence for remuneration decisions to implement corporate governance mechanisms and Board of Directors effectiveness management.

The board performance evaluation results in 2024 are as follows:

Performance evaluation by the Board of Directors	Self-evaluation of the performance by board members	Self-evaluation of the performance by functional committees
Scored 4.93 out of 5	Scored 4.94 out of 5	Scored 4.94 out of 5

Please refer to the Company's website for the implementation by directors and functional committees.





Nomination and election of board members

The Company's directors are selected through a candidate nomination system, which is reviewed and approved by the Board of Directors before being submitted to the general shareholders' meeting for election. The nomination process follows principles of fairness, transparency, and professionalism, aiming to build a board structure with diverse professional backgrounds and strong governance capabilities.

Members of the Board of Directors must possess the knowledge, skills, and professional competence required to fulfill their duties. To achieve good corporate governance objectives, the overall competency composition of the Board of Directors should encompass the following eight core aspects:

Business judgment

Financial and accounting analysis

Operations management

Crisis management

Industry Domain Knowledge

International market perspective

Leadership

Decision-making

The Company also continues to review whether the overall structure of the Board of Directors aligns with the Company's operational needs and development strategies, and plans subsequent director nominations and composition arrangements based on actual circumstances to ensure the effective exercise of governance functions.

Avoidance of conflicts of interest

The Company has established internal operational regulations including the "Ethical Corporate Management Best Practice Principles," "Code of Ethical Conduct," and "Work Rules" to clearly define policies, management systems, and whistleblowing mechanisms related to ethical corporate management. All directors comply with the Company's articles of incorporation and relevant regulations, strictly adhering to professional ethics and maintaining high self-discipline.

To strengthen corporate governance transparency and prevent potential conflicts of interest, the Company has also established "Meeting Regulations for Board of Directors" and "Management Procedures for Handling Material Inside Information and Prevention of Insider Trading." When board meetings involve matters related to the interests of a director or the legal entity they represent, the relevant directors shall proactively disclose such interests and recuse themselves from participating in discussions and voting in accordance with the law. They also may not exercise voting rights on behalf of other directors to ensure decision-making fairness and protection of the Company's overall interests.

Remuneration policy of the Board of Directors

The Company has established "Director Remuneration Payment Regulations," which have been reviewed by the Remuneration Committee and approved by the shareholders' meeting. Independent directors receive fixed monthly salaries. In addition to referencing common industry levels, factors such as the Company's operational conditions, future risks, responsibilities, and actual contributions are considered. The Remuneration Committee conducts regular evaluations and reviews to ensure the reasonableness and fairness of the remuneration system. The remuneration of the President and Vice Presidents is handled in accordance with the "Management Regulations for Managers' Remuneration," reviewed by the Remuneration Committee, and submitted to the Board of Directors for resolution, comprehensively considering aspects such as company operational performance, market trends, and management contributions.

In 2024, based on the recommendations of the Remuneration Committee and resolution of the Board of Directors, the Company allocated 2% of directors' remuneration. The total remuneration for directors, supervisors, President and Vice Presidents in 2024 amounted to NT\$102,259 thousand.

Key and material incident communication and response

The major decisions made by the Company or the occurrence of important events are in compliance with the Taiwan Stock Exchange Corporation Procedures for Verification and Disclosure of Material Information of Companies with Listed Securities. We fill out the "Material Information Release Application Form" and "Material Information Assessment Checklist" and submit them to the Chairperson for approval before publishing them on the Company's official website and the MOPS. In 2024, we released material information on the MOPS 37 times in accordance with the regulations.



Board members and backgrounds ◀

Board Diversity Background and Core Competencies							
Position	Name	Gender	Leadership and Decision Making	Finance Accounting	Managerial and Business Administrative	Legal Affairs Professional	Industry Domain Knowledge
Director	Chiang, Cheng-Chin	Male	✓		✓	✓	✓
Director	Huang, Chung-Lei	Male	✓		✓	✓	✓
Director	Chen, Wei-Hung	Male			✓	✓	✓
Director	Huang, Shu-Tsung	Male			✓		✓
Independent Director	Ni, Tzu-Hsiu	Male	✓			✓	✓
Independent Director	Wei, Yung-Neng	Male	✓		✓		✓
Independent Director	Hsu, Hsiu-Chen	Female		✓	✓		✓

Audit Committee

The Company has established an Audit Committee with a total of three members, all of whom are independent directors. The purpose of the committee is to supervise the fair presentation of the Company's financial statements, the selection (dismissal) and independence and performance of CPAs, the effective implementation of the Company's internal control, the Company's compliance with relevant laws and regulations, and the control of potential risks. A total of eight-Audit Committee meetings were held in 2024, with a 95.83% attendance rate.

Remuneration Committee

The Remuneration Committee is composed of three independent directors and holds at least two meetings a year. It mainly uses a professional and objective position to regularly evaluate the remuneration policies and systems for directors and managers, and makes suggestions to the Board of Directors as a reference in decision-making. Three meetings were held in 2024, with a 88.89% attendance rate of all committee members.





Number of board members' training hours

The Board of Directors is the core of the Company's overall operations and formulates the Company's future development direction and action strategies. Therefore, the board members must receive professional knowledge training every year to receive the latest information and guide the Company to move forward.

Number of training hours received by board members in 2024

Position	Representative	Course title	Number of training hours
Chairperson	Chiang, Cheng-Chin	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Director	Huang, Chung-Lei	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Director	Chen, Wei-Hung	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Director	Huang, Shu-Tsung	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Independent Director	Wei, Yung-Neng	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Independent Director	Hsu, Hsiu-Chen	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	
Independent Director	Ni, Tzu-Hsiu	Corporate governance and related party transactions	6
		Corporate governance and securities regulations	





1.2 Ethical management

Hwang Chang establishes its corporate culture on the foundation of "integrity and ethics," building a sound ethical corporate management system and treating integrity as one of the Company's important operating principles. To strengthen the institutional framework, the Company has established the "Ethical Corporate Management Best Practice Principles," "Code of Ethical Conduct," "Regulations for Handling Reports of Illegal, Unethical, or Dishonest Conduct," and "Work Rules," all approved by the Board of Directors. These clearly stipulate that all employees must adhere to professional ethics and personal integrity and execute their duties with honesty, rigor, and dedication.

The Ethical Corporate Management Best Practice Principles cover key areas including prohibition of dishonest conduct, conflict of interest avoidance, prevention of inappropriate counterparties, regulatory compliance, internal control system establishment, education and training, and whistleblowing mechanisms, applicable to all employees. The "Code of Ethical Conduct" emphasizes that employees must not seek personal gain, must strictly maintain confidentiality obligations, treat customers fairly, avoid conflicts of interest, and encourage honest reporting.

To deepen the culture of integrity, the Company conducts regular ethical corporate management training for all employees and new hires annually. The training content includes topics such as conflict of interest avoidance, trade secrets, and employee conduct standards, with instructors arranged to strengthen practical application concepts.

In 2024, the Company did not experience any significant violations of ethical corporate management regulations, nor did it receive any related whistleblowing reports.



Complying with the code of professional ethics and personal integrity ◀

Hwang Chang has established "Ethical Corporate Management Best Practice Principles" and "Regulations for Handling Reports of Illegal, Unethical, or Dishonest Conduct" approved by the Board of Directors, and explicitly stipulates in the "Work Rules" that all employees must clearly understand and comply with professional ethical standards and personal integrity, and perform their duties with honesty, rigor, and dedication.

Key Points of the Ethical Corporate Management Best Practice Principles



Applicable to all employees

- Prohibiting unethical conduct and established an unethical conduct prevention program
- Enforcing compliance with various laws and regulations and shaping a corporate compliance culture
- Avoiding transactions with counterparties with a record of unethical conduct
- Directors and managers shall avoid conflicts of interest.
- Establishing effective accounting and internal control systems
- Education, training, and awareness-raising
- Established a specific whistleblowing system

Regulatory training and compliance awareness promotion

The Company values employees' professional development and regulatory compliance, planning diverse themed regulatory courses for senior executives and colleagues from various departments annually. The course content covers aspects including the Labor Standards Act, occupational safety laws, and business integrity. In addition to imparting regulatory knowledge, the courses incorporate practical experience sharing from legal advisors, case analysis, and group discussions to help colleagues understand the spirit of regulations and implement them in their daily work.

Additionally, feedback on colleagues' understanding of regulations and training needs is collected through regular questionnaires to adjust course content and format in order to improve training effectiveness and participation willingness.

Key Points of the Code of Ethical Conduct



Applicable to all employees

- Avoiding seeking personal gain
- Strictly abiding by confidentiality obligations
- Treating customers fairly and not obtaining improper benefits in any way
- Avoiding conflicts of interest
- Encouraging reporting of illegal behavior or violations of the code

Whistleblowing system and protection mechanisms



Applicable to all employees

We have established a comprehensive disciplinary and grievance system to ensure that whistleblowers will not be improperly punished due to their whistleblowing. We have also set up a "Reporting Misconduct" page and hotline on the Company's website. The reporting channels and methods are as follows:

- Special mailbox for whistleblowing: wb@hgc.com.tw
- Whistleblowing hotline: 02-2792-2988 ext. 702
- By postal mail: 23F, No. 539, Tammei Street, Neihu District, Taipei City 114
President's Office's Office, Hwang Chang General Contractor Co., Ltd.



1.3 Risk internal control

Risk management framework and systems ◀

Hwang Chang regards risk management as an important foundation of corporate governance and has established "Risk Management Policies and Procedures," with the Board of Directors bearing the ultimate supervisory responsibility and executing and monitoring through an organizational management framework. Under the Board of Directors, a Risk Management Committee has been established, convened by the President and composed of cross-departmental heads, responsible for policy formulation, risk identification, prioritization, and regular review. Each business unit (such as the Engineering Department and the Marine and Machinery Brigade) serves as a front-line management unit, executing daily risk identification and response measures. The Audit Office is responsible for independent auditing and improvement recommendations, assisting in reviewing the operational effectiveness of the overall risk management mechanism.

Systematic management process ◀

The Company has implemented a comprehensive risk management process, starting with establishing risk awareness at the grassroots level and progressively covering risk identification, assessment, response, monitoring, and reporting. Each unit conducts quarterly assessments of potential risks, evaluating their materiality based on impact level and probability of occurrence to prioritize management focus accordingly. The Risk Management Committee addresses material risks by integrating the Company's internal control systems with contingency planning and incorporating them into daily operational processes, while continuously monitoring implementation and improvement status to serve as reference for subsequent policy formulation and resource allocation.

Continuous monitoring and rolling adjustment ◀

The Company conducts risk identification and consolidation at least once a year, with the Risk Management Committee providing unified reports to the Board of Directors as the basis for adjusting operational strategies and risk control measures. The Audit Office also plans audit priorities based on major risk rankings to enhance overall risk control effectiveness. Through institutionalized and systematic management processes, Hwang Chang Construction is dedicated to proactively identifying and effectively addressing potential risks to ensure stable operations and sustained organizational growth.



Risk identification results ◀

Type of risk	Risk analysis	Preventive measures
Labor safety risks	1. Labor health management and construction safety management 2. Personnel working outdoors in high-temperature environments without shelter is prone to thermal hazards.	1.1 Contract on-site occupational physicians and dedicated occupational health nurses perform on-site health services, conducting employee health guidance and health follow-up management. 1.2 Introduce and implement ISO 45001 and CNS 45001 occupational safety and health management systems, submit risk assessment written materials and briefings before construction, and convene a risk assessment review meeting (by the Company). 2.1 Use the high-temperature outdoor operation thermal hazard preventive action management app developed by the Occupational Safety and Health Administration to measure the risk level for emergency response management and conduct management according to the management measures in the app. 2.2 Provide sufficient drinking water and electrolytes. 2.3 Conduct self-inspection of high-temperature outdoor operations.
Construction environment risks	Construction sites are prone to air pollution, noise, dust, sewage, and construction waste.	1. Prevent environmental pollution, implement the "Environmental Policy" and "6S Environmental Management Plan", and post hazard notices at the workplace 2. Reduce air pollution and wastewater discharge, use low-noise machinery, covering bare soil, and ground water, and reduce, recycle, and reuse waste. 3. Add an environmental monitoring information panel to monitor noise and air quality at any time 4. Conduct monthly inspections to effectively control the quality of the construction environment.
Financial risks	The leverage of construction expenditures is closely related to the central bank's costs of adjusting interest rates.	1. Regularly follow up on the progress of construction funds of the Construction Section for effective financial planning and fund application. 2. Control bank lines and pay attention to interest rate changes to reduce financing costs.



Type of risk	Risk analysis	Preventive measures
Operational risks	Operational risks may arise from external market changes, such as rising land acquisition costs.	1. The Company has established a corporate governance unit to oversee corporate governance affairs, protect the rights and interests of shareholders, and strengthen the functions of the Board of Directors. 2. The Company has established an internal audit system to ensure that corporate governance is in compliance with the regulations. 3. We publish material information in real time through the Market Observation Post System (MOPS) and the Company's website to enable stakeholders to understand important company information in a timely manner.
Supply chain management	Being unable to ship goods or generate inventory due to insufficient or excessive production capacity, resulting in increased costs.	Raw material suppliers are important business partners of Hwang Chang. As the prices of raw materials used in construction continue to climb internationally, we need to implement the following three points to keep abreast of market changes. 1. Keep a close eye on market trends and keep track of changes in supply and demand. 2. Share the latest market trends internally and report on relevant matters in relevant meetings. 3. Hold meetings regularly and irregularly, and interact with suppliers to communicate product quality and delivery time between both parties.





Internal control system and management ◀

To strengthen corporate governance and ensure the soundness of operational management systems, Hwang Chang has established an Internal Control System. The Board of Directors has established an independent Audit Office, which is responsible for executing internal audit operations and assisting the Board of Directors and management in evaluating the operational effectiveness of the internal control system.

The Audit Office conducts regular audits of the operational processes of various departments and subsidiaries according to the annual audit plan, and executes special audits when necessary. Through audit reports, improvement recommendations are provided to ensure the continuous effective operation of the internal control system.

Internal audit organization ◀

The Company's Audit Office is an independent unit under the Board of Directors, staffed with one head of audit and one audit personnel, both possessing the qualifications required by competent authorities and continuously participating in relevant continuing education courses. By the end of January each year, the Company files the roster of audit personnel with the Market Observation Post System in accordance with regulations.

The appointment and dismissal of the head of audit must be approved by the Audit Committee and then submitted to the Board of Directors for resolution; performance evaluation and remuneration are also reviewed by the Remuneration Committee before being reported to the Board of Directors. The appointment, dismissal, and performance evaluation of audit personnel are handled in accordance with internal control system regulations, with related procedures signed and reported by the head of audit and approved by the Chairperson to ensure the independence and professionalism of the audit mechanism.

Audit operation method ◀

The annual audit plan is formulated according to the "Regulations Governing Establishment of Internal Control Systems by Public Companies" and the risk assessment results, which are implemented after being approved by the Board of Directors. It is to inspect and evaluate the implementation of the internal control system and provide improvement suggestions in a timely manner.

Item	Contents of implementation
Auditees	Including the business scope of each unit of the Company and subsidiaries
Audit reports	The internal chief auditor submits audit reports and follow-up reports to independent directors for review by the end of the following month, and attends the board meetings and the Audit Committee meetings in a non-voting capacity. Independent directors can fully communicate with the internal chief auditor. Independent directors hold a meeting with the chief auditor at least once a year to exchange opinions with independent directors on internal control and internal auditing, and keep records accordingly.
Annual self-assessment	Each unit and subsidiary of the Company conducts a self-assessment every year according to regulations, which is reviewed by the Audit Office and submitted to the Board of Directors and the President as the basis for assessing the effectiveness of the overall internal control system and issuing an internal control statement.
Public reporting	We file the annual audit plan, the implementation status of the audit plan, and the improvement to defects and abnormalities in accordance with the date and format of "Regulations Governing Establishment of Internal Control Systems by Public Companies."



1.4 Information security management

As the Company's operations involve a large amount of engineering data, confidential contracts, and customer data, malicious attacks or data leakage will pose a serious threat to the Company's reputation and operations. Therefore, the effective management of information security can be regarded as one of the cornerstones of the stable operation of an enterprise.

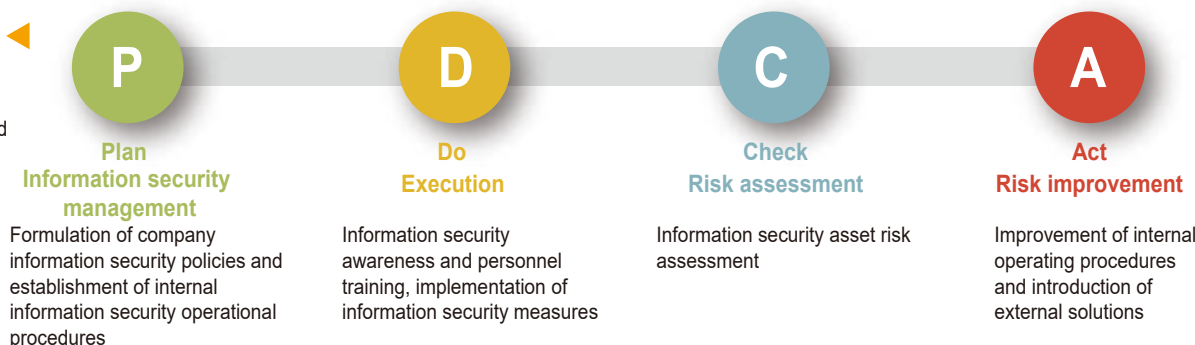
The information security management policy of Hwang Chang covers the following aspects:

- ▶ **System regulations:** We have established an information security management system to regulate the operational behavior of employees and ensure that each employee follows the safe operating process at work.
- ▶ **Process management:** We follow the information processing cycle of internal control, implement information security process management, and ensure that each link of information processing meets security standards.
- ▶ **Information security monitoring:** The firewall blocks malicious attacks on the network and monitors internal and external abnormal activities, and a strict information security barrier has been established to prevent data leakage and network intrusion.
- ▶ **Personnel training:** Information security education and awareness materials are regularly posted on the electronic bulletin board of the corporate Employee Information Portal (EIP), with a total of 7 information security announcements posted this year. Information security education has been strengthened in the orientation training process for new employees to enhance the information security awareness and capabilities of all employees. Additionally, two information security education training sessions (30 minutes each) were conducted at external construction sites this year, covering key areas such as information security risk identification, equipment usage safety, and data protection to enhance the information security awareness of front-line personnel.

The Company has appointed a chief information security officer and information security personnel to strengthen information security protection and management, and has added the functions and responsibilities of a dedicated information security unit to its internal control system.

Information security management framework

1. The information security responsible unit is the Information Office, which is responsible for formulating information security policies, and regularly reviewing and revising operating specifications to comply with information security standards.
2. The audit office incorporates the information management operation cycle into the annual audit plan.
3. We adopt PDCA management to ensure the achievement of goals and continuous improvement.





Information security management measures ◀

Item	Specific management methods
Firewall protection	• Security management and control procedures were set up for firewalls. • Additional applications are required if there are special connection needs. • Firewall data reports are monitored and analyzed.
User online control mechanism	• Facebook, gaming sites, peer-to-peer, or constant file transfer websites are blocked.
Antivirus software	• Anti-virus software with a client-server architecture is installed on both servers and computer users, and virus patterns are updated automatically.
Application system access privilege management	• Access privileges are set based on user accounts.
Email security control	• The email server is equipped with email anti-virus, spam filtering, and inappropriate email detection functions to prevent unpredictable damage caused by malicious emails.
Website protection mechanism	• The website is equipped with a firewall device to block external network attacks.
Data backup mechanism	• Full backups and differential backups are performed daily for servers and databases.
Computer room equipment management	• Servers are placed in a dedicated data center. Access is restricted and access records are kept. • The server room is equipped with independent air conditioning and dry chemical fire extinguishers. • All servers are connected to UPS to prevent damage to servers due to power outages or abnormal power outages.
Uploading of important files to servers	• The important files of each department are uploaded to the NAS for storage and backed up by the IT Department.
Self-inspection of Information Security Form	• The Information Office conducts safety inspections and completes self-assessments on a quarterly basis.
Cyber security risk assessment and improvement	• The Information Office conducts an annual cyber security risk assessment for the information and communication systems, and implements a risk improvement plan if the risk is high.
Social engineering drills	• The Information Office holds annual social engineering attack drills and offers training for those who fail to pass.
Information security incident reporting and handling	• The Cyber Security Incident Reporting/Handling Record Form is filled out and handled immediately when an information security incident occurs.
System updates and patches	• We regularly patch security loopholes in equipment, system components, database systems, and software.
User review	• We regularly review user accounts and privileges, and suspend accounts that have not been used for a long time.



Implementation of cyber security in 2024 ◀

1. Implement email social engineering attack drills, including phishing email simulations, deceptive social emails, and targeted spear-phishing emails that simulate real attack methods to test employees' ability to identify and respond to social engineering attacks, enhancing employee awareness of email protection.
2. Proactively introduce remote database backup to prevent loss of important data due to disasters, theft, or other incidents.
3. Continue to publish information security messages on the EIP electronic bulletin board, with some employees having undergone information security video training.
4. The company website continues to adopt the HTTPS protocol, with ongoing use of SSL/TLS encryption during communication processes.
5. The password control mechanism has been strengthened. Mailbox passwords are changed to six to eight or more digits, consisting of uppercase and lowercase letters, or numbers.





2

Value creation as a leader in the future

2.1 Quality management

2.2 Technological innovation

2.3 Hwang Chang green buildings

2.4 Sustainable supply chain



02 Value creation as a leader in the future

2.1 Quality management

Establishing a comprehensive quality management system ◀

Hwang Chang continues to deepen its construction management system, comprehensively implementing the "Three-Tier Quality Management System" advocated by the Public Construction Commission, which includes in sequence: self-inspection by construction units (Tier One), sampling inspections by supervision units and owners (Tier Two), and audits by competent authorities or the Public Construction Commission (Tier Three). Before construction, the construction unit confirms that materials and equipment comply with specifications and conducts self-inspection at each construction phase (such as formwork installation, reinforcement tying, and concrete pouring), with on-site personnel completing and retaining self-inspection forms as records. The supervision unit and owner conduct regular spot checks on construction results and oversee deficiency improvements. Competent authorities perform on-site inspections and document reviews for major projects or high-risk items, establishing a multi-layered quality control mechanism to ensure construction quality and regulatory compliance.

Special report - Tiered quality control system ◀

Tier one quality control: Self-inspection by construction units

The responsibility lies with construction units to ensure that the construction process complies with design drawings and specifications.

1. Inspect materials and equipment prior to construction to ensure compliance with specifications.
2. Conduct independent inspections of each construction process during construction, such as formwork, rebar binding, concrete placement, etc.
3. Establish independent inspection checklists to record inspection items, standards, and results.
4. On-site personnel complete and maintain independent inspection checklists as records.

Tier two quality control: Inspection by supervision units and project owners

Quality management of construction units is the responsibility of supervision units and project owners.

1. Conduct regular or irregular inspections of construction quality to ensure compliance with design specifications and standards.
2. Supervise construction units in correcting deficiencies.
3. Establish supervision plans with clearly defined inspection frequencies and items.
4. Perform on-site inspections, such as concrete strength testing and rebar spacing measurements.

Tier three quality control: Supervision and inspection by competent authorities or the Public Construction Commission

The competent authority or Public Construction Commission is responsible for ensuring the implementation of first and second-level quality management.

1. Conduct regular or ad hoc inspections of quality management implementation by construction units and supervision units.
2. Conduct project-specific inspections for major projects or high-risk items.
3. Establish inspection teams to conduct on-site inspections and document reviews.
4. Require construction units and supervision units to rectify deficiencies within specified timeframes.



Implementation of standardized operations and information management ◀

To strengthen operational consistency and reduce human error risks, Hwang Chang has comprehensively promoted standard operating procedures (SOP) to implement standardization of construction techniques. And establish construction production records, meticulously documenting design drawings, inspection data, and construction images from each phase of the project, which facilitates subsequent maintenance and safeguards residents' rights and interests. In large-scale construction projects, the Company has introduced Building Information Modeling (BIM) technology to identify potential conflicts between design and construction in advance, enhancing integration efficiency and quality control in the preliminary stages of projects.

Establishing interface integration mechanisms to enhance engineering collaboration efficiency ◀

During the engineering planning and construction phases, Hwang Chang establishes comprehensive interface coordination mechanisms, clearly delineating responsibilities among contractors and establishing communication processes, while pre-integrating various system interfaces to effectively reduce errors and rework risks. Weekly "Coordinated Installation Program (CIP)" meetings are regularly convened to integrate discussions on design, schedule, and construction issues, with tracking and control mechanisms established to ensure implementation results are delivered. For projects with tight design schedules or complex system integration, interface integration and risk prediction are conducted during the initial phase to avoid future demolition and reconstruction or project delays, enhancing overall construction efficiency and quality.

Strengthening maintenance plans and operations management ◀

Upon project completion, the Company formulates regular maintenance and upkeep plans for building structures, mechanical and electrical facilities, waterproofing systems, and fire protection systems, and arranges technical personnel to conduct inspections and testing. Through comprehensive maintenance records and data retention, the Company assists management units in subsequent maintenance decisions and scheduling arrangements, ensuring stability and safety during the building's operational phase.

Application of advanced equipment and smart monitoring technology ◀

In construction precision control, Hwang Chang extensively utilizes high-precision surveying instruments, such as total stations and laser levels, to monitor reference points and work item dimensions, thereby maintaining work item accuracy and structural alignment precision. In terms of construction site safety monitoring, the Company is equipped with CCTV surveillance systems, ground settlement gauges, building tilt sensors, and gas detectors, and has established cloud platforms for real-time monitoring to reduce potential on-site risks and safeguard the safety of construction personnel and surrounding communities.

Promoting construction method optimization and site management ◀

In terms of construction method application, the Company actively adopts aluminum alloy system formwork and precast construction methods to enhance construction quality and structural stability. Aluminum formwork offers advantages of durability, easy demolding, and high reusability, effectively reducing masonry procedures, shortening construction periods, and minimizing resource consumption. Precast components are applied to integrated bathroom systems and drainage systems, thereby improving assembly precision and construction efficiency.

In alignment with construction site management practices, the Company has comprehensively implemented the 6S management system (Sort, Set in Order, Shine, Standardize, Sustain, Safety) to establish a clear working environment, enhance construction efficiency and on-site safety conditions, and promote the development of good working habits among on-site personnel.



Strengthening education and training and risk awareness ◀

To enhance construction safety and on-site personnel response capabilities, Hwang Chang implemented virtual reality (VR) technology for construction safety simulation and education and training. Through simulating hazardous scenarios and standard construction procedures, field personnel's risk identification capabilities and response reactions are strengthened. In coordination with the construction phase risk assessment system, potential hazards are regularly inventoried and response measures are formulated to progressively strengthen proactive risk management capabilities at construction sites. Furthermore, for areas with heights exceeding 5 meters, systematic heavy-duty support frame and platform installation designs are comprehensively adopted, not only improving the precision of formwork construction but also significantly enhancing the safety of construction personnel during operations.

In addition to internal safety training, the Company arranged multiple external professional training programs related to quality management this year, including: "Asphalt Concrete Pavement Engineering Material Quality Enhancement and Management Control Practices" course, with 7 participants and 3 training hours; and "Cross-Domain Certification Training for Road Construction Management Personnel," covering topics such as standard road construction procedures, damage repair and restoration new construction methods, and pavement restoration quality management, with 15 trainees and 5 training hours. Through the aforementioned courses, the Company continues to deepen employees' professional knowledge regarding engineering quality and standardized operations.

Establishment of standardized operation demonstration and on-site supervision systems ◀

To implement quality management and enhance consistency in on-site construction, Hwang Chang has established construction method demonstration areas at project sites, showcasing various detailed construction methods including waterproofing application, hydroelectric installation, wall construction, and other techniques, while simultaneously establishing standardized construction procedures and inspection points for various renovation operations. Through visual displays and instructional signage, supplemented by training and on-site awareness campaigns, work personnel clearly understand project requirements and key points, further reducing errors and rework risks.

Additionally, Hwang Chang deploys qualified civil engineers with professional credentials to provide long-term on-site supervision, implementing real-time inspections and operational guidance. All aspects from construction quality to occupational health and safety are strictly monitored to ensure project execution complies with design and regulatory standards, while strengthening on-site real-time feedback and improvement mechanisms.



Steel reinforcement construction method demonstration



Plumbing and electrical piping construction method demonstration



Masonry construction method demonstration



Lightweight partition construction method demonstration



Waterproofing construction method demonstration



Sound insulation floor mat construction method demonstration

Certifications obtained by the Company ◀ **Awards and honors** ◀



Performance evaluation scores for completed projects over the past five years

According to inquiries from the Public Construction Commission's, Executive Yuan, Public Works Contract Management Information System (query date: July 26, 2024), the Company has completed 10 contracts over the past 5 years with an average score of 93.29 points, which falls within the top-tier level (greater than 83.25 points), demonstrating exceptional contract performance.

項目		施工工程發包預算金額								備註
		2億以上		5000萬至2億		1000萬至5000萬		100萬至1000萬		
(1)近5年承攬施工件數		18		2		2		0		明細
(2)近5年專案管理件數		0		0		0		0		
(3)近5年監造件數		0		0		0		0		
(4)在建工程件數		11		0		0		0		明細
(5)近5年被查核等第之次數及比率	優等	0	0%	0	0.0%	0	0%	0	0.0%	明細
	甲等	48	100%	0	0.0%	1	100%	0	0.0%	
	乙等	0	0%	0	0.0%	0	0%	0	0.0%	
	丙等	0	0%	0	0.0%	0	0%	0	0.0%	
(6)近5年公共工程金質獎得獎次數	特優	1		0		0		0		明細
	優等	0		0		0		0		
	佳作	3		0		0		0		
(7)近5年承攬施工發生重大職災件數		1		0		0		0		明細
(8)近5年曾被停權紀錄		0								
(9)近5年曾被環保裁罰紀錄		21								明細
(10)近5年履約計分結果		95.48		89.5		90.5		0		明細
整體履約計分結果		93.29								
113年07月 廠商履約計分PK指標		(1)頂標：83.25分；(2)前標：82.05分；(3)均標：80.97分； (4)後標：79.89分；(5)底標：78.8分。								



Award records over the past 5 years ◀

Over the past 5 years, the Company has received a total of 4 National Golden Awards from the Public Construction Commission, 2 Special Contribution Awards, 5 Golden Safety Awards from the Ministry of Labor, 1 Golden Road Award from the Ministry of Transportation and Communications, 3 Public Works Excellence Awards from Taipei City Government, 2 Public Works Quality Awards from New Taipei City Government, and 1 Golden Excellence Award from Taoyuan City Government. In the past 2 years, the Company has received 2 National Golden Awards for construction projects, 2 Golden Safety Awards, 1 Golden Road Award, 2 Public Works Excellence Awards from Taipei City Government, and 1 Public Works Quality Award from New Taipei City Government. The Company's construction management, quality, and safety and health performance have been consistently recognized by supervisory and contracting authorities for years, demonstrating outstanding achievements, exceptional reputation, and excellence in both quality and safety and health, ranking among the industry's finest.

“National Golden Award” from the Public Construction Commission, Executive Yuan

Year	Awards	Project name	Remarks
2023	Outstanding	Wanda–Zhonghe–Shulin Line (Phase I Project) CQ860 Section tender project	23rd term
2023	Honorable mention	New youth social housing turnkey project in the Anbang section in Zhonghe	23rd term
2021	Honorable mention	Public housing contract tender D project of the Guangci Boai Park overall development program	21st term
2020	Honorable mention	Taoyuan City Guanyin District Caota first, third, and sixth integrated development unit urban land redevelopment turnkey project	20th term

“Golden Safety Award for Public Works” from the Ministry of Labor (Labor Committee), Executive Yuan

Year	Awards	Project name	Remarks
2023	Honorable mention	Expropriation project in the Zhongli Sports Park Section, Taoyuan City	17th term
2023	Honorable mention	Additional system project for the interchange connecting National Highway No. 3 and Provincial Highway 66 (Tender No. 336)	17th term
2020	Excellence	Public housing contract tender D project of the Guangci Boai Park overall development program	14th term
2019	Honorable mention	Social Public Housing on the North Side of the New Central Village of Xindian District New Construction Turnkey Project	13th term
2019	Honorable mention	Taoyuan City Guanyin District Caota first, third, and sixth integrated development unit urban land redevelopment turnkey project	13th term

"Golden Road Award" from the Ministry of Transportation and Communications

Year	Awards	Project name	Remarks
2021	Third place	Circular Line CF640 Section tender project	22nd term



Award records over the past 5 years ◀

Excellence Award from the Taipei City Government

Year	Project name	Remarks
2023	Wanda-Zhonghe-Shulin Line CQ860 Section tender project	
2023	Commissioned reconstruction project for the main part of the publicly-owned Huannan market under the Taipei City Market Administration Office	
2021	Public housing contract tender D project of the Guangci Boai Park overall development program	

Quality Award from the New Taipei City Government

Year	Project name	Remarks
2023	New youth social housing turnkey project in the Anbang section in Zhonghe	
2019	Social Public Housing on the North Side of the New Central Village of Xindian District New Construction Turnkey Project	

“Golden Excellence Award” from the Taoyuan City Government

Year	Awards	Project name	Remarks
2020	Excellent	Taoyuan City Guanyin District Caota first, third, and sixth integrated development unit urban land redevelopment turnkey project	4th term





Award records over the past 5 years ◀

Circular Line CF640 Section tender project

Commissioning authority Department of Rapid Transit Systems, Taipei City Government

Awards records 22nd Golden Road Award



Guangci Comprehensive Development Plan Public Housing Project D Contract

Commissioning authority Department of Urban Development, Taipei City Government

Awards records 21st National Golden Award, 14th Golden Safety Award, 2021 Excellence Award



Taoyuan Caota urban land redevelopment turnkey project

Commissioning authority Office of Public Construction, Taoyuan City Government

Awards records 20th National Golden Award, 13th Golden Safety Award, 4th Golden Excellence Award



Central New Village North Social Housing Project, Xindian District

Commissioning authority Department of Urban and Rural Development, New Taipei City Government

Awards records 19th National Golden Award, 13th Golden Safety Award, 2019 Quality Award



Wanda-Zhonghe-Shulin Line CQ860 Section tender project

Commissioning authority First District Engineering Office, Department of Rapid Transit Systems, Taipei City Government

Awards records 23rd National Golden Award, 2023 Excellence Award



Main construction of reconstruction project of Huan-nan market

Commissioning authority Public Works Department, Taipei City Government

Awards records 12th Golden Safety Award, 2023 Excellence Award





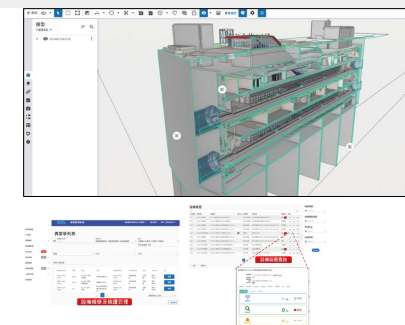
2.2 Technological innovation ◀

2.2.1 Implementation of Building Information Modeling (BIM) technology for construction simulation

BIM is a process and method used to describe and present the information required for each stage of design, construction, and operation. It integrates various types of information (including building components and their attributes) required for many projects into a single digital data environment to simulate virtual design and construction (VDC), thus assisting the application at various construction stages from design to completion. The 3D simulation technology and processing functions of BIM are helpful for the conflict review and integration of architectural design and electro-mechanical equipment, improving design and construction efficiency, reducing errors and rework, and improving the overall project quality with the visualization effects.

Key points of BIM application

Building structural models	We create a three-dimensional (3D) structural model and use 3D visualization to conduct spatial discussions. We also use physical models, which can be adjusted and configured with the surrounding landscape more easily. For the detailed design of buildings, such as doors, windows, or detailed facilities, the 3D model can be used to propose more accurate installation positions and sizes as a reference for spatial layouts.
Construction space	As the basis for reviewing the work area allocation and construction radius of the machine tool operating space, 3D performance is better. 3D models can provide a more visual and intuitive solution when reviewing conflicts between machine tools which are moved into construction sites and pipelines and the surrounding space. It can also be used to review the layout of occupational safety and health facilities at construction sites to enhance labor and construction safety, and to verify the quantity of materials used. In addition, the virtual reality (VR) system can be applied to the drawing of underground pipelines to effectively prevent pipeline damage caused by road excavation.
Interference detection	When we confirm the feasibility of combining various systems before on-site construction, such as structural and mechanical and electrical systems. 3D models are easier to understand than 2D models, which can accelerate the communication efficiency of construction issues.
Integration of cloud platform and mobile devices	Engineers can log in to the cloud platform through the built-in browser of a mobile device to directly view the BIM of each project (can be flipped, zoomed in or out, and from different angles) and query component information. In addition, they can also use the mobile device, to upload, download, and browse project documents, greatly improving efficiency.
Construction scheduling	Simulate construction processes to determine the optimal construction sequence through discussion before formal construction begins.
Equipment maintenance and management platform	We have established an equipment maintenance platform for equipment search, repair requests, maintenance, and management operations. Combined with the BIM visual model positioning view and database link, it is possible to find information, such as illustrations and catalogs, in real time.





The Company's practical application cases ◀

1

Civil and Hydroelectric Control Section tender project of the Circular Line North Section stations Y23 (excluded)~Y25 (included)

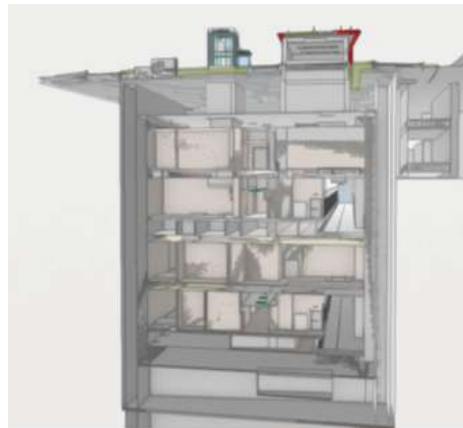
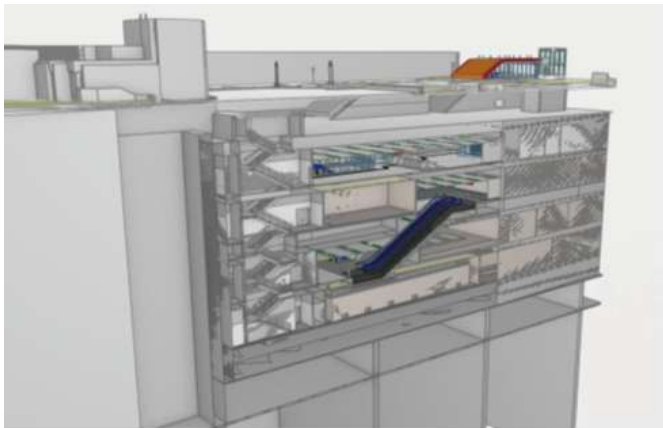


Y24 Station construction phase structural model development and "Taipei Terminal Emergency Escape Shaft" 4D simulation application items

3D construction simulation and construction cross-section model creation are conducted. During the tender preparation stage, our team has completed the construction of the completion model and commits to continuous improvement through proactive BIM implementation. We utilize BIM development tools compatible with Autodesk, Bentley, and other systems, primarily including:

1. 4D construction schedule simulation: ensuring alignment between planned and actual progress.
2. Clash detection: reducing errors and rework while improving construction efficiency.
3. As-built model construction: providing support for subsequent maintenance and management.

These efforts will help integrate BIM with facility management (FM) to realize full life cycle management from design, construction to operation, and ultimately improve operational performance.



► Y24 station structure model (I)



► Taipei Terminal Emergency Escape Shaft 4D simulation results (1)



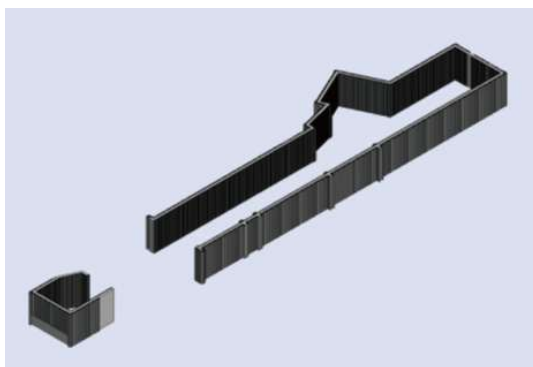
2

Civil and Hydroelectric Control Section tender project of the Circular Line North Section stations Y20 (excluded)~Y23 (included)



(1) Building construction BIM model:

This case is executed in accordance with Chapter 0133A of the Construction Technical Specifications and the approved Building Information Modeling (BIM) Implementation Plan. The model is built based on the contractual engineering drawings plan and implementation, thoroughly reviewing conflicts between existing pipelines and structural systems. To ensure model quality meets standards, this case implements self-inspection checklist verification.



► Y21 station geotechnical model (diaphragm wall)

(2) Civil infrastructure BIM model:



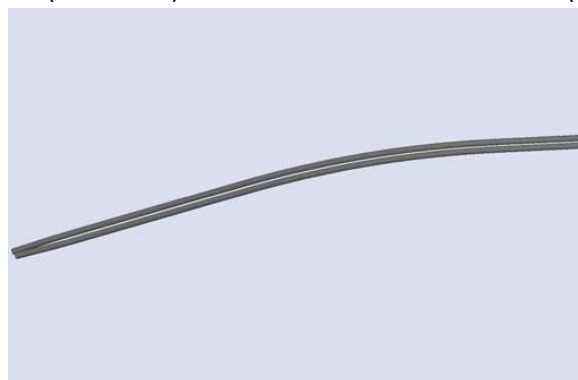
► Existing underground pipeline model (Y21 Station)



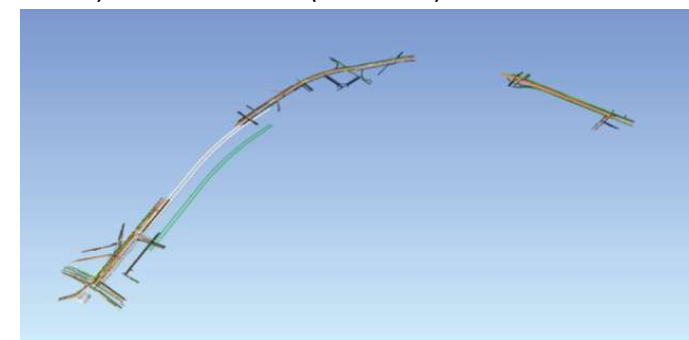
► Existing underground pipeline model (Y22 Station)



► Existing underground pipeline model (Y23 Station)



► Track model



► Integrated full-line model

土木基礎設施-大地、土木及隧道模型 BIM 自主檢查表				
模型名稱:	CO-UT-Y21-EX-A			
模型版本:	A			
編製日期:	113/12/10			
編製人員:	林宜庭			
檢核項目	檢核結果	合格	不合格	備註
1. 模型的檔案名稱及版本符合 BIM 執行計畫之規定	✓			
2. 模型使用正確的座標系統	✓			
3. 模型使用 BIM 執行計畫書規定之單位建置	✓			
4. 模型元件使用設計圖示之尺寸	✓			
5. 模型元件使用設計圖示之材料	✓			
6. 元件位置與正確位置	✓			
7. 模型本體與圖面或圖則之元件	✓			
*此表格執行後請增加檢核項目				
編製人員	檢核人員	審核人員		
林宜庭	陳成達	曾明晴		

► BIM model self-inspection checklist



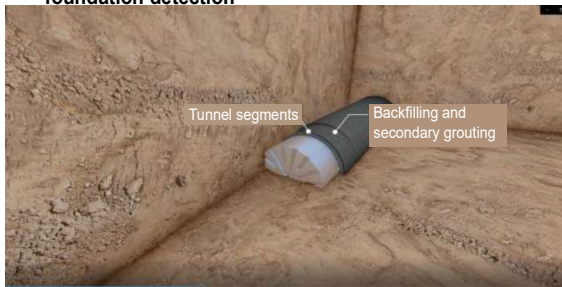
(3) 4D Construction Simulation:

This project developed BIM models based on drawings related to each theme of 4D construction simulation, coordinating with construction schedule timelines to analyze and simulate feasibility, rationality, and safety aspects.

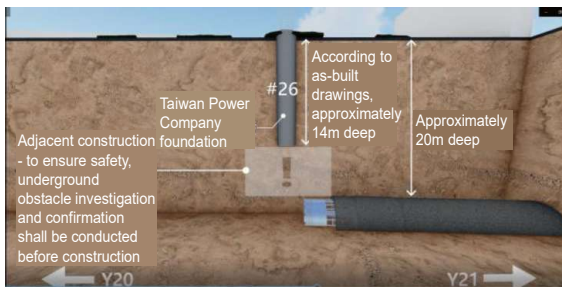
A. The following shows the simulation results for the "Y20~Y21 Station Tunnel Construction Passing Under Buildings/Taiwan Power Company Foundations" video.



► Adjacent building protection scope and Taiwan Power foundation detection



► Shield tunneling backfill grouting and secondary grouting



► Presented from longitudinal section perspective (#26) below, with markings indicating depth below and alert zones.

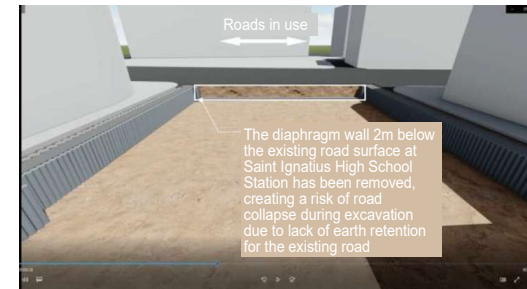
B. The following presents the simulation results for the "Y21 Station and Existing Luzhou Line Saint Ignatius High School Station Construction Interface" video.



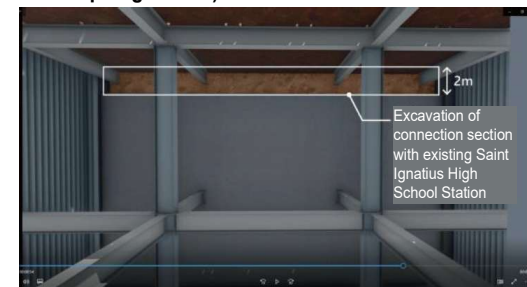
► Temporary works, construction scope, and traffic flow.



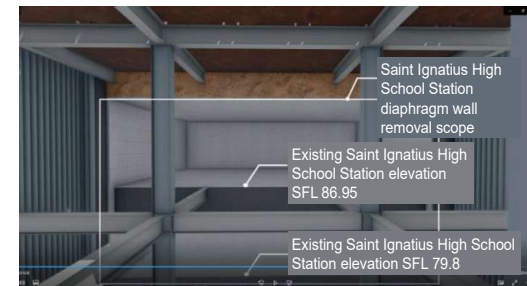
► Connection positions of diaphragm walls, pre-bored piles, and water-stop piles



► Soil retaining review documentation for excavation sections connecting to existing stations (without diaphragm walls)



► Soil retaining review for excavation sections connecting to existing stations (without diaphragm walls)



► Elevation control with existing station structural slabs



3

Commissioned reconstruction project for the publicly-owned Huannan market under the Taipei City Market Administration Office

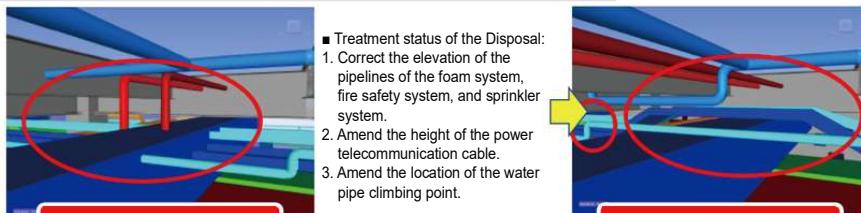


(1) Building structural models: We create a three-dimensional (3D) structural model and use 3D visualization to conduct spatial discussions. We also use physical models, which can be adjusted and configured with the surrounding landscape more easily.



(2) Interference detection: When we confirm the feasibility of combining various systems before on-site construction, such as structural and mechanical and electrical systems. 3D models are easier to understand than 2D models, which can accelerate the communication efficiency of construction issues.

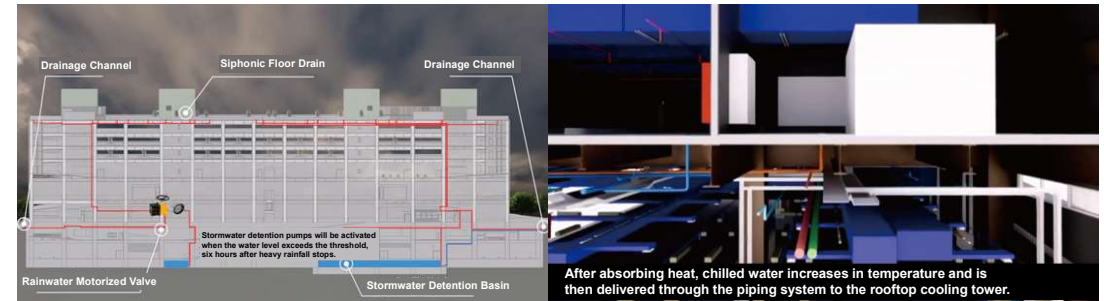
- Conflicts: Air-conditioning & power telecommunication & water supply & fire safety system
- Region/Position: 2F/LINE 7-8 G-H



Collision indication map (3D)

Solution to the problem (3D)

(3) Featured System Introduction: For featured systems within the project, various simulation animations were employed to provide explanations, significantly enhancing the understanding of system functionality.



(4) Equipment maintenance and management platform: We have established an equipment maintenance platform for equipment search, repair requests, maintenance, and management operations. Combined with the BIM visual model positioning view and database link, it is possible to find information, such as illustrations and catalogs, in real time.

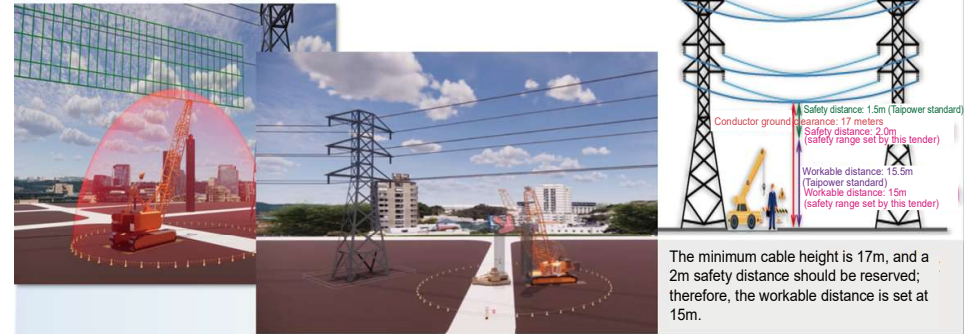




4 Expropriation project in the Zhongli Sports Park Section, Taoyuan City



The BIM system was utilized to simulate the sewage working shaft located beneath 69kV extra-high voltage power lines, thereby adjusting the casing length and the detection height of the extra-high voltage electronic fence to minimize risks.



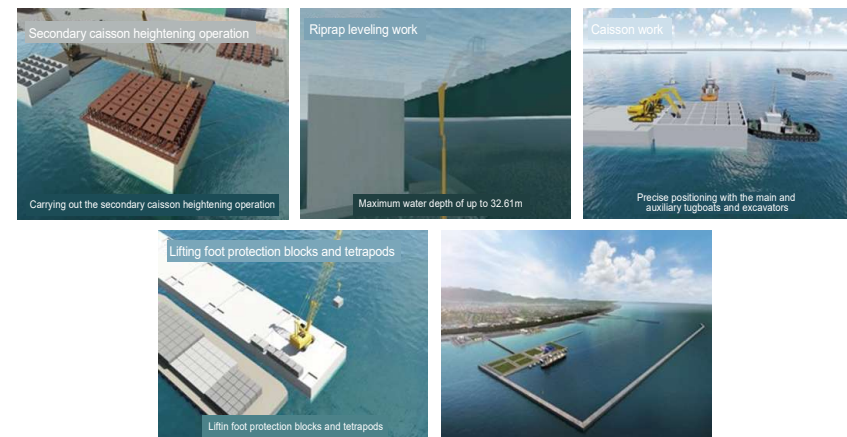
5 New construction project for the breakwater of the Guantang Terminal expansion solution



According to the construction contract, a contractor must perform two tasks: 3D construction simulation and construction cross-sectional model production. The team has completed the construction of the as-built model and the construction animation simulation of major work items during the tender preparation stage, and is committed to continuous improvement and proactively creating Building Information Modeling (BIM). We will use BIM tools and operating platforms that are compatible with Autodesk, Bentley, or the owner's drawing, and a project management information system (PMIS).

Main tasks include:

1. 4D construction schedule simulation: Accurately simulate construction progress to ensure consistency between planned and actual schedules.
2. Conflict checks: Conflicts during the design and construction stages are checked with BIM technology to reduce errors and rework, and improve construction efficiency.
3. Construction of the as-built model: Creation of an as-built model to document important information during the construction stage to support subsequent maintenance and management. These efforts will help integrate BIM with facility management (FM) to realize full life cycle management from design, construction to operation, and ultimately improve operational performance.





2.2.2 Innovative construction method - shield tunneling jacking method

Shield tunneling conventional method

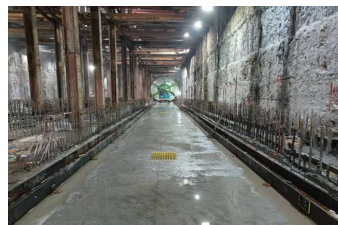
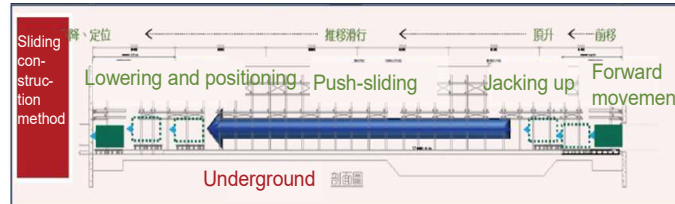
Upon completion of tunnel excavation (arrival) at this segment, the shield machine needs to be relocated to the starting point of the next tunnel segment for excavation (departure). The traditional relocation method involves disassembling the shield machine underground, hoisting it to the surface, transporting it by truck to the starting point of the next tunnel segment, and then hoisting it from the surface to underground for reassembly. Due to the massive scale and complex structure of shield machines, disassembly and assembly operations take several months. The hoisting operations of shield machines pose high occupational safety risks and require extensive traffic maintenance while occupying roadways, significantly impacting traffic flow.



Shield tunneling jacking method

To reduce the impact of urban rail engineering on traffic and residents' daily lives, breaking through the traditional construction method that required disassembling and hoisting the shield machine from the bottom of the shaft, transporting it to the surface, and then reassembling and lowering it back into the shaft for advancement.

The Company has innovatively developed a construction method that allows the shield machine to jack up, push, and slide underground. Through a reinforced track and tank wheel pushing system, the shield machine can directly slide from the arrival side to the launching side to continue tunnel excavation operations, completing the entire transfer process underground. This construction method not only effectively avoids traffic congestion and high-risk hoisting operations but also reduces occupational safety risks that may arise from disassembly and assembly operations, thereby enhancing construction safety and efficiency.



Actual Application Case of the Company: Taipei Mass Rapid Transit System Wanda-Zhonghe-Shulin Line (Phase I Construction) - CQ860 Section tender

This construction project is located beneath the roads in the densely populated Zhonghe area. It represents the first domestic application of the "tunnel boring machine sliding method," utilizing precision measurement and synchronized jacking control to achieve a total sliding distance of 300 meters for the tunnel boring machine, setting a record for the longest sliding distance. This innovation successfully shortened the construction period by 65 days, saving 7,800 working hours. The innovative construction method delivered remarkable results and achieved zero occupational safety incidents throughout the entire process, demonstrating the dual achievements of this method in both construction technology innovation and risk management.



2.3 Hwang Chang green buildings

In response to global trends in sustainable construction and the advancement of domestic green building policies, Hwang Chang, as the actual construction executor, actively collaborates with clients' design planning to ensure that various green building and smart building indicators are faithfully implemented on-site. We understand that the selection of construction methods, material usage, construction quality, and site management during the construction phase directly affect whether a building meets the certification requirements for green building labels. Therefore, even when not serving as the primary applicant for green building certification, we still regard "assisting clients in realizing sustainable building value" as an important responsibility within our core construction business.

To respond to the requirements of the nine green building indicators, Hwang Chang continues to optimize practices in construction implementation, including: using energy-efficient and environmentally friendly building materials, implementing rainwater harvesting and site water retention in accordance with design specifications, planning construction site waste reduction processes, strictly managing construction noise and wastewater discharge, and emphasizing the execution quality of processes related to indoor environmental health. We also strengthen tripartite collaboration with design units, supervision units, and clients to ensure that all sustainable building details are properly executed at the construction level and meet acceptance standards. For Hwang Chang, green building is not merely a component of engineering projects, but a demonstration of engineering ethics and professional responsibility. In the future, we will continue to enhance our team's understanding and execution capability regarding sustainable building construction standards, deepen green construction methods, construction carbon reduction, and low-energy consumption management, working hand in hand with clients to create a more sustainable future for urban development.

EEWH green building certificate

Organizer: Ministry of the Interior

EEWH green building certificate	Name of construction site	Validity period
Gold level	New youth social housing turnkey project in the Anbang section in Zhonghe	2029.10.20
	Public housing contract tender D turnkey project of the Guangci Boai Park overall development program	2028.5.18
	Social Public Housing on the North Side of the New Central Village of Xindian District New Construction Turnkey Project	2025.9.21
Qualified	Phase 1 construction of the Circular Line Project of the Mass Rapid Transit System in Taipei Metropolitan Area: Shisizhang Station	2024.10.21

EEWH green building certificate candidate

Organizer: Ministry of the Interior

Green building certificate candidate	Name of construction site	Validity period
Gold level	New youth social housing turnkey project in the Guoguang Section (Phase II) in Sanxia	2021.8.27-2026.10.14
Silver level	Reconstruction project for the main part of the publicly-owned Huannan market under the Taipei City Market Administration Office	2017.5.25-2025.5.24

Smart building certificate candidate

Organizer: Ministry of the Interior

Candidate smart building certificate	Name of construction site	Validity period
Bronze level	New youth social housing turnkey project in the Guoguang Section (Phase II) in Sanxia	2021.11.30-2026.11.29
Bronze level	Reconstruction project for the main part of the publicly-owned Huannan market under the Taipei City Market Administration Office	2017.11.13-2026.11.12
Bronze level	New youth social housing turnkey project in the Anbang section in Zhonghe	2021.2.5-2026.2.4



EEWH green building certificate



Smart building certificate candidate



Implementation of sustainable construction methods and equipment ◀

To enhance project durability and respond to sustainable development trends, Hwang Chang has continuously optimized structural waterproofing and material application strategies across all construction projects, incorporating carbon reduction and energy-saving considerations from the design source and implementing these in actual construction.

Building waterproofing

The Company comprehensively strengthens waterproofing construction details, including: using durable Type II cement concrete for the foundation slab and the perimeter of diaphragm walls, installing waterproof tongue-and-groove joints at floor joints, setting up MO frames and outward drainage slopes for exterior window frames, extending waterproofing height in bathroom areas to the structural slab bottom, installing water stops for all interior partitions, adopting stainless steel planters for rooftop gardens, and adding crack-resistant mesh to the plastering layer of drainage ditches to effectively prevent leakage risks. Furthermore, thermal imaging cameras are also introduced for completion inspections to enhance the precision and reliability of waterproofing results.

Building materials and construction techniques

In terms of concrete mix design, incorporating pozzolanic materials (such as blast furnace slag and fly ash) to partially replace cement can effectively reduce carbon emissions while enhancing concrete durability and material performance, meeting green concrete standards and contributing to energy conservation, carbon reduction, and resource reuse.

Equipment applications

The Company has installed elevator systems that comply with high-efficiency energy-saving principles, equipped with renewable energy recovery devices that can convert potential energy into electrical energy for use by the building's internal power grid, thereby enhancing energy circulation and utilization efficiency. The systems simultaneously integrate earthquake and fire emergency response devices, infrared anti-entrapment functions, and epidemic prevention-related designs to enhance passenger safety and user experience, demonstrating comprehensive consideration for residential quality and risk control.



Feature column - Promoting systematic formwork applications to achieve energy conservation, carbon reduction, and construction optimization

To implement green construction and circular economy practices, Hwang Chang has actively introduced system formwork as the standard construction method on-site, replacing traditional timber formwork and complicated plastering processes. Traditional formwork uses timber and large quantities of cement mortar, which not only increases material consumption and waste generation but also involves high carbon emissions. According to internal evaluations, timber formwork and plastering cement mortar generate approximately 10.05 kilograms of carbon emissions per square meter, while the adoption of aluminum formwork can achieve carbon reduction of 6.583 kilograms per square meter on average, representing a carbon reduction efficiency of 63.3%.

Aluminum formwork possesses multiple technical advantages. Its material is Al-Mg-Si (aluminum alloy), which provides clear physical properties and structural strength, remains unaffected by weather conditions, and delivers high consistency in formwork cycling. Due to the smooth and flat surface of aluminum formwork, good flatness can be achieved after concrete casting without the need for additional rendering, reducing construction procedures and enhancing construction efficiency. Practical experience also demonstrates that aluminum formwork provides excellent precision at internal and external corners, effectively reducing repair and rework issues, contributing to subsequent construction integration and quality stability.

In on-site applications, the aluminum formwork support system adopts a modular design with components that can be repeatedly assembled and disassembled. A single set of system formwork is sufficient to complete the construction of an entire building, with support spacing reaching 120 centimeters, improving workflow and construction safety. After formwork removal, the support heads and steel pipes can remain in place, reducing the risk of scaffolding collapse and on-site chaos, while also contributing to maintaining construction site cleanliness and construction management efficiency. Through comprehensive planning and standardized construction procedures, the 6S on-site management principles are further implemented.

Furthermore, the stability and accuracy of the system formwork not only enhance the quality of finished surfaces but also shorten project duration and reduce manpower investment, providing positive benefits for the industry in terms of construction method upgrades and productivity optimization. Through the continuous implementation of highly efficient, low-energy construction methods, Hwang Chang aims to achieve low-carbon, energy-saving, and highly efficient sustainable construction goals throughout the entire building lifecycle.





Feature column - Adoption of LED temporary lighting to implement energy conservation measures during construction phase

To enhance construction site operational safety and energy efficiency, Hwang Chang has comprehensively replaced traditional temporary lighting equipment at construction sites with LED fixtures. The temporary lighting system not only provides bright illumination for work areas but also covers routes for personnel movement and material transportation, serving as essential infrastructure to ensure construction quality and worker safety. Traditional lighting primarily employed tungsten filament bulbs or incandescent lights, which despite their lower initial costs, have short service life, insufficient illumination, and require frequent replacement, adversely affecting overall construction efficiency and resource utilization.

The Company has progressively implemented LED lighting replacement operations since 2024, comprehensively introducing high-efficiency, long-life LED tubes with the expectation of implementing energy conservation and carbon reduction during the construction phase. LED lighting fixtures possess multiple environmental and performance advantages, including mercury-free composition, high luminous efficiency, fast startup speed, minimal light decay, damage resistance, adaptability to various ambient temperatures, and the ability to significantly reduce power consumption and maintenance frequency, thereby reducing luminaire waste and labor input.

Feature column - Circular reuse x worker rest areas

To make effective use of resources and implement environmental protection principles, Hwang Chang has established "Sustainable Rest Stations" at construction sites, built using recycled waste materials such as wooden pallets and oil drums, providing comfortable and safe rest spaces for construction workers. The rest areas are equipped with awnings, non-slip flooring, and drinking water facilities, and feature bilingual educational materials and green plant walls to accommodate migrant workers at the construction sites, combining safety education with ecological beautification.





2.4 Sustainable supply chain ◀

Supplier management

Hwang Chang continues to strengthen its supply chain management system by establishing a comprehensive supplier database, conducting material source investigations and risk identification to ensure that procurement processes comply with regulatory requirements and client quality standards. To implement the principle of "right time, right place" procurement, we actively develop local supplier resources and promote localization strategies for suppliers and contractors.

To ensure that project quality, schedule, and safety meet expectations, the Company has established a comprehensive supplier and contractor selection and management system that covers basic aspects such as price, delivery time, and quality, while incorporating sustainability indicators including environmental protection, occupational safety and health, and labor rights for on-site audits and qualification reviews. In addition, we include suppliers' past records of major violations related to environmental issues, pollution, and human rights as important exclusion or monitoring criteria, strengthening risk prevention and social responsibility oversight.

Local procurement is also one of the Company's key strategies. Except for specialized technical projects handled by foreign suppliers, the vast majority of suppliers and contractors are Taiwan-based businesses. Through prioritizing the procurement of local materials and services, we can effectively reduce transportation distances and lower carbon emissions, while promoting local economic development and employment opportunities, demonstrating the Company's concrete commitment to environmental protection and social inclusion.

In 2024, the Company had contracts with a total of 235 suppliers and contractors (including foreign vendors), of which 98% were Taiwan-based businesses distributed across northern, central, and southern regions, as shown in the table below.

Percentage of local procurement in 2024

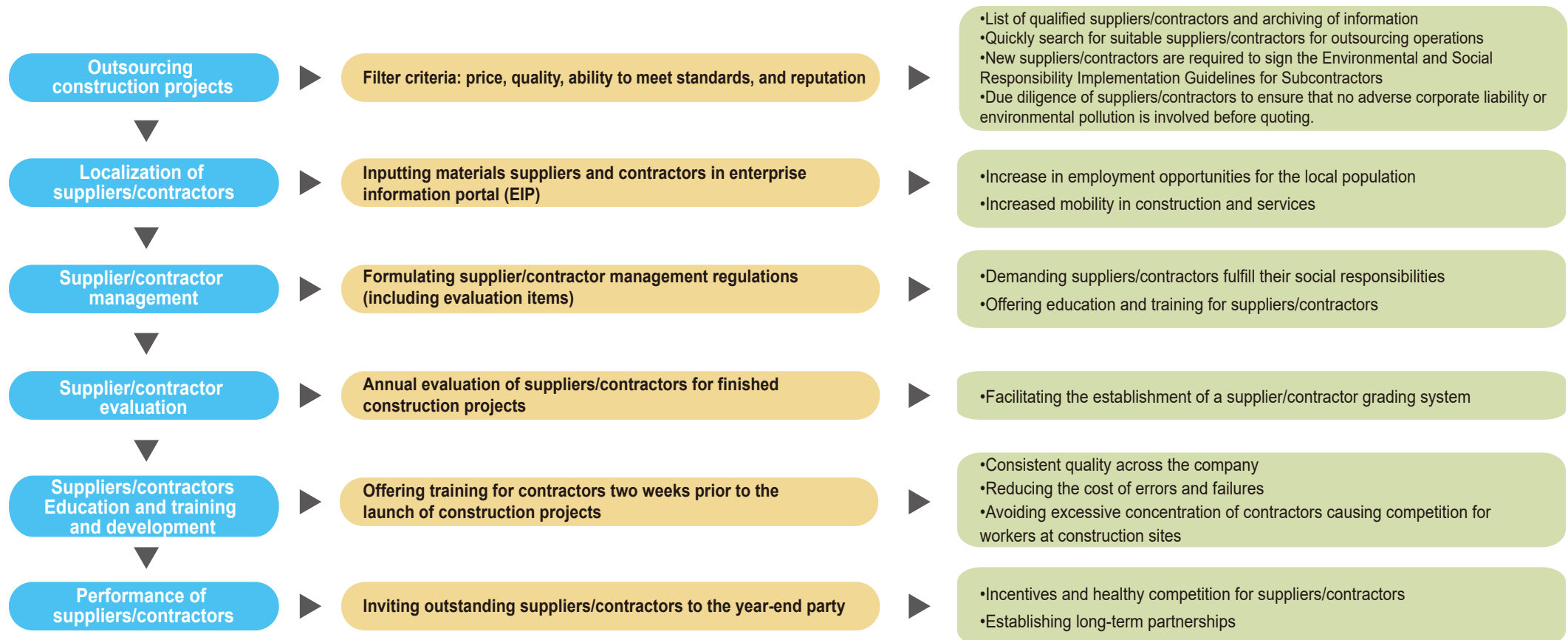
Region	Yilan	Hualien	Keelung	Taipei	New Taipei City	Taoyuan	Hsinchu	Miaoli	Taichung	Changhua	Nantou	Yunlin	Chiayi	Tainan	Kaohsiung	Pingtung	Kinmen
Number of suppliers	3	0	9	58	65	34	6	0	11	4	1	3	2	5	28	1	0
Region	Eastern Taiwan		Northern Taiwan			Taoyuan, Hsinchu, and Miaoli			Central Taiwan				Southern Taiwan			Outlying islands	
Total	3		132			40			19				36				
Percentage	1.28%		56.17%			17.02%			8.09%				15.32%				

A total of 230



Supplier evaluation and assessment ◀

In order to achieve good construction quality, the main factor comes from the suppliers/contractors. Therefore, the management of suppliers/contractors must be very careful and cautious. The following is the internal control procurement management flow chart of Hwang Chang.





Hwang Chang conducts construction execution evaluations of suppliers on a regular basis every year to confirm the execution capabilities of our collaborating suppliers. The evaluation items include quality, progress, safety, site management, and coordination. All suppliers have passed the evaluation in 2024, and no major environmental or social-related violations occurred. If a supplier is found to have major violations during the audit, the Company will immediately require it to make improvements and terminate the collaboration depending on the severity of the incident.

Suppliers

After appropriate price inquiry, price comparison, negotiation, and confirmation that the contracted party is not a party that is rejected by the Government Procurement Act, the contracted party should be required to provide specific information on quotes for verification.

Suppliers Annual evaluation

Each year, each construction unit conducts an evaluation of the subcontractors entering the construction site, and scores their progress, quality, safety and health, management, and coordination.

皇昌營造股份有限公司
施工承攬商考核項目評分表

編號: HCC-SC-001 (第一版)

考核項目	權重	評分標準
品質管理 (30%)	40	每月品質管理會議紀錄及改善之追蹤
	20	品質改善執行情形
	20	施工進度管制作業執行情形
	20	相關進度管制資料提供情形
	20	品質計畫書執行情形
工程品質 (30%)	20	施工材料使用及檢驗紀錄情形
	50	材料試驗及施工檢驗(含安全檢驗及防護管理紀錄或照片)
安全管理 (30%)	10	安全檢核表、檢核紀錄及改善情形
	50	安全衛生
	50	環境保護
工地管理 (10%)	50	計畫書、檢核表、資料等提供及現場管理品質
	30	人員、機具、材料管理
	20	施工材料進場檢驗及品質改善情形
協調配合 (10%)	30	相關地點、管理辦法、保護設施、區域禁止及防護措施等事宜與業主及其他相關單位之協調情形
	40	相關安全事項及其他安全事項之防護情形
	30	參加工程品質會議及相關事項執行情形

備註:

評分: 最高分: 最低分:

皇昌營造股份有限公司
施工承攬商工程執行評鑑表

編號: HCC-SC-002 (第一版)

考核項目	權重	評分標準
品質管理		
工程品質		
安全管理		
工地管理		
協調配合		
品質管理		
工程品質		
安全管理		
工地管理		
協調配合		

備註:

評分: 最高分: 最低分:



3

Sustainability cycle

3.1 Energy resource management

3.2 Pollution prevention and control

3.3 Response to climate change



03 Sustainability cycle

3.1 Energy resource management

3.1.1 Power saving management

Hwang Chang's electricity consumption statistics primarily focus on office buildings and various construction sites, using electricity consumption data as the basis for greenhouse gas emissions calculations. In 2024, the total electricity consumption was 6,303,870 kWh, resulting in 2,988.0344 metric tons of CO₂e greenhouse gas emissions.

Hwang Chang electricity consumption statistics

	2022	2023	2024
Electricity consumption (kWh)	144,827	89,400	6,303,870
Carbon emissions (metric tons CO ₂ e)	71.6894	44.1636	2,988.0344
Emissions intensity (metric tons CO ₂ e per million in revenue)	0.0085	0.0039	0.2404
Total energy consumption (GJ)	521.3772	321.8400	22,693.9320

Notes:

1. The operational control approach is adopted, with the 2024 scope covering the headquarters administrative office and all construction sites for that year; 2022 and 2023 only covered Hwang Chang administrative office.
2. The calculation includes carbon dioxide (CO₂) as the gas category, not covering other greenhouse gases such as methane and nitrous oxide.
3. Energy calorific value calculation: one kilowatt-hour equals 3.6 million joules, one gigajoule equals 1 billion joules.
4. The coefficients are referenced from the annual electricity carbon emission factors provided by the Bureau of Energy, Ministry of Economic Affairs Corporate Standard Frequently Asked Questions | GHG Protocol +2, with 0.495 adopted for 2022, 0.494 for 2023, and 0.474 for 2024 (unit: kg CO₂e/kWh).
5. Emission intensity: annual carbon emissions ÷ annual revenue
6. 2022 operating revenue was NT\$8,448 million, 2023 operating revenue was NT\$11,275 million, and 2024 revenue was NT\$12,431 million.

Office energy saving measures

Hwang Chang continues to be committed to enhancing the effectiveness of environmental management implementation through establishing environmental policies and management guidelines, and regularly reviewing the results of various implementations. The Company aims to reduce environmental impact while lowering operating costs, thereby strengthening employees' environmental awareness and regulatory compliance to practice the corporate sustainable development philosophy.

Since 2017, the Company has actively promoted energy management initiatives, implementing energy-saving measures starting from daily operations. Specific practices include: encouraging the use of stairs instead of elevators for short distances, promoting habits of turning off lights and equipment when not in use, replacing high energy-consuming office equipment with energy-efficient models bearing energy-saving labels (such as coffee machines and water dispensers), and prioritizing the procurement of energy-efficient vehicles for official use, thereby comprehensively strengthening energy management. Furthermore, the Company also guides every employee to develop energy-saving habits through internal advocacy and daily management systems, internalizing energy conservation awareness as part of the office culture. These continuous efforts not only help reduce energy consumption and environmental pollution, but also demonstrate the Company's actual actions and commitment in balancing operational efficiency with environmental responsibility.

Energy conservation and carbon reduction measures	Solution description
Encouraging employees to take the stairs when going up and down the floors	Please take the stairs between floors
Turning off all lights during lunch break	Turning off all lights during lunch break
Adopting paperless operations, covering faxing, clocking in and out of work, request for leave, overtime work hours approval	Reducing paper usage
Energy-saving refrigerators	Energy efficiency label: Level 1
Energy-saving faucets	Water-saving sensor faucets
Energy-saving microwave ovens	With energy-saving label
Energy-saving coffee machines	With energy-saving label
Energy-saving photocopiers	
Energy-saving company vehicles were purchased.	Energy-saving label & eco-label certified, equipment enters energy-saving mode after 2 minutes of non-use
The air conditioner is maintained at 26 °C.	
LED lights	Comprehensive replacement of LED lighting in office areas and display areas
Each department has its own energy-saving refrigerator.	Maintain cooling temperature and avoid placing excessive food
Responsible personnel put the lunch boxes from the refrigerator into the steamer before lunch.	Reduce microwave usage frequency
Responsible personnel check the switches of computers and air conditioners after work.	
Sensors were installed in the waiting areas of elevators, freight elevators, and stairwells.	Air conditioning is centrally controlled by the Company's main console for temperature and on/off operations
	Avoid unnecessary waste



3.1.2 Water resource management

Up to 100% of the water used by Hwang Chang comes from the Taiwan Water Corporation, without the use of well water, groundwater, rainwater, and other water sources. The water withdrawal by relevant construction sites of Hwang Chang complies with the relevant regulations, and no illegal water sources are used. At the same time, we promote water conservation. We take measures to protect our environment and leave a better quality of living space for the next generation.

Percentage of water withdrawal sources

Unit: %

Source	2021	2022	2023	2024
Tap water	100%	100%	100%	100%

Water withdrawal

Unit: Metric ton

Source	2021	2022	2023	2024
Tap water	108,291	109,817	130,005	147,555

3.2 Pollution prevention and control

3.2.1 Wastewater treatment

The Company mainly consumes construction water and employee domestic water. Domestic sewage and construction water are both legally treated through the sewage and sewerage system. In 2024, no illegal pollution occurred, and there was no significant impact on water sources.

3.2.2 Waste management measures

Hwang Chang adheres to sustainable business principles, values the environmental impact of operational processes, and is committed to promoting low-impact construction and resource recycling. For various types of waste generated from construction projects, the Company properly classifies, registers, and handles all waste in accordance with environmental regulations, ensuring compliance with legal requirements and reducing environmental risks.

During the construction phase, we prioritize the use of building materials and construction methods that have lower environmental impact on local areas, and introduce circular economy concepts, emphasizing source reduction, classified collection, and effective recycling and reuse to reduce dependence on landfill or incineration disposal and extend resource life cycles. At the same time, the Company continues to optimize pollution control measures at construction sites, committed to reducing the generation of dust, wastewater, and miscellaneous waste, transforming waste generated during the construction process into resources with reuse value, and implementing the sustainable circular goals of the construction industry.

Waste disposal

Hwang Chang actively reduces waste and improves construction methods to reduce the generation of waste. For construction waste, waste collection and disposal are carried out in accordance with relevant laws and regulations to ensure its legality. The waste generated in the plant is properly handled to avoid impact on the environment. Domestic qualified waste collection and disposal companies are entrusted to collect and dispose of all hazardous business waste produced.

Unit	Type of waste	2022	2023	2024
Headquarters and construction sites	Domestic waste	3,717 barrels (1 barrel/1,100 liters)	4,383 barrels (1 barrel/1,100 liters)	8,247 barrels (1 barrel/1,100 liters)
	Civil or construction waste	41,170 m ³	39,182 m ³	24,418 m ³
	Total	26,337.48 metric tons	25,437.72 metric tons	18,279.48 metric tons

Notes: 1. Civil or construction waste includes concrete blocks and leftover materials from construction.

2. The density of construction mixture or waste is calculated at 0.6 tons/m³.

3.1. An 100-liter garbage truck can load about 440 kilograms of waste.



3.2.3 Non-compliance with environmental protection laws and regulations

In 2024, a total of NT\$16.2 thousand was fined by the local county and city environmental protection bureaus for violating road cleanliness, air pollution, and water pollution. The Company has subsequently adopted improvement plans and measures to create a good, comfortable, and harmonious environment by raising employees' environmental awareness and strengthening the principles of sort, set in order, shine, standardize, sustain, and safety (6S) through environmental education and training, thereby improving construction efficiency and providing a high-quality construction environment.

In addition, the Company plans to strengthen environmental protection measures in the next three years:

1. Engineering materials (such as sand, gravel, earthwork, and waste) are fully covered with dust-proof cloth or dust-proof nets.
2. Road surfaces in work areas are paved with coarse aggregate or steel plates to effectively suppress dust from vehicle traffic.
3. Install automatic induction car wash stations and pressurized washing equipment at entrances and exits to prevent vehicles from contaminating external roads.
4. Establish comprehensive waste classification and recycling facilities to strengthen resource reuse.
5. Promote greening and beautification of construction sites, such as establishing hedgerows, landscaping, and green scenery at site offices to improve air quality and environmental image.
6. Regular dispatch of workers to maintain the cleanliness of adopted roads and maintain good communication with neighboring residents.
7. Implementation of real-time noise monitoring systems to reduce construction interference with neighboring buildings.
8. Installation of complete barriers, overflow protection bases, and dust and noise control fabric in work areas to reduce the risk of wastewater leakage and noise.
9. Procurement of low-pollution and low-noise equipment to reduce environmental burden from the source of equipment.

The Company expects to minimize various environmental pollution to the lowest possible level through the aforementioned improvement projects for air, noise, water quality, and road conditions.

Type of violation	Content	Number of cases	Fine amount (NT\$10,000)	Subsequent handling
Environment	Noise Control Act Article 8	2	0.9	We are working to raise the awareness of not using powered machinery and equipment for construction projects during the prohibited operating hours.
	Article 27 of the Waste Disposal Act	2	0.72	Water trucks are dispatched to enhance the surface cleaning of the roads on which our vehicles travel.





3.3 Response to climate change ◀

As the global climate change becomes increasingly severe, climate change has a profound impact on all walks of life. From extreme weather events to policy changes, enterprises need to actively respond to ensure continuous business stability and fulfill social responsibilities. To address this challenge, the Company adopts the Task Force on Climate-Related Financial Disclosures (TCFD) framework established by the Financial Stability Board (FSB). Through the framework, we address our strategies for responding to the risks and opportunities arising from climate change.

Governance

On August 30, 2022, the Board of Directors approved the formation of the Sustainable Development Committee. The committee consists of five senior executives or department heads. It holds meetings twice a year, chaired by the CSO (President), and reports on corporate sustainability. The implementation progress and results of the development, the relevant strategies and goals, implementation and effectiveness are reported to the Board of Directors to strengthen the Company's response to climate change and international development trends, thus implementing sustainable development.

Strategy

We identify and prioritize climate-related risks/opportunities according to the TCFD framework, assess climate change risks and countermeasures with relevant teams, identify potential risks and possible opportunities, and set short-, medium-, and long-term targets, such as heavy rains or flooding events caused by extreme weather. It may lead to the risk of short-term business interruptions. It is necessary to strengthen disaster prevention drills to reduce the impact of damage. For the medium and long-term targets, it is necessary to continue energy-saving methods to reduce energy consumption and adopt local procurement to maximize the efficiency of resource utilization and co-exist and co-prosper with the environment.

Risk management

This is for understanding the potential financial impacts of the risks and opportunities brought about by climate change, and to provide a basis for future policy formulation and target setting. Members of the Sustainability Task Force identify climate risks and opportunities to ensure that there are clear guidelines for each step of assessment and response management.

In the identification stage, the Company will identify business areas that may be affected by climate change. Next, it conducts a detailed assessment to quantify the financial impacts of these risks, including the potential impacts of extreme weather events on the operational process and supply chain. In terms of response management, the Company will develop specific action plans and countermeasures to mitigate the important risks and opportunities that have been identified and ensure business continuity and employee safety. We will continue to monitor climate change risks and opportunities, and regularly update the assessment results and management strategies to ensure the effectiveness and adaptability of response measures.

Target setting

In order to more effectively respond to various climate risks, reduce losses, and improve business stability and sustainable development. The Company will set specific and measurable targets based on the characteristics of the industry and the results of the climate change impact assessment, including reducing greenhouse gas emissions, improving energy efficiency, and strengthening the resilience of the Company's infrastructure.



Climate-related risks and financial impacts

Type	Climate-related risks	Impact period	Description of risk	Potential financial impact	Countermeasures
Transition risks					
Policies and regulations	Regulatory uncertainty	Medium-term	The EU's Carbon Border Adjustment Mechanism Taiwan's Greenhouse Gas Reduction and Management Act and Climate Change Response Act	Increased carbon emission costs for the Company Penalties for failure to comply with increasingly stringent regulatory requirements	Studying the possibility of using renewable energy Using environmentally friendly and low-carbon materials
Market	Changes in market demand	Short-term	Rising costs due to changes in market demand	Rising costs of low-carbon raw materials	Negotiating with suppliers for bulk purchase discounts Applying for government subsidies
Physical risks					
Immediate	Extreme climate events (such as rainstorms or typhoons)	Short-term	Soil erosion caused by heavy rainfall resulting in soft soil foundation, affecting engineering and construction safety Supply chain disruption and construction delays	Impact on construction progress or quality Loss of materials, building materials, machinery, and personnel	Designing drainage and protection measures in advance to prevent a loose foundation Establishing an emergency supply chain plan to reduce the risk of construction delays
Long-term	Average annual temperature rise	Long-term	Personnel unable to attend work normally due to increased extremely hot weather days and heat-related physical discomfort	Increased number of days for the estimated construction period Causing casualties	Adjusting working hours to avoid periods of extreme heat, setting up cooling equipment and rest areas, and providing sufficient drinking water to ensure employees' health and attendance.

Climate-related opportunities and financial impacts

Type	Climate-related risks	Impact period	Potential financial impact	Countermeasures
Energy source	Adopt renewable energy	Medium-term	Adopt renewable energy to reduce carbon emissions and reduce carbon reduction costs.	Study the possibility of using renewable energy in each project and office area
Products and services	Develop and/or increase low-carbon construction methods or design or equipment use that reduces resource consumption	Short-term	Provide flexible, more environmentally friendly, and low-carbon services to better meet the market demand for green buildings and smart buildings	Encourage owners to adopt green and smart buildings Integrate BIM building information models Actively participate in industry-related seminars on carbon reduction construction methods to collect relevant information



4

Employee care Happiness Inclusion

4.1 Friendly workplace

4.2 Workplace safety

4.3 Talent development



04 Employee care, happiness, and inclusion

4.1 Friendly workplace ◀

Hwang Chang adheres to a people-centered philosophy, regarding employees as the Company's most valuable assets, and continuously creates a friendly, safe, and growth-oriented workplace environment. The Company strictly complies with labor-related laws and regulations, implements gender equality and diversity and inclusion, is committed to eliminating any form of discrimination or inappropriate treatment, and provides equal career development opportunities through systematic management.

To attract and retain outstanding talent, Hwang Chang establishes a competitive remuneration system and comprehensive welfare mechanisms, while providing diversified professional training and continuing education resources. Through designing various training programs and incentive measures, the Company assists employees in continuously enhancing their professional capabilities and management potential, enabling talent to leverage their strengths at work and realize personal value.

In terms of employee health and workplace safety, the Company has established dedicated units responsible for planning and regularly conducting occupational safety and health education training and health promotion activities, promoting construction site safety management systems, proactively identifying potential risks, and strengthening on-site safety control mechanisms. We firmly believe that creating a safe and secure work environment is not only the practice of safeguarding employees' fundamental rights, but also the foundation of corporate sustainable management.

Hwang Chang will continue to listen to employees' voices and improve the workplace environment, creating a work environment where colleagues can work with peace of mind and share the fruits of growth together, joining hands with all employees to move toward a sustainable future.

4.1.1 Employee structure

As of December 31, 2024, Hwang Chang had a total of 1,906 employees, including 778 permanent full-time employees and 1,128 fixed-term contract personnel. Based on industry characteristics and employment market factors, the gender distribution shows that male managerial personnel account for 9.7% and female managerial personnel account for 2.4%; among general-level employees, males account for 68.3% and females account for 19.6%. In terms of age distribution, employees between 30 and 50 years old represent 51.8% of the total workforce.

Taiwan				
Type	Male	Female	Subtotal	Total
Number of permanent full-time employees	608	170	778	1,906
Fixed-term contract personnel (including migrant workers for construction projects and interns)	1,123	5	1,128	

Gender ratio

As of December 31, 2024	Age	Gender	Number of people	Percentage
Managerial employees	Under 30 years old	Male	0	0%
		Female	0	0%
		Subtotal	0	0%
	30-50 years old	Male	27	1.42%
		Female	12	0.63%
		Subtotal	39	2.05%
	Over 50 years old	Male	50	2.62%
		Female	7	0.37%
		Subtotal	57	2.99%
General-level employees	Under 30 years old	Male	319	16.74%
		Female	61	3.2%
		Subtotal	380	19.94%
	30-50 years old	Male	873	45.8%
		Female	76	3.99%
		Subtotal	949	49.79%
	Over 50 years old	Male	462	24.24%
		Female	19	1%
		Subtotal	481	25.24%



Number of people with disabilities hired

2024		
Employment of persons with disabilities	Male	11
	Female	5
	Total	16

Number of foreign employees

2024		
Employment of foreign personnel	Male	1,114
	Female	1
	Total	1,115

Personnel count: includes permanent full-time employees as well as fixed-term contract personnel.

Workers who are not employees

Type	Scope of service (type of work)	Quantity	Contract conditions
Property manager and secretary	Shared amenities management, repair, and financial statement preparation	5	Commissioned by the Management Committee (commissioning contract signed)
Security	Access control and vehicle access control	8	Commissioned by the Management Committee (commissioning contract signed)
Property cleaning	Shared amenities cleaning	9	Commissioned by the Management Committee (commissioning contract signed)
Property electrical and mechanical systems	Building water, electricity, firefighting inspection and maintenance, interior design follow-up, and repair supervision	3	Commissioned by the Management Committee (commissioning contract signed)





4.1.2 Talent recruitment

Diverse channels

Hwang Chang believes that stable and appropriately positioned human resources are the fundamental prerequisites for maintaining the Company's normal operations and development. The Company recruits new employees through diversified channels, including job banks, university-industry collaboration programs, and internal referrals, to supplement manpower requirements for engineering and management. In addition to continuous recruitment, the Company also focuses on staff turnover patterns by arranging interviews with employees who intend to resign to understand their reasons for leaving, which serves as the basis for reviewing working conditions and adjusting internal management practices. Through feedback collection and system adjustments, the Company expects to gradually improve employee retention rates while maintaining operational flexibility, thereby strengthening overall workforce stability.

Number and percentage of new hires in 2024 ◀

As of December 31, 2024	Age	Gender	Number of people	Percentage
New hires	Under 30 years old	Male	210	11%
		Female	26	1%
		Subtotal	236	12%
	30-50 years old	Male	441	23%
		Female	32	2%
		Subtotal	473	25%
	Over 50 years old	Male	95	5%
		Female	3	0%
		Subtotal	98	5%

Percentage: Number of new hires divided by the total number of employees at the end of 2024.

Number and percentage of resigned employees in 2024 ◀

As of December 31, 2024	Age	Gender	Number of people	Percentage
Resigned employees	Under 30 years old	Male	106	6%
		Female	9	0%
		Subtotal	115	6%
	30-50 years old	Male	270	14%
		Female	13	1%
		Subtotal	283	15%
	Over 50 years old	Male	135	7%
		Female	5	0%
		Subtotal	140	7%

Percentage: Number of resigned employees divided by the total number of employees at the end of 2024.



4.1.3 Employee benefits

Hwang Chang not only values continuous development in economic terms but also actively creates a happy and inclusive work environment, caring for employees' physical and mental health and quality of life. We believe that helping employees achieve work-life balance and supporting their diverse development is an important component of achieving corporate sustainability.

In addition to providing basic benefits that comply with legal requirements, the Company also promotes various welfare measures covering health promotion, employee care, family support, and life assistance, hoping to provide employees with substantial support and positive responses throughout their career journey. We will continue to optimize our benefits system, creating a stable work environment with strong cohesion to help employees achieve work-life balance and comprehensive growth.

Benefits required by law

Labor and health insurance
Paternity leave, maternity leave, pregnancy checkup (accompaniment) leave, menstrual leave, annual leave, and family care leave

Group accident insurance

According to the job level, each employee is insured for NT\$3 million to NT\$10 million for death and disability insurance, medical insurance indemnity of NT\$100,000, and daily insurance indemnity for general wards of NT\$1,500.

Company benefits

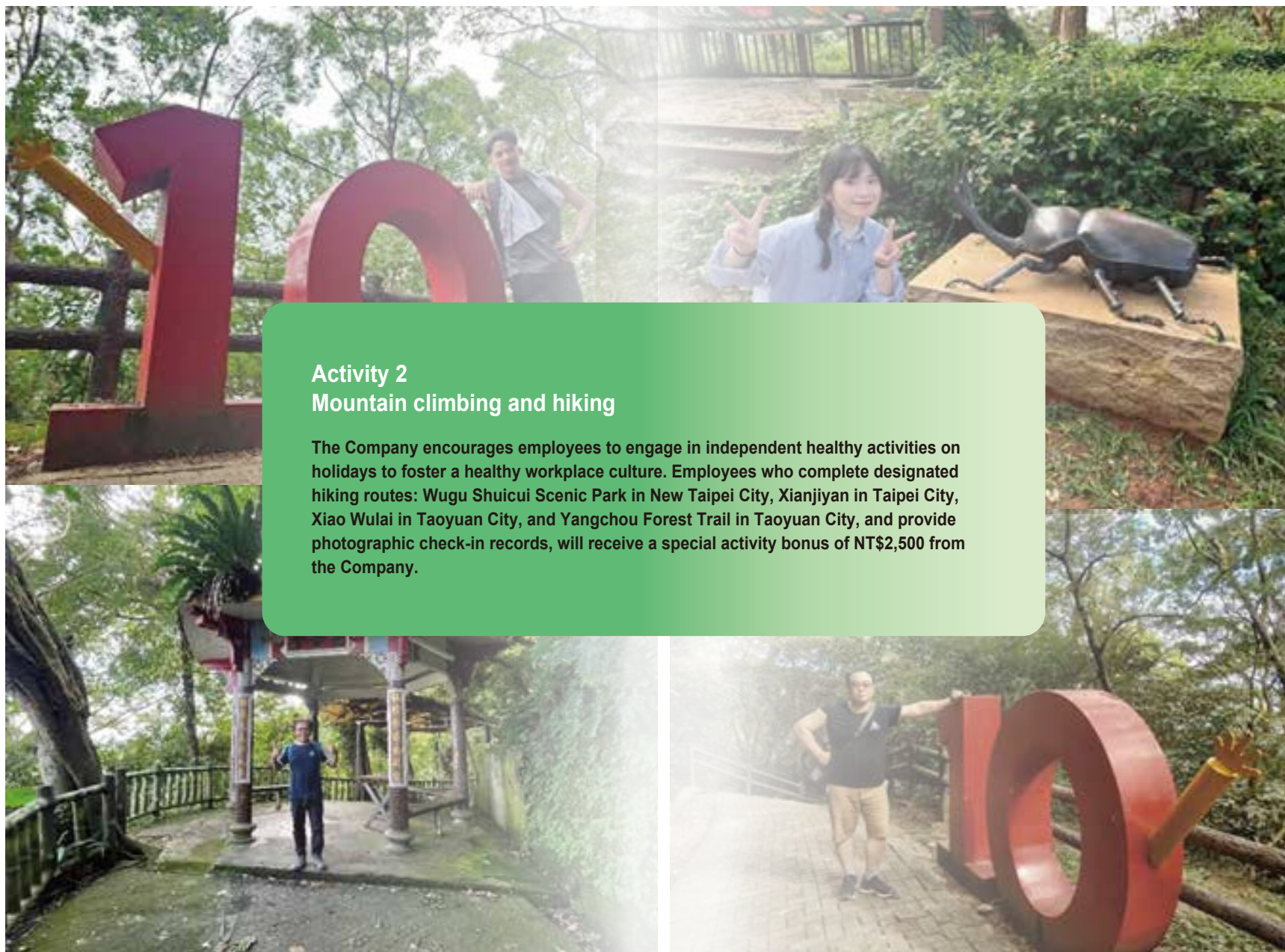
Bonus benefits: Employee birthday gifts (vouchers), festival vouchers for three major holidays, May Day vouchers
Insurance benefits: Group insurance for employees, regular employee health examinations, employee bereavement assistance
Other benefits: Employee travel, club, marriage, childbirth, and funeral subsidies, as well as employee uniforms and holiday boxed gifts

Note: The Company's foreign migrant workers in construction projects are not included in the Company's benefit programs due to significant workforce fluctuations caused by project schedules and government regulatory requirements. The employment of project-based foreign migrant workers is handled in accordance with the Labor Standards Act and relevant regulations.

Activity 1 Occupational Safety Cup Road Run

In line with the government's health promotion policy, employees are motivated to participate in the Occupational Safety Cup Road Run organized by the Bureau of Labor Affairs of the New Taipei City Government to care for the health of employees and convey our concept to them. This is the fourth year in a row that the Company has participated.





Activity 2 Mountain climbing and hiking

The Company encourages employees to engage in independent healthy activities on holidays to foster a healthy workplace culture. Employees who complete designated hiking routes: Wugu Shuicui Scenic Park in New Taipei City, Xianjiyan in Taipei City, Xiao Wulai in Taoyuan City, and Yangchou Forest Trail in Taoyuan City, and provide photographic check-in records, will receive a special activity bonus of NT\$2,500 from the Company.



4.1.4 Remuneration and benefits

Salary compared with market standards ◀

The Company adheres to a people-oriented philosophy, committed to attracting and retaining outstanding talent by providing platforms for professional development and reasonable remuneration structures. To maintain the fairness and competitiveness of the compensation system, the Company annually references industry salary survey results and makes appropriate adjustments based on local economic conditions and price fluctuations to ensure salary levels maintain market attractiveness. The average basic salary for entry-level employees exceeds regulatory requirements, and the principle of equal pay for equal work is clearly implemented without discrimination based on gender or status differences.

The Company also adjusts the ratio of fixed to variable components in the remuneration structure to reflect employee performance contributions, and continuously focuses on compensation fairness and reasonableness to support employees in receiving substantial recognition during stable career development.

Male-to-female salary ratio in 2024

Unit: NTD

Remuneration ratio by gender	2022		2023		2024	
	Male	Female	Male	Female	Male	Female
Job level						
General employees	1	0.91	1	0.90	1	0.90
First-line managers	1	0.94	1	0.91	1	0.90
Middle managers	1	0.94	1	0.91	1	0.90
Top-level managers	1	0.88	1	0.96	1	1.06

Average and median annual salaries for non-managerial personnel

Unit: NTD

Item	2022	2023	2024
Total salaries of full-time employees in non-managerial positions	690,830,973	887,117,520	1,146,846,603
Number of full-time employees in non-managerial positions	959	1,233	1,448
Average salary of full-time employees in non-managerial positions	720,366	719,479	792,021
Median salary of full-time employees in non-managerial positions	563,515	514,032	540,946

Annual total compensation ratio ◀

The ratio of the annual total compensation of the highest paid individual in the organization to the median annual total compensation of the other employees in the organization (excluding the highest paid individual) is 3.33 to 1.

The ratio of the increase percentage of annual total compensation of the highest paid individual in the organization to the median annual total compensation increase percentage of the other employees in the organization (excluding the highest paid individual) is 3.46 to 1.



4.1.5 Marriage and childcare care

The Company strives to create a work environment that supports work-life balance. Therefore, Hwang Chang follows the Gender Equality in Employment Act and other regulations to establish relevant measures: Female employees of Taiwanese nationality comprise approximately 20% of Hwang Chang's workforce. This year, 4 colleagues became pregnant. To ensure the physical and mental health of pregnant colleagues at work, we have implemented a series of maternal protection measures, including regular workplace safety assessments, establishing pregnancy notification channels, announcing relevant policies to ensure pregnant employees clearly understand the benefits and protection measures provided by the Company, and arranging monthly on-site physician and nurse services to conduct work suitability assessments and health management for pregnant colleagues.

Item	Gender	2022	2023	2024
Number of employees eligible to apply for parental leave	Male	24	26	32
	Female	9	6	10
	Total	33	32	42
Number of qualified applicants	Male	1	1	3
	Female	-	-	1
	Total	1	1	4
Number of employees due for reinstatement	Male	-	-	3
	Female	1	-	1
	Total	1	-	4
Number of employees actually reinstated	Male	-	-	2
	Female	-	-	1
	Total	0	0	3
Reinstatement rate	Male	-	-	50%
	Female	-	-	25%
	Total	0%	0%	75%
Number of employees who returned to work and completed one full year during the year	Male	-	-	-
	Female	-	-	-
	Total	0	0	0
Retention rate	Male	-	-	-
	Female	-	-	-
	Total	0	0	0

Notes:

- All employees who have been employed by the Company for at least 6 months may apply for each child before the child reaches 3 years of age.
- Reinstatement rate = number of employees actually reinstated ÷ number of employees due for reinstatement x 100%
- Retention rate = number of people who have been reinstated for one full year in the current year ÷ number of employees reinstated in the previous year x 100%



Occupational health - Care for pregnant employees

Employees who have been employed for more than six months are entitled to childcare leave without pay. Those who need to care for children under 3 years of age may apply for childcare leave without pay. In addition, the Company has established a comprehensive leave management system to enable employees to flexibly arrange for parental leave or childcare leave. To further protect the rights of pregnant employees, the Company has set up a breastfeeding room to ensure that the rights of breastfeeding female employees are protected. We expect working women to be able to work with peace of mind in our work environment, while balancing family and career.

2024 employee family care leave statistics

Item	Family care leave/person(s)	Maternity (paternity) leave/person(s)	Menstrual leave/person-time
Male	5	10	-
Female	3	6	88



Breastfeeding room environment photo (1)



Breastfeeding room environment photo (2)



Breastfeeding room environmental equipment (Sterilizer)



4.1.6 Retirement planning

To protect employees' long-term career life, we have designed and planned a pension system for our employees, including a benefit plan formulated in accordance with the Labor Standards Act and a contribution plan in accordance with the Labor Pension Act. In terms of the new labor pension scheme, in Taiwan, an amount equal to 6% of employees' monthly salary is contributed to their individual accounts governed by the Bureau of Labor Insurance, Ministry of Labor. Pension contributions under the old scheme were managed by the Supervisory Committee of Labor Retirement Reserve and deposited into the special account of the Bank of Taiwan in the name of the committee.

If the estimated balance of the special account before the end of the year is insufficient to pay for the employees who are expected to meet the retirement criteria in the following year, the Company will make up for the difference in a lump sum before the end of March of the following year. In 2024, the Company contributed an amount of NT\$36,688,407 under the new pension scheme. For the old pension scheme, an amount equal to 2% of employees' gross salary is contributed to the pension fund in Taiwan each month, while that of Hwang Chang is 8%. As of the end of 2024, the balance of the old labor retirement reserve fund was NT\$97,082,803.

4.1.7 Care for migrant workers

Focusing on living welfare and creating a friendly environment

Hwang Chang deeply understands that migrant workers play an important role in the Company's team and is committed to providing a safe, comfortable, and dignified living environment, ensuring that every migrant worker who travels across oceans to Taiwan feels respected and cared for. From the initial stage of employment, the Company provides living packages including bedding and personal hygiene products to help them quickly adapt to the environment. Dormitories are equipped with air conditioning and circulation fans, with each person enjoying no less than 3.6 square meters of space, and facilities include washing machines, laundry drying areas, and qualified drinking water equipment. Daily environmental cleaning is carried out by dedicated personnel. Public spaces are also equipped with fire extinguishers, fire alarms, and other facilities in accordance with occupational safety regulations, with regular inspections and maintenance to ensure living safety.

Attentive care for daily needs, fostering local belonging

We value the nutrition and dietary habits of each migrant worker, providing three daily meals with seasonal menu adjustments. We employ chefs of the same nationality to prepare familiar hometown flavors, complemented by seasonal beverages such as preserved plum drinks and ginger soup, demonstrating meticulous and considerate daily care. Beyond basic meals, the Company also respects their religious and cultural needs by establishing worship spaces in dormitories where migrant workers can maintain their spiritual faith support and find peace of mind and body.

Deepen communication relationships and prioritize mental health

To assist migrant workers in integrating into local life, the Company conducts regular weekly visits to dormitories for face-to-face communication with migrant workers to understand their work and living conditions, providing immediate assistance for issues such as psychological stress, language barriers, or cultural adaptation. The Company also employs specialists of the same nationality to actively accompany and guide them, introducing local cultural attractions and activities to help migrant workers expand their social circles and alleviate loneliness. The Company regularly encourages participation in festivals and group activities to promote cross-cultural exchange and team cohesion. Birthday celebrations are held quarterly with cakes and small gifts, creating a warm and interactive atmosphere that allows migrant workers to feel the warmth of home even in a foreign land. The Company also values the physical and mental well-being of migrant workers by establishing fitness rooms, reading rooms, and recreational facilities in dormitories, creating comfortable and relaxing living spaces. These facilities help migrant workers relieve stress and adjust emotionally during their leisure time, enhancing their overall quality of life and mental health.

Emphasizing health and safety to protect work and life

The Company arranges health examinations and occupational safety and health education training in accordance with regulations. The training covers occupational disease prevention, equipment usage, and workplace safety awareness. Pre-work briefings are conducted before each work shift to remind workers of potential risks. Dormitories are equipped with first aid kits and trained first aid personnel to ensure immediate response to emergency situations. All new employees must receive workplace safety briefings and equipment training before starting work. Warning signs and protective measures are installed within work areas to create a safe working environment for migrant workers. Additionally, the Company posts contact information and regulatory announcements in both Chinese and Thai versions on dormitory bulletin boards to help migrant workers stay informed about their rights and benefits, promoting stable living conditions and social integration.



4.1.8 Employee communication

Hwang Chang values employee participation and communication rights. In accordance with relevant laws, the Company regularly convenes labor-management meetings quarterly as a platform for two-way communication, extensively collecting employee opinions and promptly addressing specific feedback issues to reduce misunderstandings and potential dispute risks. The Company also encourages employees to participate in discussions regarding working conditions and welfare systems, promoting the establishment of internal organizational consensus. The Company clearly stipulates that either employee's resignation, severance pay, or retirement, according to the length of service, a notice period is required. In principle, the notice period is in accordance with the Labor Standards Act. In addition, if there are major changes in the Company's operations or labor conditions, the notice period will be announced. A labor-management meeting is held for negotiation and communication, and employees are notified according to the notice period specified by the competent authority to ensure that their rights and interests are not damaged. In 2024, there were no incidents of major labor-management disputes.

Sexual harassment prevention



The Company publicly discloses sexual harassment prevention measures and information related to sexual harassment complaint procedures on its official website.



We publicly post the information related to sexual harassment complaints on the bulletin boards of all construction offices to create a gender-equal workplace.

Respect for and safeguarding of labor rights ◀

Hwang Chang values human rights and labor rights protection, and is committed to providing a fair, safe, and respectful work environment. The Company ensures that employees' fundamental rights are implemented in accordance with the Labor Standards Act, the Gender Equality in Employment Act, and other relevant laws and regulations, while promoting gender equality and workplace diversity to facilitate employees' professional growth and enhance their well-being.

To strengthen human resource management quality and employee participation, the Company implements relevant commitments through the following measures:

Fair employment and workplace equality

Eliminate discrimination and harassment, and implement fair principles in personnel systems such as recruitment, performance evaluation, and promotion to provide equal development opportunities.

Sound labor conditions and working hours system

Establish working hours, leave, and overtime management in accordance with the law, providing safe, healthy, and flexible work arrangements to help employees balance work and life.

Competitive remuneration and benefits

Regularly benchmark and adjust remuneration against market standards, providing statutory and extended benefits including group insurance, retirement contributions, parental leave and other benefits to support employees' needs at different life stages.

Strengthen communication and participation mechanisms

Establish channels for employee feedback and promote two-way communication through labor-management meetings and internal interviews to enhance organizational trust and participation.

Continuous training and career development

Provide various training and continuing education resources, encourage employees to enhance their professional and management capabilities, and support their long-term career planning.

Employee care and health promotion

The Company focuses on employees' physical and mental well-being, regularly organizing health promotion activities and employee care programs to create a stable and friendly work environment.

In the future, the Company will continue to optimize relevant systems and measures to enhance the level of human rights and labor rights protection, serving as an important foundation for promoting corporate sustainable development.



4.2 Workplace safety ◀

The Company has obtained ISO/CNS 45001:2018 occupational health and safety management system certification, establishing management mechanisms that encompass hazard identification, risk assessment, accident prevention, occupational health management, and continuous improvement, committed to safeguarding the safety and health of all workers. This management system covers all formally employed personnel, including management personnel at the head office, construction personnel at various construction sites, and foreign migrant workers employed in accordance with the law. The scope of application encompasses daily operations at the office, construction operations at various stages (such as excavation, lifting, equipment operation and maintenance, etc.), and extends to the head office premises and all affiliated construction sites and temporary facilities.

The 2024 occupational health and safety management system covers 1,906 formally employed personnel of the Company (including full-time and fixed-term contract staff, with a coverage rate of 100%), as well as 3,246 contractor construction personnel classified as non-employee workers, who are also fully integrated into the Company's workplace control and safety and health management, achieving a coverage rate of 100%. Furthermore, all workers are included in the annual internal audit plan and ISO 45001:2018 third-party external verification scope, with both internal and external audit coverage rates of 100%.

4.2.1 Safe workplace

Occupational safety management and risk prevention ◀

Hwang Chang continues to strengthen workplace occupational safety management. In 2024, based on monthly inspection records of various engineering projects by the Occupational Safety Office, statistical results show that "falls and tumbles," "collapse," and "electric shock" are the three most common high-risk hazard types. To reduce accident risks, the Company promotes preventive and corrective measures from two major aspects: "safety procedures" and "safe construction."

Safety process management

Pre-operation risk assessment

In accordance with the requirements of ISO 45001:2018 occupational health and safety management systems, "Pre-construction Risk Assessment Meetings" are convened before subcontractors enter the site. These meetings are organized by the site supervisor, bringing together internal work groups (safety and health, construction, quality control, planning) along with subcontractor management personnel and site supervisors to jointly review potential risks in operational procedures at each stage and formulate corresponding health and safety protective measures.

Construction drawing confirmation system

In compliance with public works construction quality management regulations and the Company's internal drawing and documentation management procedures, engineering personnel must confirm that received construction drawings have been properly approved and are the latest version before proceeding with construction according to the drawings, ensuring information consistency and operational accuracy.

Safe construction implementation

Pre-construction confirmation and notification

Based on risk assessment results, confirm whether the on-site construction environment and safety measures are in place. All on-site workers must receive daily hazard identification and safety briefings and sign the "Daily Hazard Notification Form."

Safety checkpoints during operations

During construction, conduct on-site inspections in accordance with ISO 45001 standards, immediately improve unsafe conditions or behaviors, and strengthen preventive mechanisms.

Post-work cleanup and review

After daily operations conclude, the Safety and Health team leads the construction team and subcontractor teams in site cleanup and environmental restoration to ensure continuous maintenance of site cleanliness and safety.

Through institutionalized risk assessment and site management processes, Hwang Chang is committed to reducing occupational safety incident risks, creating a healthy and safe work environment, and protecting the lives and workplace safety of all personnel.



Accident investigation, analysis, and management mechanism ◀

For occupational accident incidents that occur, in addition to completing notification, accident investigation, and cause analysis as required by regulations, preventive and improvement measures are also implemented based on investigation results, including revising operational procedures, strengthening risk identification at work sites, reinforcing equipment safety protection measures, and conducting specialized occupational safety re-education training and safety advocacy for relevant workers to enhance the safety awareness and operational protection capabilities of all personnel and prevent similar incidents from recurring.

The Accident Reporting and Investigation Management Procedures of Hwang Chang define and distinguish between occupational safety incidents, disabling injuries, and false alarms, and regulate that the Company's various constructions projects should respond, investigate, and propose subsequent improvement measures for occupational safety incidents to reduce the loss of accidents and prevent similar accidents from happening again.

Emergency response procedures

- (1) The construction site supervisor shall immediately order cessation of work and require workers to evacuate to a safe location.
- (2) Await deployment by supervisory personnel. Rescue operations prioritize saving lives first, with salvaging property as secondary.
- (3) Provide immediate first aid to injured personnel on-site or arrange transportation to medical facilities.
- (4) Demonstrate teamwork spirit to fully engage in rescue efforts and minimize losses. Immediately review the factors contributing to the accident occurrence to prevent escalation of the incident.
- (5) Handle emergency incidents at construction sites in accordance with prescribed notification procedures and reporting requirements to relevant competent authorities.
- (6) In the event of fatalities, except for necessary emergency medical care and rescue operations, preserve the scene conditions, prepare inspection materials for occupational disaster cases occurring at construction sites, and accept investigations by safety and health management personnel and the affiliated labor inspection authority.

Investigation into occupational accidents

Incident investigation report content should (at minimum include people, events, time, location, and objects) address the following related matters:

- (1) Confirm the course of the accident and the response to the accident.
- (2) Identify the direct cause, indirect cause, and basic cause of the accident through personnel interviews, equipment inspection and analysis, material testing, related documents and record checks, or accident scene reconstruction.
- (3) Develop effective improvement measures to eliminate or reduce the probability of the immediate cause and the basic cause, or to reduce the severity of the consequences of the accident.
- (4) Confirm the unit responsible for the improvement measures and the scheduled completion date.
- (5) Set no limit to the number of investigation meetings, and strive to ensure their accuracy and completeness. During an investigation meeting, if there are specific improvement measures, the unit responsible for implementation shall be notified orally or in writing, or invited to participate in the discussion in the next meeting (if there is a dispute, the unit head shall decide whether to implement them), so that specific improvement measures can be implemented.

Implementation and follow-up of improvement measures

- (1) Hazard identification and risk assessment are conducted before improvement measures are implemented to confirm that other risks will not arise.
- (2) The construction units and subcontractors responsible for improvement measures shall implement various improvement measures according to the established plan.
- (3) The occupational safety and health management unit shall be responsible for tracking the implementation of the improvement measures and recording the inspection results. After all the improvement measures are completed, the inspection results shall be closed and archived.
- (4) After an investigation report is reviewed by the supervisor of the unit where an accident occurred, it is submitted to the Occupational Safety and Health Office for review and forwarded to the Chairperson for approval.



Worker participation, consultation, and communication on occupational health and safety ◀

To enhance the occupational health and safety management mechanism, Hwang Chang has established an "Occupational Health and Safety Committee" in accordance with Articles 5-1 and 10 of the Occupational Safety and Health Management Regulations, and has filed the committee member roster for record as required by law. Worker representatives comprise at least one-third of the committee members, ensuring that employee opinions are fully reflected in the Company's safety management decisions.

The committee holds regular quarterly meetings and may convene irregular meetings as needed based on actual management requirements, emergencies, or response and handling needs. The meeting content primarily focuses on providing recommendations for the formulation of the Company's safety and health policies, and reviewing, coordinating, and making recommendations on safety and health matters proposed by various departments or project teams to implement the occupational safety management system and risk control.

Since the introduction of the ISO 45001 and TOSHMS (CNS 45001) occupational safety and health management systems, the Occupational Health and Safety Committee has also assumed internal coordination and assessment responsibilities, covering the Company's employees, dispatched personnel, and workers under the Company's direct control in the workplace, including cooperative partners such as subcontractors. At the same time, we continue to monitor safety risks for workers who are not under direct management but may be affected by the Company's operations, products, or services, serving as a reference basis for gradually expanding the scope of occupational safety management.

Hwang Chang will continue to strengthen workplace safety governance and risk prevention through systematic meeting operations and stakeholder participation, enhancing the overall effectiveness of workplace health and safety management.



Title of occupational safety and health meeting	Frequency of meetings	Number of meetings in 2024	Participants
Construction project agreement team meetings	Meetings required by law (At least once/month)	120	Persons in charge of construction projects Occupational safety, construction, quality control, and planning teams All construction subcontractors
Occupational Health and Safety Committee meetings	Meetings required by law (At least once/3 months)	4	CEO (chair) Head of Occupational Safety and Health Office (executive secretary) Management and labor representatives of each department Occupational health nurse



International standard certification
ISO 45001
occupational health and safety management system



International standard certification
ISO 14001
environmental management system



International standard certification
CNS 45001
Taiwan occupational health and safety management system



Training needs and assessment training ◀

In 2024, a total of 22 sessions of occupational safety and health-related education and training were conducted:

Q1 (January - March 2024)

Item	Date	Courses	Number of people
1	2024.01.02	Steel erection operations manager	2 people
2	2024.01.03	Forklift operator	1 person
3	2024.01.23	EMT (Emergency Medical Technician)	1 person
4	2024.01.23	Mobile elevating work platform operator	1 person
5	2024.02.16	Mobile elevating work platform operator	2 people
6	2024.02.22	Open cut operations manager	2 people
7	2024.02.26	Mobile elevating work platform operator	1 person
8	2024.02.29	Mobile elevating work platform operator	2 people
9	2024.03.09	Form support operations manager	2 people
10	2024.03.11	Class-1 manager of occupational safety and health affairs	6 people
11	2024.03.28	Class-1 manager of occupational safety and health affairs	5 people
25 people in total			

Q2 (April - June 2024)

Item	Date	Courses	Number of people
1	2024.04.22	Mobile elevating work platform operators (Thai nationals)	28 people
2	2024.04.25	Mobile elevating work platform operator	9 people
3	2024.06.12	Scaffold assembly operations manager	3 people
40 people in total			

Q3 (July - September 2024)

Item	Date	Courses	Number of people
1	2024.07.06	Steel erection operations manager	2 people
2	2024.08.06	Oxygen-deficient operations manager	2 people
3	2024.08.13	Form support operations manager	2 people
4	2024.08.21	Soil retaining support operations manager	1 person
5	2024.09.10	Form support operations manager	5 people
12 people in total			

Q4 (October - December 2024)

Item	Date	Courses	Number of people
1	2024.11.11	Soil retaining support operations manager	1 person
2	2024.12.07	Forklift operator	2 people
3	2024.12.09	Form support operations manager	3 people
6 people in total			





Occupational safety and health education and training ◀

Training category	Number of sessions	Number of trainees	Number of training hours	Total training hours
Class-1 manager of occupational safety and health affairs	2	11	42	462
Steel erection operations manager	2	4	18	72
Form support operations manager	4	12	18	216
Open cut operations manager	1	2	18	36
Oxygen-deficient operations manager	1	2	18	36
Soil retaining support operations manager	2	2	18	36
Scaffold assembly operations manager	1	3	18	54
Emergency personnel	1	1	16	16
Forklift operator	2	3	18	54
Mobile elevating work platform operator	6	43	16	688

CPR+AED training





Emergency response drills



Traffic maintenance training



Mobile elevating work platform operation training



Railway traffic safety education and training





Hazard identification and risk assessment ◀

Before conducting hazard identification and risk assessment operations, relevant personnel must first complete training related to hazard identification and risk assessment before they can carry out the operations. Personnel currently executing this task at the Company are all employees with occupational safety professional certifications or managers with practical experience.

When conducting hazard identification, the assessment scope covers all construction operations, work environments, machinery and equipment used, tools, and chemical substances. The identification process categorizes potential or previously occurred hazards and conducts risk scoring based on factors such as severity, operation duration, and probability of occurrence. The assessment results serve as the basis for formulating control measures and optimization recommendations to reduce operational risks and enhance overall workplace safety.

Record for penalty for occupational safety and health violations

Type of violation	Content	Number of cases	Fine amount (NT\$10,000)	Subsequent handling
Occupational safety	Article 6 of the Occupational Safety and Health Act	1	10	Strengthened advocacy and ensured the implementation of necessary occupational safety and health equipment and measures that comply with regulations.
	Article 27 of the Occupational Safety and Health Act	1	10	Promoted necessary measures for communication and adjustment at work to be taken during joint operations and workplace inspections to be strengthened
	Article 14 of the construction safety and health standard	1	10	Immediately improved and strengthened advocacy to ensure that water-adjacent operations or other locations with related water areas are equipped with facilities to prevent workers from falling into water and require the use of life jackets.
	Article 19 of the construction safety and health standard	2	30	Promoted safety protection equipment to be installed at openings at a height of more than two meters
	Article 59 of the construction safety and health standard	1	6	Immediately improved the use of scaffolds that comply with national standards.



4.2.2 Employee health management

Philosophy of maintaining employee health ◀

Taking care of the physical and mental health of employees and providing them with a safe, healthy, and friendly working environment are one of the sustainable development goals of Hwang Chang General. To take care of the health of all employees and create a sound work environment, we vigorously promote the prevention of occupational diseases and take relevant health promotion actions to ensure that every employee can work with peace of mind in a work environment with the utmost care.

Health management, occupational disease prevention, and health promotion actions ◀

Implementations:

- (1) We regularly conduct employee health checkups and questionnaire surveys on musculoskeletal symptoms and the prevention of diseases caused by abnormal workload.
- (2) Physicians and medical personnel provide on-site services at various construction sites every month. On-site checkups include the follow-up management of employees with abnormal health examination results, pregnancies, and middle-aged and elderly people.
- (3) We work with nearby medical institutions to perform screening tests for the four types of cancer, and perform oral mucosal examinations, fecal occult blood tests, Pap tests, and mammography examinations at each construction site for qualified employees.
- (4) In line with the government's health promotion policy, employees are motivated to participate in the Occupational Safety Cup Road Run organized by the Bureau of Labor Affairs of the New Taipei City Government to care for the health of employees and convey our concept to them. This is the fourth year in a row that the Company has participated.
- (5) Encouraging employees to engage in independent health activities on holidays to create a workplace culture of wellness, organizing mountain hiking activities where employees who complete designated hiking routes: Wugu Watermill Scenic Park in New Taipei City, Xianjiyan in Taipei City, Xiaowulai in Taoyuan City, and Yangchou Forest Trail in Taoyuan City, and check in with photos, receive a special activity bonus of NT\$2,500 from the Company.



Regular carbon dioxide blood test ◀

Hwang Chang places great importance on employee safety and health in the work environment, conducting CO₂ concentration testing in office environments every six months. Hwang Chang commissioned DATA TEST SCIENTIFIC CO., LTD. to use infrared or electrochemical carbon dioxide detectors placed in employee work areas for 1 minute until the instrument data stabilized for reading. The instruments determined that all locations have good ventilation.

Monitoring results of chemical factors - carbon dioxide

Level and category of exposure	Scope
1	X < 1000 ppm
2	1000 ppm ≤ X < 1500 ppm
3	1500 ppm ≤ X < 5000 ppm
4	X ≥ 5000 ppm



4.2.3 Occupational injuries

For occupational accident incidents that occur, in addition to completing notification, accident investigation, and cause analysis as required by regulations, preventive and improvement measures are also implemented based on investigation results, including revising operational procedures, strengthening risk identification at work sites, reinforcing equipment safety protection measures, and conducting specialized occupational safety re-education training and safety advocacy for relevant workers to enhance the safety awareness and operational protection capabilities of all personnel and prevent similar incidents from recurring.

Number of work-related injuries in 2024

Item	Company employees	Contractors
Disabling injury frequency rate (FR)	0.98	1.86
Disabling injury severity rate (SR)	3948	297
Frequency-severity indicator (FSI)	1.97	0.74
Number of occupational fatalities	2	0

Note: Total working hours: Based on the daily working hours of eight hours, the total number of employees at the end of 2024, and the working days and annual holidays (including Labor Day) of the government calendar approved by the Executive Yuan in 2024, there were a total of 116 days, totaling 3,812,000 hours worked.

Occupational safety incidents and statistics (including contractors)

	2022	2023	2024
Occupational injuries	11	2	2
Deaths	1	0	2

During the reporting period, there were 2 occupational accident incidents. The Company immediately activated investigation and improvement mechanisms and promoted the following enhancement measures:

- Reviewed and optimized the temporary facility securing methods and on-site inspection procedures for caisson towing and positioning operations
- Strengthened the standard operating procedures (SOP) and related protective measures for cover plate installation and securing operations
- Established a comprehensive sea condition monitoring and weather warning mechanism to enhance emergency response education and training effectiveness for sudden sea condition changes
- Conducted re-education training and on-site safety drills for high-risk marine operations
- Continuously strengthened on-site supervision mechanisms, implementing safety inspections, pre-shift risk reminders, and immediate hazard elimination operations

4.2.4 Safety and health management of contractors

Hwang Chang has long regarded subcontractors and collaborative vendors as indispensable partners in operations, committed to establishing stable and trust-based cooperative relationships. In addition to valuing partners' work performance, the Company prioritizes their operational safety and health as key items in occupational safety management, and through systematic management and on-site implementation, ensures that all construction processes comply with regulations and internal company standards.

To strengthen worksite safety management, the Company has established the "Subcontractor Worksite Safety and Health Agreement" and "Subcontractor Compliance Guidelines," requiring that prior to construction, the contracting unit's project manager shall convene toolbox meetings together with the subcontractor's project manager and safety and health personnel to conduct hazard identification for work items to be executed and formulate preventive measures. Additionally, meetings must be held daily before work commences to brief all construction personnel on the day's work content and potential risks, reinforcing hazard awareness and safety practices.

In 2024, in response to the Ministry of Labor's "Fall Prevention Year" policy initiative, the Company prioritized strengthening protective measures for high fall-risk areas such as temporary openings and scaffolds, and cooperated with competent authorities to enhance the frequency of self-inspections and report improvement outcomes.

Hwang Chang's head office also serves as the coordinating supervisory unit for implementation status across all worksites, regularly reviewing the effectiveness of safety and health plan implementation at each site, and promoting improvement and prevention mechanisms for accidents and violation incidents. Moving forward, the Company will continue to collaborate with partners to strengthen on-site management, promote a healthy, safe, and responsibility-conscious work culture, and implement high-quality engineering practices that align with sustainability values.



4.3 Talent development ◀

4.3.1 Training and inheritance

Hwang Chang upholds a people-oriented philosophy, regarding employees as the essential foundation for the Company's continued development. To support employees' professional growth, the Company integrates internal and external resources, planning diverse educational training programs and learning opportunities to help colleagues strengthen their competencies and expand their development potential. In the construction industry, education and training have a critical impact on improving work quality and engineering safety. Hwang Chang conducts various training courses regularly based on job requirements and work nature, including orientation for new employees, construction technology training, and professional training related to quality management and occupational safety, continuously enhancing the overall quality of the team. The Company also emphasizes the inheritance of technical experience and the cultivation of internal instructors, gradually establishing a culture of internal knowledge sharing and continuous learning.

We believe that a robust talent development system is an important component for enterprises to enhance competitiveness and promote sustainable management. Through planned education and training, we assist employees in mastering new technologies and industry trends, and strengthen their ability to respond to market changes, creating long-term stable growth opportunities for both the Company and individuals.

Average hours of employee training in 2024

Unit: hour

Job level	Male	Female	Total hours	Average hours
Managerial personnel	183.5	30.5	214	1.91
General staff	4467	441.5	4908.5	5.89
Total hours	4650.5	472	5122.5	5.42
Average hours	6	2.78		

Note: Employee training statistics do not include foreign migrant workers on construction projects, as factors such as project schedules and government regulatory requirements can easily cause significant workforce fluctuations, so they are not included in the scope of education and training calculations.

In 2024, the Company enhanced employees' professional knowledge and skills through external training. In partnership with HungKuo Delin University of Technology, the Company organized a "Class-3 Concrete Technician Training Program," covering course-related expenses exceeding NT\$240,000. A total of 23 colleagues successfully passed the examination and obtained certifications, demonstrating remarkable results.

Class-3 Concrete Technician Training Program



Ecological environment education and training





Gender-equality education and training



Core sustainability development raining



Risk management education and training



Number of training hours and number of participants in each category

Category/Year		2024
New hire training	Number of participants	79
	Participation hours	249
Professional training	Number of participants	866
	Participation hours	4873.5
Total hours		5122.5

Employee training costs and hours

Training metrics	2024
Total amount on employee training (NTD)	1,421,377
Total number of employees trained	945
Average investment in training per employee (NTD)	1,504

4.3.2 Performance evaluation

Hwang Chang conducts annual performance evaluations for all employees in accordance with the Work Performance Assessment Management Regulations. The primary purpose of performance evaluation is to assist employees in clarifying job objectives and the Company's strategic direction, strengthening overall organizational competency development, rather than simply determining superiority or inferiority.

The evaluation method adopts multi-faceted observation and multi-level review. Through communication between supervisors and employees, colleagues can understand their work achievements and areas for improvement, thereby setting specific development goals. The evaluation results serve as reference for future human resource decisions including training planning, remuneration allocation, and career development.

If employees have objections to the evaluation results, they may file an appeal according to established procedures. Direct supervisors will respond and coordinate to ensure employees receive reasonable explanations and improvement recommendations regarding the evaluation content. The Company's performance system upholds principles of fairness and transparency, without discrimination based on gender, age, religion, or other non-work-related factors, ensuring that every employee has equal opportunities for development and promotion.

Item	Male			Female			Subtotal		
	Number of employees	Number of people reviewed Number of people	Percentage	Number of employees	Number of people reviewed Number of people	Percentage	Number of employees	Number of people reviewed Number of people	Percentage
Managerial personnel	77	77	10%	19	17	2%	96	94	12%
Non-managerial personnel	542	527	66%	156	140	18%	698	667	84%
Subtotal	619	604	76%	175	157	20%	794	761	96%

Remarks:

1. The number of employees reviewed did not include the Chairperson, unpaid leave, migrant workers, and new employees who have been on the job for less than three months.
2. The number of employees was as of December 31. The number of employees reviewed included those who did not leave the Company before December 31.
3. Those who participated in one or more performance evaluations were included in the number of people accepted for the evaluation.



5

Social charity practices

5.1 Industry-academia collaboration

5.2 Participation in social charity activities



5.1 Industry-academia collaboration ◀

Internship Program: Hwang Chang has collaborated with major universities and colleges for years in organizing student engineering visits and industry-academia cooperation. Given the intensified talent drain in the construction industry in recent years, the Company has launched a student "off-campus practical learning program" to fulfill corporate social responsibility and retain talent for the industry. This program integrates with academic systems and coordinates with curricula, offering positions for college students to undertake semester internships at the Company. Professional practical training is planned for student participation, and the initiative encourages peer companies to respond, enabling more companies to provide workplace internship opportunities.

This year, 9 universities and colleges participated in the internship program with a total of 46 interns. We will continue to optimize the industry-academia integration mechanism, hoping that more corporate partners will join the talent cultivation initiative to collectively build the competitiveness of the construction industry.



Construction site visit - Sanxia Guoguang Section (Phase II)

Youth Social Housing New Construction Turnkey Project:

(1) May 25, 2024 -

Joint visit by National Taipei University students organized with New Taipei City Government

(2) November 27, 2024 -

China University of Technology's visit



Internship graduation ceremony in 2024



Internship certificate of appreciation



Education and training during the internship



5.2 Participation in social charity activities ◀

Green Symbiosis Project: Planting Hope and Responsibility Together with Local Communities

As climate change trends become increasingly severe, the 2050 net-zero carbon emissions action target is no longer merely a policy vision, but a new starting point for enterprises to fulfill their responsibilities and create value. Hwang Chang has long focused on environmental sustainability and local development issues. In 2024, the Company jointly signed an industry-academia cooperation contract with Chung Hua University, collaborating in the Ministry of Education's University Social Responsibility (USR) Phase III program. This launched the "Revitalizing Xinpu: Planting Hope Trees, Lighting Happiness Lamps for Green Symbiosis" project, dedicated to restoring abandoned tea gardens in the Xinpu area of Hsinchu, supporting rural communities in implementing low-carbon transformation and land regeneration.

Xinpu Township was formerly renowned for its tea industry. However, due to population aging and industrial transformation, the tea plantation area has plummeted from 520 hectares in 2001 to 21.2 hectares in 2021. Idle land has become targets for corporate land acquisition, reflecting the common challenges faced by Taiwan's rural areas. Hwang Chang recognizes the close-to-nature forestry concept proposed by Chung Hua University's Department of Landscape Architecture and has taken the lead in committing to a three-year funding plan to jointly promote the "supporting the elderly through tree planting" action initiative. The Company adopts 1,000 tree seedlings annually and contributes NT\$1.92 million in donated resources to assist Xinpu in restarting its journey toward coexistence with nature.

The program focuses not only on the ecological environment but also emphasizes community participation and youth education implementation. Hwang Chang supports students' field participation in field surveys and planting operations. Through planning by the university and collaboration with the Department of Agriculture, the program inventories surrounding abandoned farmland, prepares land for afforestation, and implements circular economy and farmland revitalization. To date, this project has planted 325 saplings including *Fraxinus formosana*, *Cyclobalanopsis glauca*, *Elaeocarpus sylvestris*, and *Myrica rubra*, with nearly 300 native trees registered for conservation. The goal is to complete the planting and nurturing of 1,500 trees within the year. The connection between enterprises and universities is not merely an exchange of resources, but a co-creation of value. Hwang Chang hopes that this Xinpu Forest Conservation Project will not be a one-time afforestation initiative, but will become a long-term platform connecting local culture, ecological value, and youth empowerment. Through such commitment, we believe that a green future comes not only from improved carbon reduction indicators, but also from every down-to-earth cultivation and accompaniment.





Disaster relief: Commitment to action from south to north ◀

In 2024, Taiwan was consecutively hit by Typhoons Gaemi and Krathon, causing severe impacts across multiple locations in the north and south. Facing challenges brought by extreme climate events, Hwang Chang upheld its commitment to corporate public responsibility by participating in post-disaster recovery work, providing immediate and concrete assistance from the disaster frontlines.

In July, Typhoon Gaemi brought heavy rainfall that severely damaged Tainan, with serious flooding in the Madou District and Beimen area. The Madou Campus of Aletheia University, situated in low-lying terrain, experienced severe water accumulation in underground facilities that was difficult to drain, posing potential threats to teaching spaces and personnel safety. The sluice gates along the Bazhang River were also blocked by sediment accumulation, causing inadequate drainage, which brought daily life for surrounding residents to a temporary standstill. During the critical post-disaster period (July 27-31), Hwang Chang rapidly deployed personnel and equipment to assist with water pumping and sediment removal at the campus and community. The Company conducted focused cleanup operations at key flooding points and congested areas to reduce subsequent risks and help the local area achieve stability more quickly.

In November, Typhoon Kong-rey brought strong winds and heavy rainfall, causing numerous street trees to topple and public facilities to sustain damage throughout Taipei City, affecting urban traffic and pedestrian safety. From November 1 to 7, Hwang Chang once again mobilized on-site teams and coordinated the deployment of crane trucks, dump trucks, and other heavy machinery to assist in clearing fallen trees and removing obstacles, supporting local government efforts in urban restoration and environmental rehabilitation.

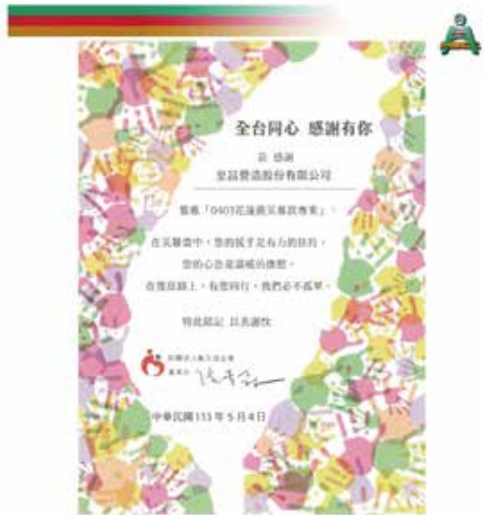
From flood disaster sites in southern Taiwan to metropolitan streets in the north, the Hwang Chang team continues to respond with action to post-disaster needs across regions. These rescue operations not only provide immediate assistance to affected areas but also demonstrate the Company's rapid response capability and proactive action as a local enterprise against the backdrop of frequent extreme climate events. Moving forward, Hwang Chang will continue to monitor the impact of climate risks on communities and the environment, and fulfill our corporate mission of protecting society and the land through concrete actions.





Response to April 3 Hualien disaster relief: Supporting earthquake-affected area reconstruction

On April 3, 2024, an earthquake struck Hualien. Hwang Chang responded to the 0403 Hualien Disaster Relief Fundraising Project initiated by the Relief Foundation by making donations to support reconstruction and recovery efforts in the disaster area. The funds were used to repair damaged infrastructure, assist in restoring damaged homes, and support residents in rebuilding their living conditions. The Company hopes to provide substantial support to affected communities through participation in disaster relief efforts, joining hands with all sectors of society in reconstruction work.



Supporting disadvantaged groups: Taking action to respond to values of diversity and inclusion

As festive seasons approach, various caring resources flow actively throughout society. However, behind this surface hustle and bustle, there remains a group of people quietly cultivating and steadfastly standing at their posts. In 2024, Hwang Chang continued its longstanding commitment to supporting the disadvantaged, choosing to participate through concrete actions by purchasing festive gift boxes to support the self-reliant development of different communities.

During the 2024 Labor Day holiday period, the Company purchased gift boxes designed and produced by the I Can Happy Workshop affiliated with the Taipei Foundation for the Welfare of Autistic Individuals. These products are mostly hand-packed and completed by autistic youth, carrying not only the gifts themselves but also symbolizing their efforts in vocational training and employment pathways. Hwang Chang expressed its support through purchasing rather than donating, hoping to enable these youth to earn respect and recognition through their labor.

During the Mid-Autumn Festival of the same year, the Company continued with the same spirit, selecting festival gift boxes launched by New Taipei City's Love Without Nonsense Handcraft Experience Center and Ciyu Sheltered Workshop. The workshop is primarily staffed by individuals with disabilities who engage in handcraft and packaging production work through counseling and training. The completion of each gift box embodies extended practice and concentration, reflecting the important role that sheltered employment systems play.

These supports are not one-time charitable acts, but rather the Company's long-term commitment to promoting social inclusion and diverse participation. In the future, Hwang Chang will continue to explore and practice more meaningful forms of cooperation, allowing the warmth of festivals to extend beyond the moment of exchange and truly spread to every corner of society that needs to be seen.





6

Appendix

6.1 GRI Standards Disclosure Table

6.2 SASB Standards Alignment

6.3 Third-Party Assurance Statement



6.1 GRI Standards Disclosure Table ◀

Statement of Use	Hwang Chang General Contractor Co., Ltd. has prepared this report in accordance with GRI Standards for the period from January 1, 2024 to December 31, 2024.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	None

GRI 2: General Disclosures 2021

Corresponding GRI and disclosure items	Related chapters	Page number	Description omitted
Organization and reporting practices			
2-1 Organizational details	1.1 Overview of the organization	22	
2-2 Entities included in the organization's sustainability reporting	About This Report	3	
2-3 Reporting period, frequency and contact point	About This Report	3	
2-4 Restatements of information	About This Report	3	
2-5 External assurance	About This Report	3	
Activities and workers			
2-6 Activities, value chain and other business relationships	1.1 Overview of the organization	22	
2-7 Employees	4.1.1 Employee structure	73	
2-8 Workers who are not employees	4.1.1 Employee structure	74	
Governance			
2-9 Governance structure and composition	1.1.3 Autonomy of the Board of Directors	31	

Corresponding GRI and disclosure items	Related chapters	Page number	Description omitted
2-10 Nomination and selection of the highest governance body	1.1.3 Autonomy of the Board of Directors	32	
2-11 Chair of the highest governance body	1.1.3 Autonomy of the Board of Directors	31	
2-12 Role of the highest governance body in overseeing the management of impacts	1.1.3 Autonomy of the Board of Directors	31	
2-13 Delegation of responsibility for managing impacts	1.1.3 Autonomy of the Board of Directors	31	
2-14 Role of the highest governance body in sustainability reporting	1.1.3 Autonomy of the Board of Directors	31	
2-15 Conflicts of Interest	1.1.3 Autonomy of the Board of Directors	32	
2-16 Communication of critical concerns	1.1.3 Autonomy of the Board of Directors	32	
2-17 Collective knowledge of the highest governance body	1.1.3 Autonomy of the Board of Directors	33	
2-18 Evaluation of the performance of the highest governance body	1.1.3 Autonomy of the Board of Directors	31	
2-19 Remuneration policies	1.1.3 Autonomy of the Board of Directors	32	
2-20 Process to determine remuneration	1.1.3 Autonomy of the Board of Directors	32	
2-21 Annual total compensation ratio	4.1.4 Remuneration and benefits	78	



GRI 2: General Disclosures 2021

Corresponding GRI and disclosure items	Related chapters	Page number	Description omitted
Strategy, policies and practices			
2-22 Statement on sustainable development strategy	Message from Managers	4	
2-23 Policy commitments	1.2 Ethical management	35	
	4.1.7 Employee communication	81	
	4.2 Workplace safety	82	
2-24 Embedding policy commitments	1.2 Ethical management	35	
	4.1.7 Employee communication	81	
	4.2 Workplace safety	82	
2-25 Processes to remediate negative impacts	1.2 Ethical management	35	
	4.1.7 Employee communication	81	
2-26 Mechanisms for seeking advice and raising concerns	4.1.7 Employee communication	81	
2-27 Compliance with laws and regulations	3.2 Pollution prevention and control	69	
	4.2.1 Safe workplace	88	
2-28 Membership associations	1.1 Overview of the organization	30	
Stakeholder engagement			
2-29 Approach to stakeholder engagement	Stakeholder identification and communication channels	12	
2-30 Collective bargaining agreements	None		

GRI 3: Material Topics 2021

Corresponding GRI and disclosure items	Related chapters	Page number	Description omitted
3-1 Process of determining material topics	Identification and analysis of material topics	14	
3-2 List of material topics	Identification and analysis of material topics	16	
3-3 Management of material topics	Material topic management approach	17	



Materiality issues GRI alignment ◀

Self-defined material issues

Material issues	Corresponding GRI Standards and disclosures	Chapter title	Page number	Description omitted
Risk control	3-3 Management of material topics	Material topic management approach	18	
Quality management and green buildings	3-3 Management of material topics	Material topic management approach	18	

Material issue: Ethical corporate management

Material issues	Corresponding GRI Standards and disclosures	Chapter title	Page number	Description omitted
GRI 3: Material Topics 2021	3-3 Management of material topics	Material topic management approach	17	
205 Anti-corruption	205-1 Operations assessed for risks related to corruption	1.2 Ethical management	35	
	205-2 Communication and training about anti-corruption policies and procedures	1.2 Ethical management	35	
	205-3 Confirmed incidents of corruption and actions taken			No corruption incident occurred in 2024.

Material issue: Energy management

Material issues	Corresponding GRI Standards and disclosures	Chapter title	Page number	Description omitted
GRI 3: Material Topics 2021	3-3 Management of material topics	Material topic management approach	20	
305 Emissions	305-1 Direct (Scope 1) GHG emissions	3.1 Energy resource management	67	
	305-2 Energy indirect/Scope 2 GHG emissions	3.1 Energy resource management	67	
	305-3 Other indirect/Scope 3 GHG emissions	-		Not covered by the voluntary inventory
	305-4 GHG emissions intensity	3.1 Energy resource management	67	
	305-5 Reduction of GHG emissions	3.1 Energy resource management	67	



Material issue: Occupational safety and health

Material issue	Corresponding GRI Standards and disclosures	Chapter title	Page number	Description omitted
GRI 3: Material Topics 2021	3-3 Management of material topics	Material topic management approach	19	
403: Occupational health and safety 2018	403-1 Occupational health and safety management system	4.2 Workplace safety	82	
	403-2 Hazard identification, risk assessment, and incident investigation	4.2.1 Safe workplace	82	
	403-3 Occupational health services	4.2.2 Employee health management	89	
	403-4 Worker participation, consultation, and communication on occupational health and safety	4.2.1 Safe workplace	84	
	403-5 Worker training on occupational health and safety	4.2.1 Safe workplace	86	
	403-6 Promotion of worker health	4.2.2 Employee health management	89	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	4.2.3 Occupational injuries	90	
	403-8 Workers covered by an occupational health and safety management system	4.2 Workplace safety	82	
	403-9 Work-related injuries	4.2.3 Occupational injuries	90	



Material issue: Talent cultivation

Material issues	Corresponding GRI Standards and disclosures	Chapter title	Page number	Description omitted
GRI 3: Material Topics 2021	3-3 Management of material topics	Material topic management approach	20	
401 Labor relations	404-1 New employees and resigned employees	4.1.2 Talent recruitment	75	
	404-2 Benefits provided to full-time employees (excluding temporary or part-time employees)	4.1.3 Employee benefits	76	
	401-3 Parental leave	4.1.5 Marriage and childcare care	79	
404 Training and education	404-1 Average hours of training per year per employee	4.3.1 Training and inheritance	91	
	404-2 Programs for upgrading employee skills and transition assistance programs	4.3.1 Training and inheritance	91	
	404-3 Percentage of employees receiving regular performance and career development reviews	4.3.2 Performance evaluation	92	



6.2 SASB standards alignment ◀

Code	Metrics	Responsible department
Disclosure topic: Environmental impacts of project development		
IF-EN-160a.1	Number of incidents of non-compliance with environmental permits, standards, and regulations	None
IF-EN-160a.2	Discussion of processes to assess and manage environmental risks associated with project design, siting, and construction	The Company's construction projects are in accordance with laws and regulations, and we have established relevant environmental regulations for the surrounding environment of construction sites. We also audit the on-site environment from time to time to ensure that there is no concern about environmental pollution and that everything is in compliance with the legal requirements.
Disclosure topic: Structural integrity and safety		
IF-EN-250a.1	Amount of defect- and safety-related rework costs	None
IF-EN-250a.2	Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	None
Disclosure topic: Workforce health and safety		
IF-EN-320a.1	1. Total recordable incident rate (TRIR) and fatality rate for direct employees 2. Total recordable incident rate (TRIR) and fatality rate for contract employees	4.2.3 Occupational injuries
Disclosure topic: Lifecycle impacts of buildings and infrastructure		
IF-EN-410a.1	1. Number of commissioned projects certified to a third-party multi-attribute sustainability standard 2. Number of active projects seeking such certification	2.3 Hwang Chang green buildings
IF-EN-410a.2	Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	2.3 Hwang Chang green buildings

Code	Metrics	Corresponding Chapter/Description
Disclosure topic: Climate impact		
IF-EN-410b.1	Costs of backlog for hydrocarbon-related and renewable energy projects	The Company has no related construction business.
IF-EN-410b.2	Costs of backlog cancellations associated with hydrocarbon-related projects	The Company has no related construction business.
IF-EN-410b.3	Costs of backlog for non-energy projects associated with climate change mitigation	The Company has no related construction business.
Disclosure topic: Business ethics		
IF-EN-510a.1	Number of active projects and backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	The Company has no foreign construction projects.
IF-EN-510a.2	Total amount of monetary losses as a result of legal proceedings associated with charges of bribery or corruption and anticompetitive practices	None
IF-EN-510a.3	Description of policies and practices for prevention of (1) bribery and corruption, and (2) anticompetitive behavior in the project bidding processes	1.2 Ethical management
Disclosure topic: Activity metrics		
IF-EN-000.A	Number of construction projects in progress	15
IF-EN-000.B	Number of construction projects completed	1
IF-EN-000.C	Costs of construction projects in progress	NT\$120,672,875,334



6.3 Third-party verification statement ◀



ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE HWANG CHANG GENERAL CONTRACTOR CO., LTD.'S CORPORATE SUSTAINABILITY REPORT FOR 2024

NATURE AND SCOPE OF THE ASSURANCE
SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by HWANG CHANG GENERAL CONTRACTOR CO., LTD. (hereinafter referred to as HWANG CHANG) to conduct an independent assurance of the Corporate Sustainability Report for 2024 (hereinafter referred to as the Report). The assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standard v3 Type 1 Moderate level during 2025/5/9 to 2025/6/27. The information disclosed in this report is mainly focused on HWANG CHANG. The boundary is not the same as HWANG CHANG GENERAL CONTRACTOR CO., LTD.'s consolidated financial statements.
SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all HWANG CHANG's Stakeholders.

RESPONSIBILITIES
The sustainability information in the HWANG CHANG's Sustainability Report of 2024 and its presentation are the responsibility of the directors or governing body and management of HWANG CHANG. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of assurance based upon sufficient and appropriate objective evidence.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
The assurance of this report has been conducted according to the AA1000 Assurance Standard (AA1000AS v3), a standard used globally to provide assurance on sustainability-related information across organizations of all types, including the evaluation of the nature and extent to which an organization adheres to the Accountability Principles (AA1000AP, 2018).

Assurance has been conducted at a type 1 moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Reporting Criteria Options	
1	AA1000 Accountability Principles (2018)
2	GRI (With Reference to)

- AA1000 Assurance Standard v3 Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018) is conducted at a moderate level of scrutiny, and therefore the reliability and quality of specified sustainability performance information is excluded.
- The evaluation of the report against the requirements of GRI Standards is listed in the GRI content index as material in the report and is conducted with reference to the Standard.

ASSURANCE METHODOLOGY
The assurance comprised a combination of desktop research, interviews with relevant employees, superintendents, Corporate Sustainability Committee members and the senior management in Taiwan, documentation and record review and validation with external bodies and stakeholders where relevant.

LIMITATIONS
Financial data drawn directly from independently audited financial accounts, Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability Accounting Standards Board (SASB) related disclosures has not been checked back to source as part of this assurance process.

INDEPENDENCE AND COMPETENCE
The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification, quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from HWANG CHANG, being free from bias and conflicts of interest with the organization, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, GMS, EMS, SMS, GPMS, CFP, WFP, SHG Verification and OHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

FINDINGS AND CONCLUSIONS
ASSURANCE OPINION
On the basis of the methodology described and the assurance work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the AA1000 Accountability Principles (2018).

We believe that the organization has chosen an appropriate level of assurance for this stage in their reporting.

ADHERENCE TO AA1000 ACCOUNTABILITY PRINCIPLES (2018)

INCLUSIVITY
HWANG CHANG has demonstrated a strong commitment to stakeholder inclusivity and engagement. The organization has effectively integrated stakeholder engagement processes into its governance, strategy, and decision-making frameworks, ensuring involvement from senior management, cross-functional teams, and diverse geographical regions. Through various engagement initiatives, including surveys and communications with employees, customers, investors, suppliers, CSR experts and other stakeholders, HWANG CHANG fosters a comprehensive understanding of stakeholder concerns.

MATERIALITY
HWANG CHANG has established and integrated a multifaceted methodology to identify the organization's material issues. It has developed an impact-based materiality analysis process and established corresponding sustainability objectives. This report appropriately addresses the identified issues based on their materiality and priority.

RESPONSIVENESS
HWANG CHANG has adequately demonstrated responsiveness towards the material topics and their impacts that were identified through the review process. The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

IMPACT
HWANG CHANG has demonstrated a process on identifying impacts that fairly encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. In the future, it can be considered to defined methodology with monetization to present the intensity of impact and prioritization.

ADHERENCE TO GRI
The report, HWANG CHANG'S Sustainability Report of 2024, is reporting with reference to the GRI Universal Standards 2021. The significant impacts were assessed and disclosed with reference to the guidance defined in GRI 3: Material Topic 2021 and the relevant 200/300/400 series Topic Standard related to the material topics claimed in the GRI content index. The report has properly disclosed information related to HWANG CHANG'S contributions to sustainability development. In the future progressively adopting systematic data collection and integration with IFRS standards can further enhance alignment with the expectations of investors and other stakeholders.

Signed:
For and on behalf of SGS Taiwan Ltd.



Stephen Pao
Business Assurance Director
Taipei, Taiwan
27 July, 2025
WWW.SGS.COM



AA1000
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000-8/V3-PG6XR