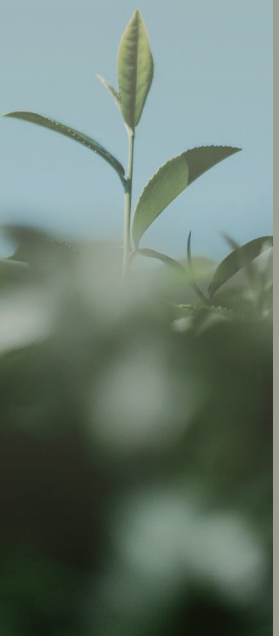
中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LIMITED

2024 SUSTAINABILITY REPORT

Contents



1 General Information

1.1 Key Highlights

1.1.1 2024 Sustainability Performance Highlights

以人為本
PEOPLE

Number of training hours per person
8.1 hours

Percentage of monthly paid staff training
100%

Volunteer participation hours
4,632 hours

Number of participating volunteers
15,878

環境關懷
ENVIRONMENT

Greenhouse gas emission intensity (Scope 1, 2 & 3)
48.9 CO_2e/HKD million

Non-hazardous waste intensity
150.0 tonnes/HKD million

Water usage intensity
60.2 cubic metres/HKD million

1.1 Key Highlights

1.1.1 2024 Sustainability Performance Highlights

夥伴協作
ALLIANCE

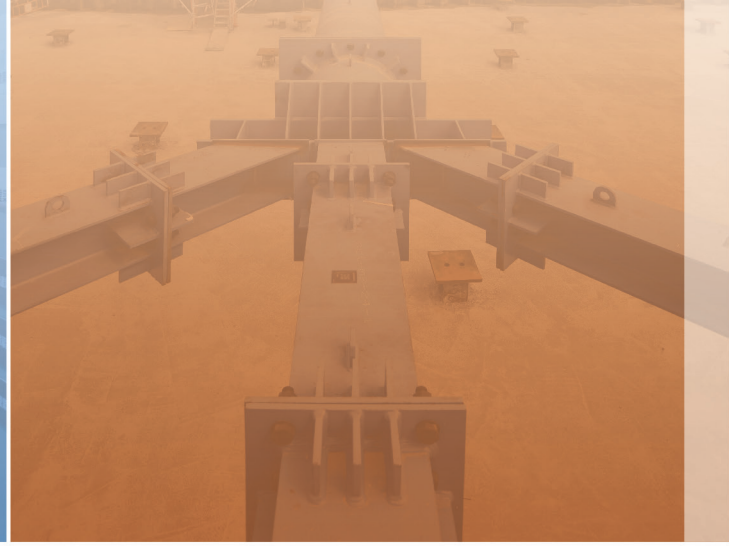
Percentage of local purchases
100%

Percentage of self-purchased wood that is FSC certified
100%

建設香港
KEY PROJECTS FOR HONG KONG

BIM application
92% of projects applied

BEAM Plus involvement
39 projects



1.1.2 Sustainability Philosophy –"P.E.A.K."

China State Construction Engineering (Hong Kong) Company Limited (hereinafter referred to as "CSHK" or "we"), as a large-scale integrated construction enterprise rooted in Hong Kong for many years, has successfully delivered iconic large-scale infrastructural projects to date, and consolidated our leading position in the industry. In the face of global climate change and carbon-neutral development, we recognize the critical role of the construction industry in the process of sustainable development, hence establish a strategic direction centred on sustainable development. As a benchmark company in the construction industry, we adhere to the "Triple Bottom Line" principle. In pursuit of economic excellence, we have deeply integrated social responsibility and environmental protection into our corporate DNA.

At the strategic planning level, CSHK established a four-dimensional framework based on international conventions, national policies, regional regulations and industry standards.We have systematically integrated the United Nations SDGs, national "dual carbon" targets, Hong Kong's Climate Action Plan and Construction Industry Council guidelines, aligning with China State Construction International, the parent company's sustainable development approach, and innovatively proposed the "P.E.A.K. Principle:

Guided by our core principle of "People-first" ", we care for our employees and the community, develop environmentally friendly low-carbon construction solutions, and collaborate with academia and supply chain partners to deliver more Key Projects for Hong Kong, thereby achieving the ambitious goal of carbon neutrality for Hong Kong by 2050.

We aim to present CSHK's sustainability key performance indicators and their impacts by addressing the concerns of different stakeholders. The "P.E.A.K. Principle" covers four major areas, including:

People

CSHK is committed to providing employees with good development opportunities, comprehensive training system, and competitive salary, benefits and incentive system. We value the career growth of our employees and help them continuously improve their skills and knowledge to adapt to the development and changes in the industry. In addition, we implement Smart Safety system and measures at all our new sites to create a healthy and safe working environment for employees.

We also actively participate in public welfare activities, provide solutions to communities and environmental problems by applying professional knowledge, create shared value, and ensure our stakeholders feel supported and valued.

Environment

As a main contractor, we strive to promote low-carbon construction projects, set up pilot schemes, and actively adopt different low-carbon and innovative technologies. For example, under the "Clean Energy Plan", we have publicly put forward three major carbon reduction commitments to comprehensively promote the application of clean energy, take the lead in introducing hydrogen power generation technology, and explore the possibility of setting up the first clean energy construction site in Hong Kong.

With the help of our self-developed "C-SMART All-in-One Smart Construction Management Platform", we can effectively manage the supply and availability of materials and resources, reduce waste and pollutants generation, and help monitor and manage site usage to reduce resources wastage.

Hong Kong-Shenzhen Innovation and Technology Park

Alliance

We actively communicate, coordinate, and learn from different stakeholders. We are eager in seeking cooperation opportunities to jointly promote sustainable development in the industry, as well as partnerships to develop and promote sustainable building materials and construction technologies, to create more liveable and sustainable buildings together.

Ms Michelle Au (right), Director of Sustainability, attended Build4Asia Forum | ESG Asia Forum on behalf of CSHK

Key Projects for Hong Kong

CSHK continues to invest in smart facilities and gradually digitises its operations. We progressively make extensive use of advanced construction technologies, such as BIM, MiC, sustainable low-carbon building materials and site electrification, etc., to build iconic green buildings, including representative projects such as the Tseung Kwan O Desalination Plant and the Hong Kong-Shenzhen Innovation and Technology Park.

Construction of the first stage of Tseung Kwan O Desalination Plant

Hong Kong Children's Hospital

1.2 About CSHK

1.2.1 Company Profile

China State Construction Engineering (Hong Kong) Limited and its subsidiaries established their presence in the construction industry in Hong Kong in 1979. CSHK has obtained five top-tier Grade C construction licenses as Approved Public Works Contractors (commonly known as Grade C construction licenses) since its early days of establishment, actively bidding for various government projects, including "Buildings", "Port Works", "Roads and Drainage", "Site Formation" and "Waterworks". For more than 45 years, CSHK's business scope covers building construction, civil engineering, foundation engineering, mechanical and electrical engineering, medical engineering, environmental engineering and other construction-related businesses.

1.2.2 Corporate Structure and Business

Corporate Structure

CSHK's parent company, China State Construction International Holdings Limited, is a vertically integrated construction and investment conglomerate, and was listed on the Main Board of the Hong Kong Stock Exchange (Stock Code: 03311) in 2005.

Business Overview

Since 1979, CSHK has been operating construction businesses encompassing building construction, civil engineering, foundation engineering, site survey, electrical and mechanical engineering, among other sub-sectors, and has developed investment, architectural technology products, and information technology businesses in recent years.

Engineering Business

Building Construction

Undertaking construction projects such as public buildings, hospitals, universities, and private and public estates primarily

Foundation Engineering

Being committed to providing design and execution services of foundation engineering works, including large-diameter bored piles, small-diameter pipe piles, steel H-piles, diaphragm walls, underground grouting, and demolitions

Mechanical and Electrical Engineering

Engaging in engineering projects on HVAC system, electrical system, fire service system, extra low voltage electrical system, plumbing and drainage system, tunnel ventilation system, town gas system primarily

Civil Engineering

Involving in projects such as site formation, highways, bridges, land reclamation, tunnels, rail transport and airport facilities and other construction projects

Medical Engineering

Providing international one-stop medical and rehabilitation services for the whole lifecycle from investment and financing, medical planning, design, procurement, construction to operation, training, and consulting, thereby delivering customers with products covering life and healthcare for all ages

Environmental Engineering

Being committed to environment related projects, including the clean-up of marine and land environments, etc.; involved in environmental protection and infrastructure projects with a total value of nearly HKD100 billion; business scope includes environmental protection, cavern and drainage projects

Other Business

Investment

The business scope includes property acquisition and the redevelopment of old buildings, revitalization of industrial buildings, as well as participation in redevelopment projects and government public land tender investments in Hong Kong. Our overseas investment division focuses on developing student accommodations, residential developments, industrial parks, smallscale infrastructure, and investments in the medical industry in countries and regions such as the United Kingdom, the United Arab Emirates, and Southeast Asia, with a primary emphasis on investment-driven contracts

Architectural Technology Products

By engaging in independent research and development and re-innovation in cutting-edge technologies, we are leveraging technologies such as the Internet of Things, artificial intelligence, cloud computing, and Building Information Modeling (BIM) to create the C-SMART All-in-One Smart Construction Management Platform. This platform offers comprehensive and intelligent solutions for diverse engineering projects

Information Technology

Engaged in BIM-related businesses in Hong Kong and Macau

Machinery

Providing machinery equipment and equipment leasing services to projects undertaken by the Group in the Hong Kong and Macau areas primarily. This includes housing machinery, earthmoving machinery, foundation machinery, and more

1.3 About This Report

1.3.1 Reporting Scope

This Sustainability Report ("this Report") covers the period from 1 January 2024 to 31 December 2024. This Report covers the main businesses of CSHK, including construction and engineering, investment, architectural technology products and information technology. With the aim of presenting the sustainability performances of CSHK's construction-related businesses, KPI data in this Report includes the operational data of CSHK's construction project related business only.

1.3.2 Reporting Standards

This Report is prepared with reference to the Global Reporting Initiative Standards (GRI Standards) and the United Nations Sustainable Development Goals (UNSDGs), with a view to fully communicating CSHK's sustainability efforts and performance to stakeholders. A complete GRI Content Index is available at the end of this Report for stakeholder reference.

1.3.3 Access and Feedback

This Report is available in Chinese and English. In the event of any discrepancy between the definitions of terms used in the English and Chinese versions, the Chinese version shall prevail. Stakeholders can download this Report and the electronic versions of previous sustainability reports from the Sustainability Report section of the CSHK website. If you have any questions, comments or feedback on this Report, please contact us by email at cscec_ccd@cohl.com.

1.4 Message from the Management

As a leading general contractor with deep-rooted presence in Hong Kong for 45 years, CSHK has always integrated sustainable development into its corporate strategy and promoted the transformation and upgrading of the industry through systemic changes. We have published our Sustainability Report for six consecutive years starting from 2019. We strictly follow the Global Reporting Initiative (GRI) standards and the United Nations Sustainable Development Goals (SDGs), and continue to build value consensus with owners, subcontractors, our colleagues at all levels and various sectors of the community through transparent disclosure of information.

In 2022, we reconstructed our sustainability framework and launched the P.E.A.K Principle. We are committed to putting people first, caring for our staff and workers, being mindful of the community, creating environmentally friendly and low-carbon construction solutions, and collaborating with academia and supply chain partners to build more Key Projects for Hong Kong, thereby achieving Hong Kong's goal of moving towards carbon neutrality by 2050.

Guided by our core principle of "People-first", CSHK has been leading the construction industry's sustainable development through innovation. In 2024, we had a breakthrough achievement in the industry - we successfully secured a HK$500 million social responsibility loan from China CITIC Bank International, the largest of its kind in Hong Kong for a construction company. In response to the national strategy of carbon peaking and carbon neutrality by 3060 and Hong Kong's Climate Action Plan 2050, we launched the "Clean Energy Plan" and successfully introduced Hong Kong's first pilot hydrogen power generation system in the construction sector, pioneering the integration of renewable energy technologies into the traditional construction process. In addition, as the Chairman of the working group on electrification and clean-energy feasibility at construction sites of the Construction Industry Council ("CIC"), and as a member of the Management Committee on Construction Innovation and Technology Fund; the Committee on Construction Safety, and the Committee on Construction Business Development and Productivity.

I am committed to leading CSHK in actively establishing a collaborative platform, through which we aim to facilitate technical exchanges and knowledge sharing with industry peers, thereby building an open and win-win ecosystem for sustainable construction innovation.

In 2024, we continued to export the international influence of Hong Kong's construction standards with three benchmark projects that illustrate the multi-dimensionality of sustainable construction, namely General Contracting for the Development of IL9088 at the New Central Harbourfront (Site 3A), Yuen Long Barrage and Nullah Improvement Schemes, and the main contract for Redevelopment of Our Lady of Maryknoll Hospital. With our concerted efforts, CSHK's sustainable development approach continues to be recognised by many parties.

To achieve carbon neutrality, we will start a new journey with "three deepening": deepening the integration of ESG governance and business decision-making, deepening the transfer of low-carbon technology achievements in the construction industry, and deepening the density of collaborative innovation networks in the industry. As the main force of Hong Kong's urban construction, CSHK will continue to empower the symbiosis and co-prosperity between urban construction and ecological civilisation, and deliver great achievements in sustainable development.

Mr. Hung Cheung Shew, Danny
Chairman

We are fully aware that sustainable competitiveness has become a core proposition for the longevity of enterprises in the face of profound changes in the global industrial landscape.

Mr. Hung Cheung Shew, Danny
Chairman

1.5 Stakeholder Engagement

1.5.1 Stakeholder Communication

In our pursuit of sustainable development, we actively seek collaboration while bringing together collective efforts from our various stakeholders in society. With the cooperation of various departments, CSHK fosters meaningful engagement with key stakeholders on sustainable development issues. This engagement enables us to gain a deeper understanding of their needs and expectations, which we then integrate into our decision-making processes, thereby accelerating the progress of sustainable development.

Stakeholder	Key Communication Channels
Management 	• Interview • Questionnaire • Email • Meeting
Employee 	• Interview • Questionnaire • Grievance Mechanism • Employee Event and Volunteer Activity
Developer 	• Interview • Questionnaire • Phone/Email
Other Developer (excl. government) 	• Questionnaire • Phone/Email
Industry Association 	• Interview • Questionnaire • Exchange Session • Phone/Email
Business Partner 	• Interview • Questionnaire • Meeting and Seminar • On-site Visit • Phone/Email
Community 	• Interview • Questionnaire • Phone/Email

1.5.2 Materiality Assessment

Materiality Assessment and Validation Process

In 2022, we performed a complete and comprehensive materiality identification analysis in accordance with the step-by-step guidelines of the GRI Standards. In 2024, we collaborated with our consultants to re-examine the applicable of the 2022 assessment results by integrating a multifaceted methodology that included the GRI Standards, macro-trend studies, industry materiality analyses of rating agencies and SASB criteria, and peer materiality comparisons. The 2024 sustainability materiality issues and the future development direction were finalised after management's review and confirmation.

Materiality Review, Analysis and Confirmation Process

1. Review the 2022 stakeholder survey and materiality issues
2. Analyse the applicable of materiality issues for 2022 from multiple perspectives, taking into account international standards, regulatory requirements and peer practices
3. Management reviews and confirms the materiality issue identified
4. Disclosure of information based on the results of the analyses

1.5.3 Results of Materiality Assessment

It was considered that the sustainability materiality issues for 2024 remain the same as for 2022. We have further analysed the potential risks and opportunities for each of the issues, which are presented in full in the table below.

Material Issues	Risk		Opportunity	
	Description	Degree of impact	Description	Degree of impact
Dealing with labour shortage 	The competition for talent in the construction industry is increasingly fierce. The lack of skilled workers may lead to construction delays, poor quality, and affect CSHK's reputation and customer satisfaction. CSHK may need to maintain the level of labour force through process training and the use of innovative construction methods, which may also increase the O&M and finance costs.	High	By providing on-the-job training and adopting innovative construction methods, we can enhance the skills and productivity of skilled workers, which can help increase CSHK's competitiveness and long-term economic benefits of the company.	Medium

Material Issues	Risk		Opportunity	
	Description	Degree of impact	Description	Degree of impact
Promoting talent development in the industry	The lack of measures to attract and retain talents may lead to talent loss, recruitment difficulties, and affect the quality and progress of construction projects.	Medium	Providing employees with competitive salaries, benefits, and a positive work culture to our employees, aiming to enhance their job satisfaction and loyalty. By doing so, we attract and retain talent, reduce recruitment and training costs, and strengthen the image of CSHK.	High
			Strengthening collaboration with industry and/or academic institutions will help pass on construction experience and professional knowledge, thereby enhancing professional standards and reputation. This, in turn, increases CSHK's market share and long-term operation benefits.	Medium
Establishing a safety culture at work	The lack of safety management and training may lead to accidents and casualties, which can have a negative impact on CSHK's image and financial situation.	High	Improving occupational safety and health, enhancing the working environment for workers, and reducing accidents and employee injuries can help increase employee satisfaction and loyalty.	Medium
	The potential health and safety impacts of the work environment on employees, including occupational and chronic illnesses, disabilities, and fatalities, may lead to talent loss, recruitment difficulties, and affect the quality and progress of construction projects.	Medium	Establishing a safety-oriented work culture can enhance the image and reputation of the company, gain customer trust and long-term economic benefits, and also help meet the requirements of investors and regulatory.	High
Product quality and safety	The product quality and responsibility in the engineering and construction industry have significant impact on safety, and the stability of production is also related to the quality of life of local communities. Non-compliance with product quality requirements or the existence of safety hazards may cause serious damage to CSHK's reputation and brand image, and may also face legal risks.	High	Strengthening product quality management, ensuring the health and safety of customers and users, and making timely responses and corrections can increase customer satisfaction and trust, and enhance CSHK's competitiveness.	High

Material Issues	Risk		Opportunity	
	Description	Degree of impact	Description	Degree of impact
Exploring carbon neutrality during construction phase	Achieving carbon neutrality in project construction requires more investment and costs, and may face technical and market risks.	Low	Achieving carbon neutrality in project construction can enhance CSHK's reputation and market competitiveness, align with the national carbon peak and carbon neutrality goals, and promote sustainable development. Developing carbon-neutral projects can also expand corporate revenue sources.	Low
	CSHK needs to systematically promote the realisation of dual carbon goals, with energy conservation and clean energy development at the same time. Confronted with the dual pressure of energy conservation and emission reduction in mainland China and Hong Kong, CSHK should actively participate in carbon trading markets, leverage green financial tools, make good use of the new energy policies, accelerate innovation in low-carbon technologies and product research and development to gain a competitive advantage in the green transformation.	Low		
Technological innovation	The development of new technologies such as BIM and MiC has become mainstream in the construction and engineering industries, while the development and application of new energy technologies have also become a new trend in the field of power production. Resistance to change and a lack of understanding or commitment to technology and innovation may hinder progress. Failure to invest in technology and innovation may lead to a decrease in efficiency and competitiveness in the construction process, resulting in loss of market share.	High	Innovative technology can enhance work safety and efficiency, reduce costs, and achieve digitalisation of construction site management, enabling CSHK to stand out in a competitive market and attract quality customers seeking innovative solutions.	Medium
			Through the establishment of strategic cooperation with industry enterprises and research institutes, sharing of professional knowledge and technical resources, CSHK can develop more synergistic and efficient solutions to complex technical problems and achieve a win-win development pattern for all parties.	Medium
Waste management	Given that the circular economy model has become a trend and landfills are facing saturation pressure, it is expected that regulations on waste management will become stricter.	High	Reducing resource waste and environmental pollution can lower CSHK's cost, enhance its competitiveness, and generate long-term economic benefits.	Medium
Protecting customer and business data	Cybersecurity incidents can affect the stability of CSHK's operations, and events such as data leakage may also impact CSHK's reputation, or lead to legal action or fines.	Medium	Strengthening product quality management, safeguarding the health and safety of customers and users, and making timely responses and corrections can improve customer satisfaction and trust, thereby increasing the competitiveness of CSHK.	Low

1.6 Sustainability Governance

In order to deepen the effectiveness of the "P.E.A.K. Principle" strategy, we have set up a Sustainable Development Committee, headed by the Chairman, to co-ordinate the formulation of ESG strategic planning, review key performance indicators and oversee the full cycle of implementation; and set up five working groups to focus on the strategic objectives of the "P.E.A.K. Principle" as well as to promote the application of the carbon-neutral platform. We have established a closed-loop management mechanism from strategy decoding to project implementation.

Sustainability Governance Structure

Sustainability Committee

Carbon Neutrality Platform Promotion Working Gorup

The "Carbon Neutrality Platform Promotion Working Group" is tasked with promoting the implementation of Carbon Neutrality platform application by subsidiaries.

PEOPLE Working Group

The "People Working Group" will focus on driving initiatives related to talent development, employee welfare, community service, and occupational health and safety. It establishes annual implementation, goals and promotes the execution of these initiatives.

ALLIANCE Working Group

The "Alliance Working Group" focuses on promoting supply chain carbon management, low-carbon material procurement, low-carbon material application, and engagement with suppliers and subcontractors. It also monitors the latest market trends and material supplies.

ENVIROMENT Working Group

The "Environment Working Group" will be dedicated to environmental concerns, prioritises carbon reduction efforts in Scope 1 and 2 emissions. It places emphasis on setting annual targets and implementing activities in sectors such as new energy vehicles, new energy machinery and equipment, renewable energy, and resource conservation.

Sustainability Reporting Group

The "Sustainability Reporting Working Group" is primarily responsible for preparing and publishing the annual sustainability report.

1.7 Key Awards

CSHK has received three prestigious awards at the Hong Kong Green and Sustainable Finance Awards 2024 organised by the Hong Kong Quality Assurance Agency (HKQAA), including the "Outstanding Green and Sustainable Loan Issuer (Construction and Engineering) - Visionary Social Responsibility Framework", the "Leadership Award for Green and Sustainable Finance Development" and the "Strategist Award for Green and Sustainable Finance Development". The three awards demonstrated the high recognition by the Hong Kong community and professional organisations of CSHK's sustainability direction and its leadership in channelling capital flows to socially responsible projects.

People

For the second year in succession, CSHK won the "Employer of the Year Award – Grand" in 2024, making it the only construction company in the industry to receive this prestigious award. On the same occasion, the Group also won the "Best Talent Management Strategy Award – Grand" for its innovative and differentiated talent management system, achieving double recognition in the field of human resources. This double award not only demonstrated the Group's benchmark position in talent branding, but also proved that our strategic human resources management model has reached an industry-leading level.

Environment

CSHK has been awarded the "ESG Commendation Certificate Award" and the "ESG Excellence in Environmental Professional Award"under the Outstanding ESG Enterprises Recognition Scheme jointly organised by Sing Tao News Corporation and Hong Kong Polytechnic University. These awards demonstrated that the Group's excellence in environmental, social and governance (ESG) performance and sustainability practices have been recognised by the industry. Looking ahead, CSHK will continue to deepen its practice and exploration in the areas of ESG and sustainable finance, and will continue to contribute to the sustainable development of the Hong Kong society by adhering to the concept of sustainable development.

Alliance

CSHK once again shone at The International Exhibition of Inventions in Geneva, winning international awards for its independent research and development achievements. Following its debut at last year's exhibition, the Company won four international awards this year for its C-SMART All-in-One Smart Construction Management Platform and a series of innovative products, including the Gold Medal with the Congratulations of the Jury as the highest honor of the competition, as well as Gold, Silver and Bronze awards. These awards marked CSHK's global leadership in the field of project digitization. By continuing to promote the innovation of intelligent construction technology, the Company is accelerating the digital transformation of the construction industry, strongly supporting the implementation of the Hong Kong SAR Government's "Re-industrialization" strategy, and injecting new momentum into the high-quality development of the industry.

Key Projects for Hong Kong

The Proposed Residential Development at 391 Chai Wan Road and Adjoining Government Land, Chai Wan Inland Lot No. 178 by CSHK won the UNSDG Achievement Awards Hong Kong for its innovative design and implementation. The design of the project design fully responds to the core objectives of SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities) and SDG 12 (Responsible Consumption and Production), demonstrating Hong Kong's foresight in sustainable urban development. The award not only recognized CSHK's efforts in balancing environmental, social and economic benefits, but also set a benchmark for the industry, encouraging the public and private sectors to deepen their sustainability initiatives and accelerate Hong Kong's progress towards achieving the 2050 carbon neutral vision.

People

CSHK fully understands that a "people-first" approach is the cornerstone of sustainable business practices. Embracing this fundamental belief, we not only aim to cultivate a workplace culture that blends innovation and compassionate support but also enhance our talent development programs and career pathways to ensure that organizational unity and professional excellence go hand in hand. To deepen our efforts in corporate social responsibilities, we have innovatively combined financial instruments with the construction industry and successfully secured a HK$500 million social loan in October 2024 to promote the Light Public Housing Project at Olympic Avenue, Kai Tak. Through the modular integrated construction technology, the housing supply for the grassroots people could be accelerated, thereby fulfilling the dual commitments of housing justice and low-carbon transformation. In order to create a shared-value business model so that corporate value and social benefits could coexist, we are committed to expanding our involvement in public welfare and leveraging our corporate resources effectively to fulfill our social obligations. Whether it's community initiatives or aiding the underprivileged, our team's collective efforts to achieve community inclusion are clearly demonstrated. Through the field of architecture, we aspire to establish a sustainable and positive societal cycle.

- Gao Zhenyu (left)
  Site Engineer (Yuen Long Barrage and Nullah Improvement Schemes)
- Shen Yaohui (right)
  Site Engineer (Yuen Long Barrage and Nullah Improvement Schemes)

CSHK signed a social loan of HK$500 million with China CITIC Bank International

Front row from left to right: Huang Jiang (Executive Vice President of CSHK); Alex Sham (Executive Managing Director, Deputy Head of Wholesale Banking Group of China CITIC Bank International)
Back row from left to right: Wang Xiaoguang (Executive Director, Chief Executive Officer and Chairman of the Sustainability Committee of CSCI); Christopher Hui, Secretary for Financial Services and the Treasury of Hong Kong) Jeffery Bai (Executive Director, Deputy Chief Executive Officer & Head of Wholesale Banking Group and Treasury & Markets Group, China CITIC Bank International)

2.1 Social Loan

The social responsibilities and commitments assumed by CSHK not only deepen community engagement, but also serve as a platform for financial innovation and social value transformation. As an industry pioneer in ESG practices, we successfully secured a groundbreaking social loan of HK$500 million in 2024, setting a new benchmark for social loans within the Hong Kong's construction industry.

CSHK was granted a Social Loan of HK$500 million for its project, marking the largest sum ever awarded in Hong Kong's construction sector

CSHK has fulfilled its social obligations, and driving inclusive community development. In October 2024, we secured a HK$500 million social responsibility loan from China CITIC Bank International, marking a significant milestone as the highest amount ever obtained for similar loans in the Hong Kong construction industry. This fund is designated for the development of the Light Public Housing at Olympic Avenue, Kai Tak, effectively helping grassroots citizens improve their living environment and enhance their quality of life.

The project adopts the "Modular Integrated Construction" method (MiC technology), which reduces the construction timeline by 40% compared to traditional approaches. These technological advancements not only decrease on-site labor requirements and enhance project safety but also yield a mutually beneficial outcome in terms of economic, social, and environmental advantages. Since undertaking the construction of its inaugural public housing estate in 1984, CSHK has delivered a total of 130,000 public housing units, representing 15% of all public housing in Hong Kong.

The funding highlights the high recognition of our ESG initiatives by the financial sector and reflects the shared commitment of Hong Kong society towards advancing sustainable construction practices. Our project not only aligns with the government's "Light Public Housing" policy but also significantly decreases carbon emissions through MiC technology, driving the construction industry towards a low-carbon transition. Going forward, we remain dedicated to collaborating across all sectors to enhance social welfare through innovative technologies and cultivate an inclusive, harmonious, and sustainable community.

Development of the Light Public Housing at Olympic Avenue, Kai Tak

The signing ceremony was accompanied by the 2024 Hong Kong Sustainable Development Innovation Seminar

2.2 Intelligence-driven Security Empowerment

Adhering to the concept of safety first, CSHK has simultaneously promoted safety management innovation and the application of intelligent technology to build a sustainable construction ecosystem in an all-round way. In the field of occupational health and safety, the Company strengthens risk prevention and control through a clear responsibility system and regular hazard prediction trainings, Meanwhile, the Company actively builds an intelligent construction technology system, as well as promoting the application of digital robots as a pilot project. This is to form a replicable and intelligent construction cycle, so as to provide systematic solutions for the industry's restructuring through the dual-track approach of safety management and technological innovation.

Multi-functional patrol robot

2.2.1 Occupational Health and Safety Management System

CSHK places a paramount focus on the health and safety of its employees. We have implemented a robust management system that places safety as our top priority. We have also obtained ISO 45001:2018 Occupational Health and Safety Management System certification. We demonstrate our dedication to occupational health and safety, as well as our management direction, by the strict implementation of safety precautionary measures through the development and implementation of key strategies including the Safety and Health Policy, Safety and Health Management Operation Procedures, Safe Construction Programme, and Safety and Health Management Manual.

With the assistance of the Company's internal production safety committee, we have established eight major safety commitments based on safety considerations of site construction. We also set safety and health targets and indicators annually and conduct safety audits every six months to check overall performance. Our safety and health management indicator is an accident rate of less than 8 per thousand people, or an accident rate of less than 0.222 per 100,000 hours worked.

- Establish a high-standard safety and health work environment
- Regularly conduct assessments of and issue against the safety and health hazards and risks arising from construction projects
- Provide safety education and training to employees
- Establish effective communication and consultation channels with employees
- Emphasise employee participation in the occupational safety and health management system and decision-making process
- Strict compliance with laws and contractual requirements
- Improving workers' safety behaviours through safety climate survey
- Adopt reasonable and feasible measures as well as innovative methods to sustain and improve safety and health performance

Through continuous improvement of the safety system, provision of safety training, implementation of a reward and penalty system, enhancement of on-site supervision and introduction of a safe and smart site, the Company helps workers to develop good safety habits and culture to ensure site safety.

Chan Kwok Fai, Cato

Assistant General Manager, Safety and Environmental Protection Department

To enhance the effectiveness of occupational health and safety governance, CSHK has established an employee participatory decision-making mechanism and incorporated frontline workers into the safety management system to streamline the process. By effective communications and consultation channels, we systematically enhance the labor-management collaboration risk management model. The Group simultaneously implemented a safety behavior benchmarking project, coupled with a safety climate survey, to shift safety awareness from mere compliance with regulations to self-management, which effectively strengthen the risk prevention and control capabilities at work sites.

Meanwhile, we provide a wide range of safety and health training, including orientation sections, safety card training, specialised courses, on-site discussion and management training. During the reporting period, we have organised a total of 51,464 training sessions with a total of 2,277,075 participants.

Stringent Supervision with Clear Rewards and Punishments

We have formulated the "Zoning Responsibility System for the Safety and Environmental Management of frontline Site Managers", which enables each construction site to effectively manage their areas based on project characteristics and personnel allocation. This system ensures the implementation of responsibilities for frontline management personnel and incorporates corresponding mechanisms for recognition and consequences. Additionally, we have also developed the "Safety Management Measures for Subcontractors' Managers" to clearly outline the daily safety responsibilities of subcontractor supervisors, including adherence to site-specific safety measures. To evaluate the safety management performance of subcontractor supervisors, our site civilisation construction team assigns ratings and selects a monthly "Safety Manager," who is duly recognised with certificates and provided with bonuses.

Risk Management and Staff Collaboration

CSHK has established a full-cycle risk management mechanism and systematically implemented a three-stage management procedure including hazard identification, risk assessment and accident investigation. A pre-construction risk prevention meeting is held before commencing each project, while relevant departments are convened to analyze potential risks at key operational points. If a major workplace safety incident occurs, we will strictly implement the accident investigation procedure, with senior management overseeing root cause analysis and accountability determination. This continuous process aims to enhance the effectiveness of the Group's safety governance practices.

In addition, we encourage employees to report work-related safety hazards through the suggestion box, hotline or Happy Worker APP. By doing so, they have the opportunity to receive Behavioural Safety Commendation cards according to the Behavioural Safety Star Activity Management Measures. We have also implemented various measures to reduce the risk of occupational diseases for our employees. We conduct safety and health monitoring as well as medical examinations for employees working in special environments. In the event of a worker being diagnosed with an occupational disease, measures are taken at the construction site to prevent further exposure to harmful substances.

During the Reporting Period, there were four injured workers in the site areas.

2.2.2 C-SMART All-in-One Smart Construction Management Platform

CSHK is fully aligned with the strategic vision of the Hong Kong SAR Government for "Re-industrialisation" and is systematically promoting the digital transformation of the entire construction process. Based on the smart construction roadmap, we independently developed the "C-SMART All-in-One Smart Construction Management Platform", replacing repetitive and tedious work with innovative and advanced technologies and intelligent solutions regarding artificial intelligence, smart sensors, the Internet of Things, cloud analysis and "BIM", thereby improving productivity and project efficiency and quality. Meanwhile, we are committed to achieving real-time monitoring to maintain a safe working environment and improve environmental performance.

Safety Improvement	• The use of IoT and AI for a variety of real-time monitoring and timely warning, greatly improving the level of site safety • Employ intelligent monitoring devices to carry out real-time worker positioning, worker trajectory tracking, biometric monitoring, and recording of worker's stay time in specific areas. These measures enable comprehensive personnel management through a centralised display system • Utilise Driver Safety Management (DMS) to monitor driver status and performance, and provide blind spot detection and driver assistance
Time Management	• Achieve digitalisation and intelligence throughout the entire construction process, enabling more scientific and timely engineering decisions, and accelerating the time required for project construction
Management Cost	• Realise the digitisation and intelligence of the whole construction process, make the engineering decision more scientific and timelier, and speed up the project time
Quality Optimisation	• Assess to the technical guidance video through the online technical guidance and communication system. Employ "TransTrack" for on-site inspection and monitoring, enabling comprehensive online process management. This closed-loop management approach ensures efficient oversight throughout the entire construction process
Productivity Enhancement	• Provide an information sharing platform and implement an interim management model to improve management and production efficiency • Improve overall construction progress and accuracy through the use of settlement monitoring, picture comparison, tower crane mounted camera mapping and monitoring system, BIM and other facilities
Achieve Sustainable Protection	• Through the use of environmental data consumption dashboard, leakage monitoring system, waste dumping management and other ways to implement automatic monitoring of the construction environment

SmartTrack Integrated Intelligent Personnel Management System

SmartTrack is an innovative and comprehensive monitoring system developed for the intelligent management of construction site staff. By using such a system, CSHK successfully developed a staff attendance system and a worker dynamic tracking management system based on facial recognition technology. The system integrates various advanced technological means such as Internet of Things technology, biometric technology, radio frequency identification technology, and Bluetooth Low Energy real-time positioning technology. It can provide more accurate and comprehensive data support for construction sites, thereby significantly enhancing the effectiveness of site safety management.

Four key components of SmartTrack:

The smart safety helmet (SmartChip) is one of the key components of our products. Weighing merely 100 grams in total, it has a built-in battery with a two-year lifespan. Made by industrial-grade plastic, its design offers triple protection functions of waterproofing, dustproofing, and impact resistance, effectively ensuring the operational safety of construction workers.

The worker identity matching device (SmartLink) is specifically designed to operate in conjunction with the smart safety helmet (SmartChip) and is installed on the gate devices positioned at the entrances and exits of the construction site. When construction workers pass through the gate machine, the device can complete the identity verification process within 1 to 2 seconds, synchronizing the worker identity data obtained by the facial recognition system to the corresponding smart helmet in real time.

The positioning base station (SmartHub) is deployed in the main operational areas of the construction site to track the exact location of workers in real time. The device adopts an easy-to-install design and supports plug-and-play functionality. It offers effective communication coverage of approximately 900 square meters in open environments, supporting dual connection modes for 4G mobile networks and WiFi wireless networks.

The Smart Watch provides accurate real-time indoor and outdoor positioning and monitors workers' health data such as heart rate, blood pressure, temperature, etc. The Smart Watch also supports the SOS emergency response function. This allows workers to activate the SOS alarm when they are in danger or feel unwell. The alarm information is immediately pushed to the mobile application and C-SMART centralized management platform to ensure the safety of workers.

Data is transmitted to the cloud server in real-time through either the WiFi wireless network or 4G mobile network, displaying instantly on the "C-SMART All-in-One Smart Construction Management Platform". C-SMART offers a range of management functions, including real-time presentation of staff attendance records, current manpower distribution across various operational areas, contractor resource scheduling, and key information such as epidemic prevention tracking management.

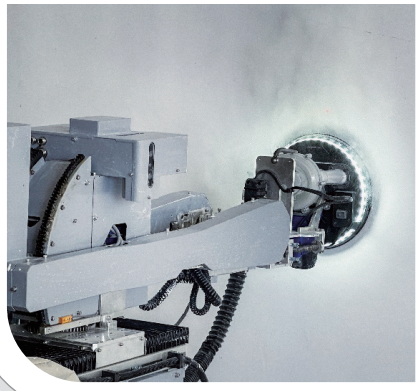
Facial recognition device

Digital Robots

High efficiency | High coverage | High quality | High accuracy | Safe

Indoor Paint Spraying Robot

CSHK applies the indoor paint spraying robot, which combines BIM technology, automatic path planning and indoor navigation technology. This allows the robot to realise the remote and flexible operation of multiple machines, autonomously shuttle through the house, and complete automatic spraying. Interior walls and ceilings can be accurately painted even in dimly lit environments. With the utilisation of these robots, it takes only about 30 minutes to complete the interior wall and ceiling spraying work for a 300-square-feet unit.



Plastering Robot

The robot utilises multiple sensors and has autonomous sensing and obstacle avoidance technology, which enables it to automatically carry out wall scraping work. This robot can also complete the wall cement rough grinding, automatic scraping, fine grinding and paint spraying and other processes, up to 6 metres construction height. During the construction process, the robot is also equipped with automatic vacuum technology to ensure the clean site environment and significantly improve the image of the site. Additionally, the employment of 5G transmission technology allows project managers to remotely monitor the construction progress and access real-time data.

Adaptive Welding Robot

This particular robot can be installed on specific devices and operates in various positions and environments using the ARC (Automatic Reference Counting) mode. By utilising this robot, the risk of direct exposure of workers to welding can be reduced while improving safety and productivity.

Material Transport Robot

The material transport robot are equipped with humanoid recognition, allowing them to follow users and navigate around obstacles. Each robot has a carrying capacity of approximately 250 kilograms, equivalent to the weight of 5 bags of cement. The compact size of the robot enables it conveniently transport materials within the corridors of standard floors in buildings, significantly reducing the safety risk of workers handling construction materials on the site.

Multi-functional Mobile Robot

The multi-functional mobile robot is equipped with features such as day and night patrol, spray disinfection function, 360-degree point shooting, real-time video streaming, scene scanning and map creation. It can perform a variety of tasks including transportation, inspection and cleaning. By utilising this robot, construction sites can reduce labour costs and working hours while enhancing overall efficiency and safety.

Exterior Wall Cleaning Robot

Workers can issue commands from the ground for the robots to complete aerial painting in place of the workers. The robot can complete an approximately 3.5-meter-wide, 36-storey-high facade in 2.5 to 3 hours each time, and is capable of calculating the area to be painted in real time. The technology uses wind stability control algorithms on the gondola platform to keep the equipment stable and minimize shaking, thus improving the quality of the painting work.

2.2.3 Employee safety

We have set up an innovative management platform known as "Smart Safety Site System" which integrates intelligent monitoring systems and cutting-edge data analysis technologies. Meanwhile, we have organized various occupational safety promotion meetings and employee competitions to fortify our workplace safety protection system in all aspects. CSHK is committed to a multi-dimensional management strategy that not only effectively improves the accuracy of safety risk control on construction sites, but also advances through the dual tracks of technological empowerment and humanistic care to effectively protect the physical and mental health of employees, thereby building a preventive safety management ecosystem.

CSHK "Smart Site Safety System Labelling Scheme" Serves as a Model of Practical Implementation

In May 2024, the Development Bureau, HKSAR and the Construction Industry Council launched the ""Smart Site Safety System Labelling Scheme", which certifies demonstration sites that integrate innovative technologies and intelligent management systems through on-site inspections and a rigorous assessment mechanism, promoting digital transformation in the industry. CSHK has stood out in this scheme, with 34 projects securing certification labels, covering housing, medical, drainage and comprehensive development projects, etc. This achievement vividly showed the Company's leading position in smart construction site management.

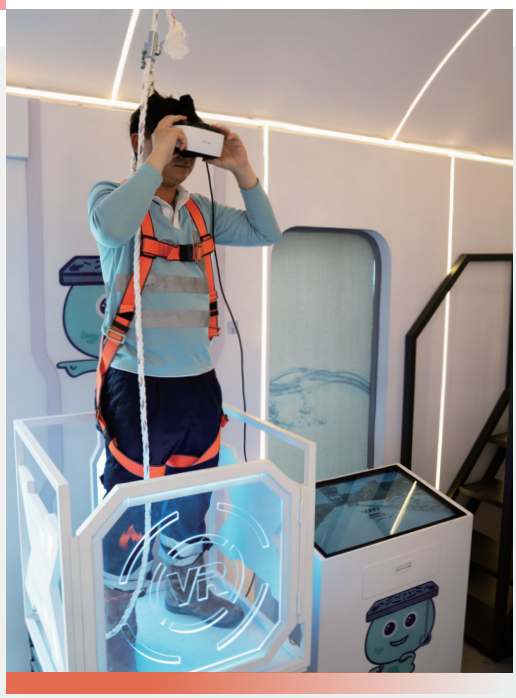
CSHK's certified projects cover a diverse range of engineering fields, including the development of the Light Public Housing on Olympic Avenue, Kai Tak, the New Acute Hospital at Kai Tak, Yuen Long Barrage and Nullah Improvement Schemes and Phase 1A Main Contract Development Project of Hong Kong-Shenzhen Innovation and Technology Park. Among them, the Yuen Long Barrage Scheme of the Drainage Services Department, HKSAR has been designated as a media demonstration site. Its C-SMART Central Management System (CMP) integrates Internet of Things and artificial intelligence technologies, setting a benchmark for safety innovation within the industry. The construction site is fully equipped with smart watches for workers, which monitor physiological data in real-time and establish a health warning mechanism. Coupled with the AI image analysis system, when the closed-circuit television detects individuals not wearing safety equipment or entering high-risk areas, an audible and visual alarm is triggered on-site, simultaneously notifying the management platform for intervention. Through a three-tier system, including real-time positioning, risk prediction, and intelligent decision-making, this technology prevents accidents in advance, achieving the "zero casualty vision."

To promote "Zero Accidents on Construction Sites", CSHK held a "Safety Promotion Conference"

To further enhance the occupational health and safety awareness of the construction industry in Hong Kong and promote a safety culture at construction sites, CSHK successfully held the "Hong Kong Safety Promotion Conference" in April 2024. The safety promotion conference was convened simultaneously online and offline, attracting a total of 2,000 CSHK employees to actively participate, including several members of the CSHK management, project managers, site representatives, and other key personnel.

During this promotion conference, several project managers from CSHK shared information related to safety, focusing on the unique characteristics of different sites, including site welfare facilities, construction design safety, application of inherent safety management, safety management in confined spaces, and dynamic risk assessment. Remarkably, the CSHK team shared the practical application of intelligent safety technology, which has received significant attention from the industry in recent years. The on-site response was filled with enthusiasm.

During this promotion conference, CSHK also invited several industry leaders from the construction sector to share with the attendees. Going forward, CSHK will strive to achieve the vision of "zero accidents on construction sites" while actively collaborating with the industry to collectively improve occupational safety and health standards in the construction sector.



Simulated fall from height safety training

CSHK has identified construction site cleanliness as a key safety management indicator and introduced the "Construction Site Cleanliness Competition" to enhance safety awareness among all employees. Moving forward, we are dedicated to further nurturing the preventive safety culture of "cleanliness equals protection," thereby setting a new standard for risk management in the construction industry. In 2024, we continued to optimize the health and safety working environment and have repeatedly received recognition from authoritative domestic and international organizations, including occupational safety awards issued by government agencies, international certification bodies, and industry associations, highlighting the Company's achievements in the ESG field. Some remarkable awards are listed below for reference:

Award	Name of the granting institution
Considerate Contractors Site Award Scheme - 1 Gold Award, 2 Silver Awards, 2 Bronze Awards, 5 Merit Awards, a total of 10 awards	Development Bureau, HKSAR
Construction Industry Safety Award Scheme 2023-2024- 3 gold prizes, 5 silver and bronze prizes and 20 meritorious prizes etc.	Labour Department, Occupational Safety & Health Council, Development Bureau Housing Authority, HKSAR and other organizations within the industry
Gold Award of OSH Innovation & Technology Award (Open Category) went to Transcendence	Occupational Safety & Health Council and Labour Department, HKSAR

"As the workers began to understand that site cleanliness could enhance work efficiency, they gradually embrace and acknowledge a driving force to better implement the site safety plan."

Chiu Tze Ming

Assistant Safety Manager

(Three-runway System Project - North Runway Reconstruction Project)

CSHK organized the 2024 "Young Talent Launch Program", which lasted for three days and helped young trainees to speed up their integration through the launching ceremony, interviews, project visits, building technology experiences, outdoor development and other activities.

2.3 Talent Development, Caring for the Community

We always uphold the core value of "To Assemble the Enterprising Ones and Motivate the Promising Ones" in designing our human resource management system, formulating comprehensive employee policies and standardized operating guidelines. This fully emphasize the Company's commitment to safeguarding employee rights while ensuring complying with various labor law requirements. We continuously create a diverse and inclusive high-quality workplace environment, provide a market-competitive compensation and benefits system, and plan systematic career development training courses. By effectively implementing these human resources strategies, we have strengthened employees' sense of belonging with the organization and provided a broad space for talent growth.

CSHK attaches great importance to upgrading the professional skills and overall competence of our staff, to better support their career development and the long-term business development of the Company. We are committed to nurturing professional talents by providing diversified learning and development support to them through the "4+1" training system, talent development programmes, personal enhancement grants and holidays.

"4+1" Training System

Talent Development Programmes

Personal Enhancement Grants and Holidays

2.3.1 Talent Management System

CSHK adheres to a dual approach of "Social Recruitment" and "Campus Recruitment," focusing on actively introducing governance talents, high-end professionals, technology research and development talents, and outstanding young talents. The Company aims to attract talents globally and build a diverse talent allocation system while comprehensively creating a market-competitive compensation system, incentive system, and diversified benefits system.

1. Market-oriented remuneration system: effectively attracting and retaining talent

   We offer a market-competitive salary level and have specifically established various allowances such as car allowance, transportation allowance, meal allowance, and communication allowance to meet business and employee needs.

2. Dual-track incentive system: equal emphasis on material and spiritual incentives

   We always emphasize performance-oriented distribution in our incentive allocation, tilting towards key positions and frontline roles. Not only are there material incentives such as performance bonuses and special awards to immediately reward employees who make outstanding contributions, but there is also a focus on spiritual incentives. Each year, we regularly conduct annual evaluations of outstanding employees and various honor awards to acknowledge the hard work of our talents.

3. Diversified welfare system: safeguarding employee well-being and long-term development

   Apart from statutory benefits, we provide employees with annual leave, birthday leave, care leave and various other types of leave that exceed legal requirements. We also offer employee and family insurance plans, long service awards, educational subsidies, scholarships for employees' children, and various health and fitness activities as part of our welfare initiatives.

In terms of employee welfare maintenance, we have established a Happy Committee and socials, regularly organizing diverse cultural and sports activities to strengthen the support network for life outside the workplace. In addition, we simultaneously implement a workplace equality protection mechanism, clearly prohibiting discriminatory behaviors based on age, gender, race, belief, or physical and mental conditions, and strictly adhering to the "Uniform Selection Criteria" to ensure the fairness of the talent selection process.

Talent Cultivation

We tailor targeted training programs for various types of talents, covering different categories of professionals, to build a systematic career development framework for them and to provide and reserve a robust talent resource pool for the high-quality operation of the enterprise.

CSHK actively conducts youth talent cultivation programs to attract more new forces to join the construction industry, injecting continuous vitality and momentum into the development of the Company. Since 2021, CSHK has officially launched the "Double Hundred" Youth Talent Development Program, in which the annual recruitment scale of one thousand people in Hong Kong, there must be structural indicators of "Double Hundred"—that is, at least 100 graduates and 100 interns. Additionally, a comprehensive and multi-level "5+3+X" unique cultivation system has been established to continuously promote all-round development of young talents in Hong Kong. In 2024, CSHK recruited more than 300 fresh graduates and interns throughout the year.

In 2024, CSHK upgraded its "4+1" professional training system by integrating the characteristics of various talents from Hong Kong, the mainland, and overseas, while simultaneously promoting the ESG 101 Interactive Training Workshop to reshape the talent cultivation mechanism with a systematic approach, deeply embedding the core values of ESG into the organizational DNA.

Helen Chan (left)
Deputy BIM Manager (Contract 3310 North Runway Modification Works)

Vianne Wong (right)
Senior Contracts Engineer (West New Territories Landfill Extension)

CSHK Optimizes the "4+1" Training System for Internally Assigned Hong Kong Employees

CSHK focuses on the "4+1" training system, enhancing employees' professional skills and uncovering development potential through comprehensive training methods such as "expanding, exploring, experiencing and engaging." We continuously conduct training programs including the "High-Quality Development" workshop, "Construction Leaders Program" project manager development camp, MiC "Marketing Class", "Research Journey Program" professional study class, "Young Talent Launch Program" and "Tides of Hong Kong" intensive training camp, while continuing to deepen the development of the "Leading Trends" micro-course platform and "Leading Trends Academy" training brand to comprehensively improve talent team quality.

In addition to training, CSHK actively organizes and conducts cultural and sports public welfare activities for employees, strengthens team building, creates a good atmosphere, and continuously enhances the cohesion and sense of belonging among young employees. A total of more than 70 cultural integration activities were held throughout the year.

The "China State Construction Youth Club" organized the "New Quality Productive Forces in Construction Industry" youth forum, inviting Legislative Council members and industry experts for face-to-face exchanges with young talents, and organized various social responsibility and cultural integration activities such as auxiliary police recruitment talks, auxiliary police headquarters visits, and overseas talent fellowship gatherings.

The "China State Construction Hong Kong Professionals Association," has been established by the Company to support new talents coming to Hong Kong in strengthening social connections, broadening their horizons, and actively participating in the construction of Hong Kong. In 2024, a visit to the Legislative Council was organized, with discussions held with former Standing Committee of the National People's Congress member Tam Yiu-chung and Standing Committee of the National People's Congress member Lee Wai-king; multiple cultural integration and Hong Kong experience activities were organized, including the "May Fourth Youth Sports Day" and "Citywide Anti-Scam" seminars; and talent visa seminars were co-hosted with DAB and other organisations, with Standing Committee of the National People's Congress member Starry Lee and officials from the HKSAR Government attending to support the creation of an "international high-end talent gathering hub" to practically assist Hong Kong in implementing the spirit of Third Plenary Session of 20th CPC Central Committee.

ESG 101 Interactive Training Workshop

CSHK specially invited a third-party consulting firm to conduct an ESG interactive training workshop on 17 January 2024. This workshop aimed to assist CSHK employees in gaining a deeper understanding of the fundamental concepts of "sustainable development" and "ESG", mastering the impact of global trends on the construction industry, and exploring practical directions at both individual and corporate levels. Through case studies and interactive discussions, participants were guided to consider how ESG connects with their daily work, further exploring specific actions to support the Company's low-carbon transformation, waste management, and digitalization projects, in order to achieve long-term corporate value and win-win outcomes for society and the environment. In the subsequent participant feedback survey, the overall satisfaction reached 4.2/5.0, and the Net Promoter Score (NPS) was 68, which is considered excellent. Most participants affirmed the inspirational nature of the case sharing and interactive design.

In the future, the Company will regularly hold advanced training sessions at the corporate level to strengthen local case sharing and interactive design, while promoting the classification system for site waste and the popularization of low-carbon building materials. At the individual level, employees are encouraged to implement energy-saving habits (such as turning off unnecessary power and double-sided printing) and actively participate in environmental initiatives and innovative proposals. Through continuous optimization of strategies and collaboration, ESG integration is deepened.

CSHK offered corporate sustainability ESG training workshop for employees

2.3.2 Employee Benefits

CSHK has deeply integrated the concept of intelligent construction into its construction project management system. In order to strengthen construction safety control and optimize site personnel management, the Company independently developed the "Happy Worker App" in 2021, which revolutionizes the traditional mode of operation through digital transformation. The system integrates core functions such as electronic work license management, safety training cloud database and safety history tracking. The system integrates core functions such as electronic work permit management, safety training cloud database and safety resume tracking, etc. After extensive feedback from field workers, the system had been upgraded to version 2.0, with the addition of a number of new intelligent management modules, which significantly enhance the efficiency of the project management team in coordinating the diversified site operations.

"If a worker reminds others to wear safety helmets, the worker can receive a $50 cash voucher for a supermarket by accumulating a sufficient number of 'commendation cards'. The construction site environment is complex and constantly changing, and it is not solely the responsibility of management or frontline supervisors to ensure safety. It requires every worker to help remind of and assist one another."

Wong Pak Kin, Nathan

Deputy Safety Manager
(Hopewell Centre Phase 2 Development Project)

CSHK Built a "Solar-Powered Rest Area" to Establish a High-Temperature Protection Network

CSHK has comprehensively upgraded the summer workplace protection system by establishing "Solar-Powered Rest Areas" at multiple project sites. Through innovative light storage technology combined with passive cooling design, a multi-dimensional barrier against heat and rain has been constructed for frontline staff.

The Solar-Powered Rest Area is an intelligent energy storage product utilizing lithium iron phosphate batteries and integrated photovoltaic components to convert sunlight into electricity. Covering an area of approximately 70 square feet, this Rest Area can comfortably accommodate 4 to 6 workers. It is equipped with an air conditioner, fan light, exhaust fan, and three sockets, providing a comfortable environment for relaxation. Equipped with multiple safety protection functions, such as overcurrent protection, short circuit protection, and high and low temperature protection, the shell is made of durable and rust-resistant galvanized steel plate. It can draw power from the grid or generators, ensuring continuous operation even under overcast conditions.

CSHK built "Solar-Powered Rest Area" in various projects to provide workers with environmentally friendly and comfortable barriers against the heat and rain

Heatstroke Prevention and Safety Measures to Protect Workers' Health

In the face of the continuously rising summer temperatures, CSHK implemented a dual approach that combines scientific management and humanistic care, establishing a "cooling defense line" cross our construction sites. Our initiatives include the establishment of all-weather water drinking point and rest areas. We have also introduced waist-mounted fan arrays and cooling units to guarantee that every stage of our operational processes benefits from effective cooling measures.

We also synchronize seminars and training courses on prevention of heat stroke to enhance awareness of the signs and symptoms of heat-related illnesses and to teach appropriate preventive measures to ensure workers' safety during the summer months.

During the "West Rail Kam Sheung Road Station Phase 1 Property Development Project", watermelons and cold drinks were distributed to help site workers to feel cooler under the hot weather

Scholarship awarding ceremony for children of staff

Fun Land Frontline Employee Care Program

CSHK strives to create a healthy workplace ecosystem where employees can develop both physically and mentally in tandem with their careers, and regularly organizes various employee care activities, including themed workshops on important festivals, Chinese medical treatments, and movie screenings. We also organise staff sports clubs and regular recreational and sports activities such as basketball, soccer, athletics, hiking, badminton, etc. We also continue to organise Fun Land Frontline Employee Care Program activities to bring a wealth of healthcare activities to our sites. Currently, 14 sites are covered and more than 400 employees have participated in these activities. The 2nd "CSCI Employees' Children Scholarship"were awarded to 65 children of staff members to support their educational development.

A mindfulness corner for Zen doodling

Traditional Chinese medicine soft cupping services

A vitality station for combat exercises

Professional Medical Services Provide Health Screenings for Frontline Workers

CSHK introduced professional medical resources to the Yuen Long construction site for the first time, collaborating with the Pok Oi Hospital Yuen Long District Health Center to provide "zero-distance" health screening services for frontline workers. From blood pressure, blood sugar testing to body fat analysis, registered nurses are on-site to conduct personalized health assessments and provide tailored guidance on preventing occupational diseases that align with the high-intensity work characteristics of the construction industry.

CSHK is moving medical services from the backend of treatment to the front end of risk, extending safety protection from the physical environment to physical health, injecting a more human-centric approach into sustainable development.

The "Yuen Long Barrage and Nullah Improvement Schemes" project collaborated with Yuen Long District Health Centre of Pok Oi Hospital to provide health screening for workers

Nowadays, teamwork is the most important thing in engineering. Female engineers could actually help bring a more tolerant atmosphere to the construction site - everyone would be more united in their work, and the atmosphere would also be much more relaxing. For example, when explaining the progress of a project to a contractor or a client, a female coworker would be more receptive when she speaks up.

Every year, the Company recognizes the contribution of female colleagues and shares success stories so that more people could see our value.

Leung Ka Man*

Building Services Engineer
China State Construction Int'l medical Industry Development Co. Ltd.

2.3.3 Inclusive Connections, Sharing Joy

As a leader in urban construction, CSHK has always placed the concept of "integration and enjoyment" into the whole development cycle of the Company. While actively promoting the sharing of resources and cultural interaction between projects and the surrounding community, it also focuses on building an internal diversified and integrated organizational ecosystem, creating a development platform for employees of different backgrounds to share their values and realizing a dynamic balance between social values and corporate benefits.

Deputy General Foreman Wong Ming Cheong of the Central H18C Development Project helps to build up a good relationship of mutual trust between the site and the neighboring roadside market hawkers.

Proposed Development at Gage Street/Graham Street, Central, I.L. 9065, Hong Kong (H18C)

"I'm Cheong, and I've been working for the Company for 30 years." Deputy General Foreman Wong Ming Cheong (Cheong), wearing a CSHK red helmet, shuttles between the H18C site in Central and the streets and alleys outside every day. He is a key figure connecting the project and the community.

The construction site is located in a fixed stall hawker area (roadside market) in Mid-Levels Central, with narrow roadways and high traffic. Cheong admitted that he was "quite scared" when he first took on the task: "There is a roadside market outside the site, selling vegetables and groceries. The vendors have always had a bad impression of the site and think it will affect their business. However, the Company reminds us to put ourselves in their shoes. So, a few months before the construction commenced, I greeted them stall by stall and asked them: 'What is the impact of the project on you? How can we help?'"

In an urban project, some processes will inevitably influence the surrounding environment on the outskirts of the site, necessitating careful consideration and proper allocation. To shorten the closing time of roadside market stalls, the team subdivided the work into several stages and reduced the duration of each process from several months to as short as half a day, with some activities even scheduled for early morning to minimize disruption to stall operations. The construction site also installed fans and lighting for the semi-enclosed roadside market to alleviate the hot and stuffy environment there. Cheong observed the reaction of neighbors: "During summer, the air in the market was stagnant, making it very uncomfortable. Since the installation of fans, the neighbors are highly satisfied, and we are also pleased with the outcome."

Cheong patrols the streets three times a day and leaves his phone number to the stallholders: "I always respond quickly to any comments or inquiries from stallholders about the site. Witnessing our prompt response, the neighbors found fewer reasons for disputes," he remarked with a smile. Having assisted in fixing the lights and canopy, he noticed a notable shift in the stallholders' attitude: "Now, they proactively reach out to me and share their opinions with me. Sometimes, we have discussions."

"Actually, the most important thing is to care about what matters to them, consistently and proactively." As Cheong put it, "When you lend a helping hand, like assisting with their logistics or offering them a hose to collect water, they start to regard you as part of their inner circle. That's the power of human connection – going the extra mile and eliminating one more reason for them to complain."

We always advocate a diversified and integrated organizational culture, and help our employees realize dual enhancement of career value and personal growth through the establishment of an inclusive development platform, so as to inject momentum into the sustainable development of the enterprise.

Diversified Starlight Warming CSHK

In the Christmas season of 2024, CSHK organized a Christmas party for overseas talents from Malaysia, the Philippines and India to send their blessings. Breaking the boundaries of languages and regions, everyone shared stories of their hometowns through fun group games and a variety of food, and the scene was filled with laughter and joy. An engineer from the Philippines said emotionally, "I participate in the Company's Christmas activities every year, and this year I bring my family to join the party to feel the warmth of the Company." This cross-border celebration is not only a sign of respect for diverse backgrounds, but also a practice of turning cultural differences into team cohesion – CSHK has always believed that every cultural background deserves to be treasured, and it is here that the true "power of construction" takes root and grows.

CSHK organized a Christmas party for its staff from overseas.

2.3.4 Caring for the Community

CSHK always adheres to the corporate mission of "Advancing Hong Kong's Prosperity and Serving the Community"" and the mission of "We Manage Happiness". Based on the "4+X" social service framework consisting of "Providing support and care for the elderly, Adult employment, Care for the youth, House maintenance, and Creative space", CSHK has been actively carrying out onsite community activities to re-establish a symbiotic relationship between the enterprise and the community, and deeply integrating the concepts of ESG into the community practices. Since its establishment, the Company has grown to more than 2,600 volunteers, with more than 4,600 volunteers and more than 15,000 service hours in 2024.

CSHK continues to promote the "House Maintenance" program to provide various voluntary defect repair and maintenance services for the community and people in need.

In 2024, CSHK continued to deepen its "4+X" volunteer system and promote volunteer services for home repairs and maintenance, forming "three major volunteer repair and maintenance segments", namely, "Minor Home Repairs", "Community Beautification and Repairs", and "Community Emergency Support and Emergency Repairs". This series of volunteer repairs not only respond to the urgent needs of grassroots families and improves the living environment of residents, but also strengthen the community's risk-resistant capability with professional techniques, demonstrating corporate social responsibility and the concept of social governance. By pooling the strengths of volunteers and community resources, the campaign has effectively promoted the spirit of mutual assistance in the neighborhood, contributed to sustainable community development, and injected warmth of humanistic care into the Hong Kong society, making it an important example of corporate integration into the local community and serving people's livelihoods. 485 households were repaired in 2024, and the cumulative number of repairs was 1,041, which was widely praised by leaders of the State-owned Assets Supervision and Administration Commission of the State Council, Liaison Office of the Central People's Government in the Hong Kong S.A.R. and the HKSAR Government as well as by all walks of the society.

Providing support and care for the elderly	Adult employment	Care for the youth	House maintenance	X. Creative space
Volunteering services mainly targeting the elderly	Volunteer services mainly targeting the grassroots	Volunteering services mainly targeting adolescence	Volunteering services mainly targeting house repair	Employees are welcomed to explore volunteering opportunities

The Company has been promoting the growth of young people in Hong Kong, including the launch of the CSHK Hong Kong Youth Development Scheme, which helps young people in Hong Kong to grow up and become successful by actively promoting the participation of Hong Kong tertiary institutions, primary and secondary school students in the Company's study exchanges, internships, and STEAM workshops, in order to enrich the scientific and technological knowledge and practical experience of students.

The "Yuen Long Barrage and Nullah Improvement Schemes" project brought children from St. Christopher's Home to experience real-life applications of engineering science and sustainable development

Hong Kong Future Builders: Little Engineers Workshop

The "Little Engineers" project aims to support STEAM education in local primary and secondary schools in response to the call of the Chief Executive's 2024 Policy Address, and to encourage students from low-income families to develop an interest in construction engineering.

Through collaboration with social welfare organizations, primary school students and their parents are regularly invited to visit the construction sites and participate in a series of hands-on learning activities. These activities include introduction to the design of barrage, demonstration of physical models, power generation experiments and building blocks, etc., which help students understand basic engineering concepts and concretize what they have learned.

Through the "Little Engineers" program, the Company not only supported the popularization of education, but also effectively promoted the Yuen Long Barrage Project, further reinforcing its role as a base for flood prevention education in Hong Kong.

The Company has organized more than 15 "Hong Kong Future Builders: Little Engineers STEAM Workshop" since 2021, serving more than 700 primary and secondary school students, including trainees of the HKSAR Government's "Strive and Rise Programme" project and members of the Security Bureau Youth Uniformed Group Leaders Forum, etc.

Organizing a student study tour to Beijing to explore architectural technology and showing national sentiments together

In December 2024, CSHK organized the Construction Technology Beijing Exploration Tour under the CSHK Hong Kong Youth Development Scheme, with 31 university students from construction engineering departments of various Hong Kong universities participating. The activities focused on "Architectural Technology" and "National Culture", aiming to expand students' perspectives and provide firsthand experience of the advancements in architectural technology of China and the rich heritage of Chinese history and civilization.

The students visited the "CSCEC Science and Technology Exhibition" organized by China State Construction Engineering Corporation, the first MiC old building renovation project constructed by China State Construction International Holdings Limited in Beijing – No. 8, Huapichang Hutong ("Hua 8 Project"), and went to Tsinghua University for exchanges, etc. The students expressed that the trip was an eye-opening experience for them to learn about the country's science and technology strength and industry practices. The trip not only deepened their understanding of the future trend of the construction industry, but also triggered a new thinking on "Technology Changes Life".

CSHK joined hands with Hong Kong universities to lead university students of engineering-related disciplines to Beijing for a study tour on architectural technology

Among the new findings, students were the most in awe of how, the residents of the "Hua 8 Project" only needed three months from moving out to the delivery of finishing and moving back in. Not only can the project be completed in a short period of time, but also the excess construction waste can be minimized, and many of the students have expressed their hope that they can take this opportunity to widely apply this technology in the construction industry in Hong Kong.

CSHK established "CSHK Community Emergency Volunteer Team" to help districts of Hong Kong strengthen capabilities in responding to extreme weather and major emergencies

CSHK continues to build a prosperous and harmonious society

The Company co-organized with the Fire Services Department, HKSAR (FSD) the community emergency response volunteer training, in which the FSD staff shared their rescue experience and first aid skills with over 60 staff members

On 6 August 2024, the Company officially set up the "China State Construction Community Emergency Volunteer Team", aiming to contribute professional volunteers to society in the event of unexpected situations such as extreme weather or major incidents. In the early stage, ore than 650 colleagues enthusiastically stepped up and joined in with enthusiasm.

To enhance our response to emergencies, the volunteer team has established a "3-6-0 Management System," including a three-tier coordination system, six management mechanisms, and a commitment to zero safety incidents during operations. This system ensured unified leadership, clear responsibilities, efficient operations, and closed-loop management. The emergency volunteer team has a front-line command centre with seven volunteer teams. Each of the five main regions, including Hong Kong Island, Kowloon, New Territories East, New Territories West, and the Outlying Islands, has a dedicated volunteer team. Furthermore, specialized emergency teams focusing on mechanical and electrical engineering, as well as glass curtain walls, have been established to offer professional consultation and maintenance support services for curtain walls and aluminium windows to the community.

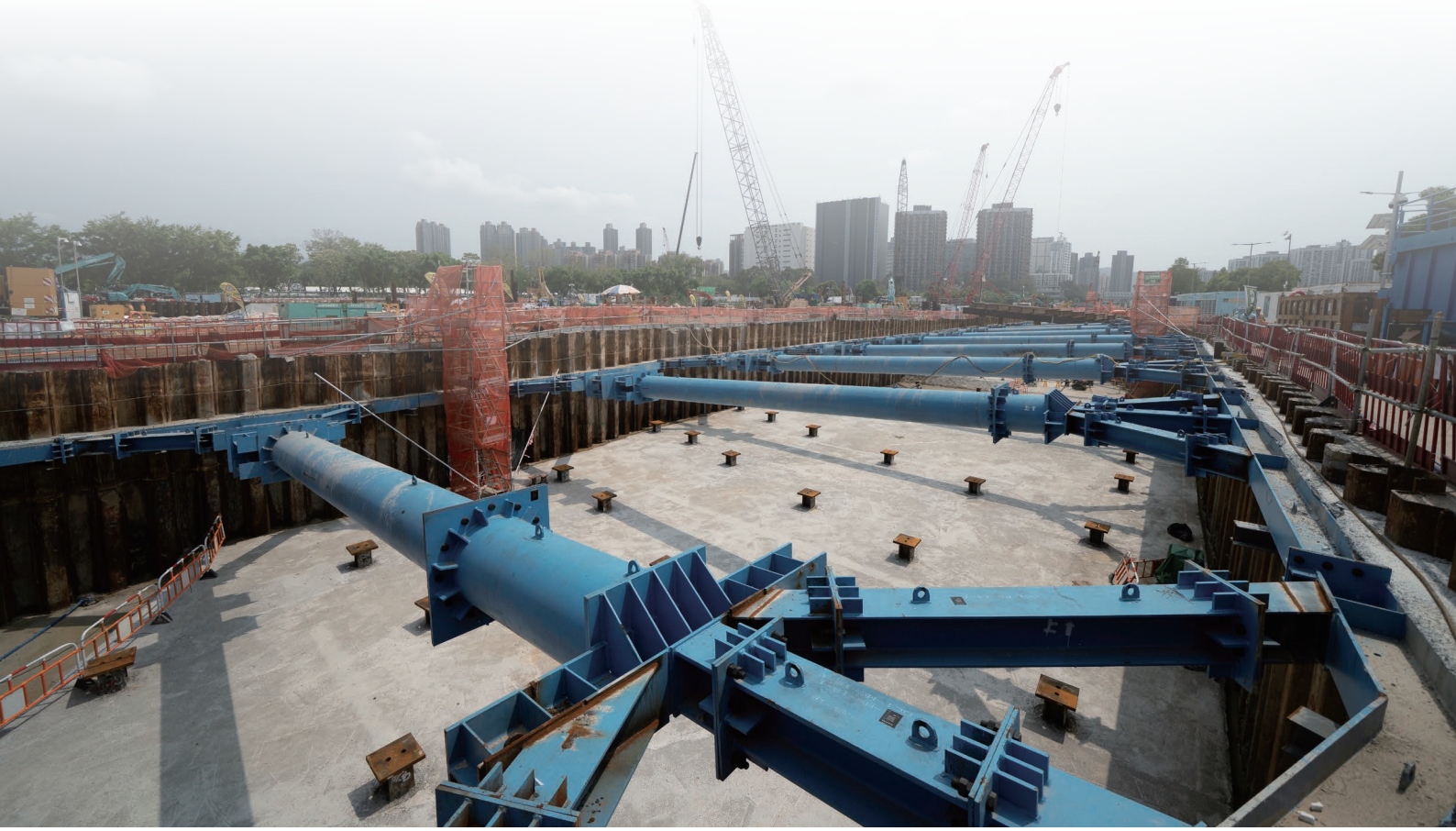
"The construction site was not greatly affected by the heavy rain, so we still could provide support. In emergencies, both the volunteer team and the unseen support units work together to address urgent community needs. Their collective efforts to assist others have truly resonated with me, leaving a lasting impression."

Yang Chen

Site Manager
Proposed Residential Development at 391 Chai Wan Road and Adjoining Government Land, Chai Wan Inland Lot No. 178

Environment

CSHK is committed to implementing environmentally sustainable low-carbon construction solutions. Our primary focus lies in advancing the innovation and application of low-carbon engineering technologies to drive sustainable development across all phases including planning, design, construction, operation, and maintenance. During the year, we have proactively implemented various initiatives to promote carbon neutrality and green construction practices, alongside promoting digital transformation and industrial enhancement to achieve a comprehensive green construction approach spanning from design to daily operations.



3.1 Transitioning to Low Carbon Construction

As a key player in the construction industry, CSHK fully recognizes the significant impact of climate change on business operations. In the face of increasingly severe climate challenges, the Company continues to aligns with sustainable development principles, actively implementing various environmental protection measures, and fully cooperating with the emission reduction targets set by China State Construction International. These targets include a short-term objective to reduce carbon intensity by 25% from 2018 levels by 2025, as well as a long-range vision of achieving carbon neutrality by 2050.

3.1.1 Clean Energy Plan

To actively respond to the national "3060" dual carbon goals and align with Hong Kong Special Administrative Region's "Hong Kong Climate Action Blueprint 2050" carbon reduction strategy, while fully supporting the Group's carbon neutrality vision, CSHK follows the guiding principle of sustainable development under the "P.E.A.K Principle". The Company comprehensively carries out various low-carbon transformation initiatives and implements diverse emission reduction measures.

To achieve these forward-looking goals, CSHK actively implemented various environmental protection measures throughout the entire design and construction phases of the project. At the same time, our environmental policy statement strictly aligns with the standards of the ISO 14001:2015 Environmental Management System and the ISO 50001:2018 Energy Management System. The verification statement from the certifying institution is available in the independent verification statement of this report.

The launch of the "CSHK Clean Energy Plan" by CSHK in 2023, marked a critical step for the Company in promoting the green transformation of the construction industry.

(From left to right) Lin Huai guang (Deputy General Manager of Sinopec (Hong Kong) Petroleum Holding Company Limited), Simon Tang (Chief Project Development Officer of the Hong Kong-Shenzhen Innovation and Technology Park Limited, Tse Chin Wan (Secretary for Environment and Ecology of Hong Kong), Huang Jiang (Executive Vice President of CSHK, Poon Kwok Ying (Director of Electrical and Mechanical Services Department of Hong Kong), Cynthia Zhu (Chief Executive Officer of Hong Kong Nation-synergy International Hydrogen Power Technology Co., Limited)

Three Carbon Reduction Commitments

- By 2035, all vehicles including private-owned cars and small construction vehicles used in construction sites of CSHK will be replaced by electric vehicles
- Actively explore the first hydrogen power pilot program in Hong Kong's construction sector and the use of hydrogen energy generation in construction sites
- Explore the first clean energy construction site in Hong Kong and the use of clean energy sources including electricity, solar power and hydrogen power in day-to-day operations

As an industry pioneer, we are making a solemn commitment to "actively explore the first hydrogen energy application pilot in the Hong Kong construction industry and introduce hydrogen energy as one of the energy supplies on the construction site." This strategic initiative not only demonstrates our concrete efforts in addressing climate change but also highlights our firm determination to lead the industry towards a low-carbon future. The three major carbon reduction commitments we proposed serve as crucial steps towards achieving sustainable development objectives and reflect the Company's leadership in the field of clean energy applications.

Tse Chin Wan, (Secretary for Environment and Ecology of Hong Kong)(left) and Huang Jiang, (Executive Vice President of CSHK)(right) each gave a speech on the "Launch Ceremony for the First Hydrogen Application in Hong Kong's Construction Industry"

In 2024, the Company successfully obtained approval to deploy hydrogen power generators at the Science and Technology Park construction site project, marking a milestone breakthrough. As the pioneering utilization of hydrogen power generation equipment in the construction sector, it sets an innovative benchmark for the industry.

Hong Kong construction industry's first hydrogen generator was officially applied in the Hong Kong-Shenzhen Innovation and Technology Park construction site projects

This pilot project vividly interprets our driving green transformation through innovation and its significant importance has received high recognition from the Secretary for the Environment and Ecology of Hong Kong, Tse Chin Wan. This achievement not only verifies the feasibility of clean energy in the construction sector but also provides a practical case for the industry's green transformation. We deeply recognize that the endeavor to reduce carbon emissions extends beyond the responsibility of any single enterprise, requiring collaborative efforts across the industry value chain and various sectors of society. CSHK endeavours to set a prominent example by implementing tangible measures, encouraging industry partners, suppliers, and the general public to participate together in creating a low-carbon building environment and contributing professional strengths to the construction of a green Hong Kong.

CSHK introduces hydrogen power generation

CSHK leads the construction industry in Hong Kong into a new era of hydrogen energy, officially launching the first hydrogen energy application construction project in Hong Kong on 25 February 2025. As an important practice of the "CSHK Clean Energy Program," the successful application of hydrogen power generation technology at the Hong Kong-Shenzhen Innovation and Technology Park construction site is projected to reduce 77% carbon emissions compared to traditional diesel generation, resulting in an expected annual reduction of 118 tonnes, equivalent to the carbon absorption of 5,140 trees. In addition, CSHK is also in the process of applying for three hydrogen application projects, including electric mechanical hydrogen power generation equipment for the Sheung Shui site, hydrogen fuel cell forklift trucks, and two hydrogen fuel cell minibuses for site logistics and staff feeder services.

Hydrogen fuel cell minibus

Hydrogen fuel cell "Forklift Truck"

By replacing conventional fossil fuels with hydrogen technology, the project is expected to significantly reduce carbon emissions from the site. The project is in strict compliance with government regulations, and the team has worked closely with strategic partners such as Hong Kong Nation-Synergy International Hydrogen Power Technology and Sinopec (HK) to ensure the safety of the hydrogen supply chain and the transparency of the operation and maintenance data, which will provide evidence to support the government's formulation of a long-term hydrogen policy framework. This not only demonstrates the Company's commitment to environmental responsibility, but also promotes the sustainable development of the construction industry through the application of innovative technologies and cross-departmental collaboration, setting an example for the transformation of the industry.

3.1.2 Greenhouse Gas Emissions and Resources Management

Scope 01 Direct emission

GHG emissions from the operation of equipment and systems (Fugitive emissions)

2023 5.54%

2024 **0.06%**

Combustion of fossil fuels – mobile source

2023 1.86%

2024 **1.68%**

Combustion of fossil fuels – stationary source & non-road mobile source

2023 76.25%

2024 **98.14%**

Industrial production processes - welding

2023 5.68%

2024 **0.12%**

Scope 02 Energy Indirect emissions

Purchased electricity

2023 10.68%

2024 **11.22%**

Total GHG emissions (Scope 1 & 2)

2023 105,019.7

2024 **131,295.4** tonnes CO_2e ⬆ 25%

Total GHG emissions (Scope 1 & 2)

2023 3.4

2024 **3.2** tonnes CO_2e/HKD million ⬇ 6%

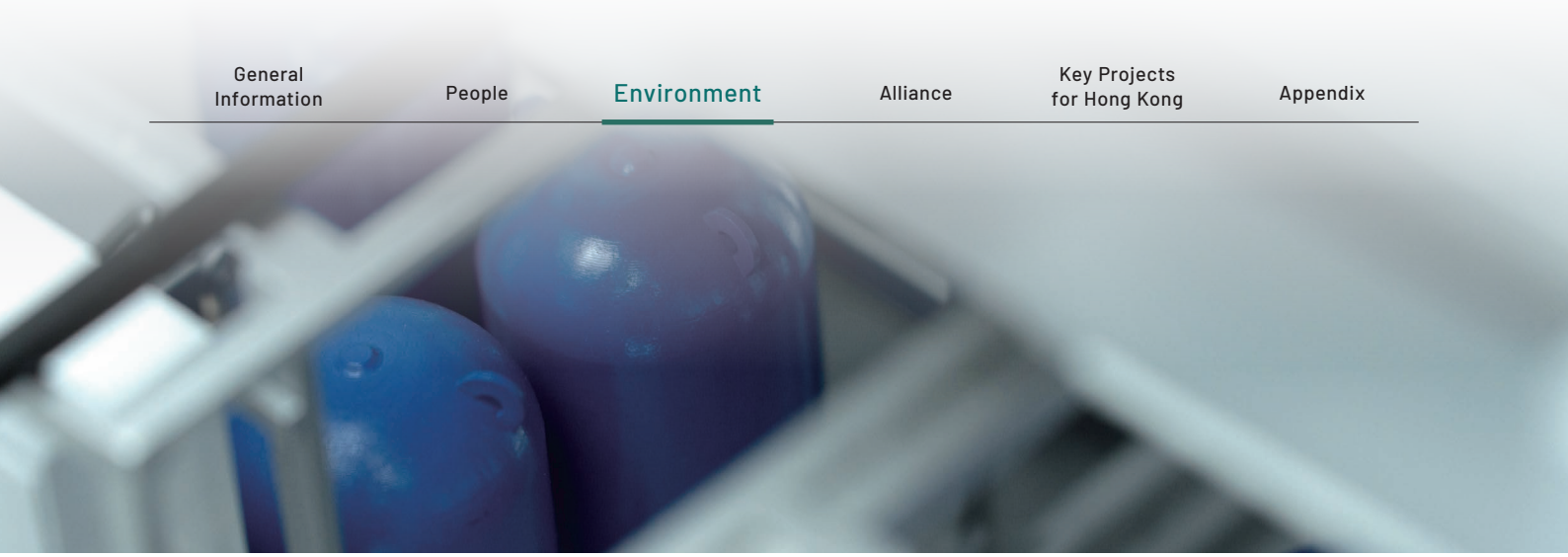
Waste Management

For the construction industry, waste management is not only a critical factor that influences the cost-effectiveness of projects but also a significant environmental issue that requires our immediate attention. Particularly, during the construction phase, the large amount of construction and demolition materials generated directly affects the ecological balance and sustainable development. CSHK is acutely aware that properly managing construction waste is a vital step in achieving green construction. We are actively exploring innovative solutions to transform waste into renewable resources, taking concrete steps to minimize the impact on the environment.

CSHK implements a comprehensive and systematized environmental strategy for waste management, taking concrete actions from waste reduction at the source to resource recycling. Through an intelligent material matching system and the "C-SYS+" digital management platform, we effectively minimize material waste and unnecessary procurement. Meanwhile, we have established stringent "Guidelines for the Management of Construction Waste Disposal" to ensure the proper handling of all types of construction waste. In cases where materials cannot be recycled, we actively expand multiple reuse channels, including sending landscaping waste to specialized recycling centers, processing stone materials for concrete production, and converting suitable waste into engineering fill. These pragmatic waste management measures significantly alleviate environmental burdens and result in substantial cost savings for the project, demonstrating our firm commitment to promoting green construction and the circular economy.

Water Management

Water resource management runs through every aspect of our engineering operations. Currently we face no challenges regarding water scarcity in our operations. Under the strict supervision of the Safety and Environmental Protection Department, we have implemented a range of innovative water resource management measures, including the installation of a rainwater collection system at the construction site to recycle stored rainwater, as well as the implementation of sewage treatment facilities to use treated greywater for dust suppression on the site. In addition, we regularly hold environmental protection training courses to comprehensively enhance employees' water conservation awareness through ongoing advocacy and on-site guidance, making the conservation of water resources an important core of our corporate culture. These practical water management measures significantly enhance water efficiency while fully reflecting our firm commitment to implementing sustainable development principles.



3.2 Green Building Materials and Technologies

In our efforts to advance sustainable development in the construction sector, the application of green building materials and the integration of innovative technologies have emerged as crucial components in achieving environmental protection objectives. CSHK is committed to integrating sustainable materials with advanced construction technology, comprehensively enhancing the environmental performance of buildings throughout their entire lifecycle from inception to operation by optimizing resource efficiency, minimizing carbon footprints, and improving construction efficacy. Through tangible initiatives, we demonstrate synergy between environmental protection and operational efficiency, setting a benchmark for sustainable construction in the industry.

3.2.1 Sustainable Building Materials

To achieve the net zero carbon target for buildings, we place special emphasis on embodied carbon management, which includes the carbon emissions generated during the production and transportation of construction materials. Through strategic procurement, industry collaboration, technological research and development, and market trend analysis, we systematically promote the application of sustainable building materials to effectively reduce the overall carbon footprint and mitigate the environmental impact of the construction sector. This comprehensive approach to carbon reduction is progressively reshaping traditional construction models and promoting green transformation within the industry.

As the times progress and technology evolves, we remain attentive to the importance of green building materials in the modern construction industry. In light of this, we are dedicated to using sustainable materials in our projects:

Low carbon rebar

- 100% recycled content
- Reduce energy use by 74% and lower air pollution by 86% compared to traditional blast furnace processes
- The carbon reduction potential reaches 67%
- The total usage of low-carbon steel bars is 437 tonnes.

GGBS concrete

- Using GGBS concrete instead of cement can reduce 53% carbon emissions.
- A total of 14,670 cubic meters of GGBS concrete were used.
- The proportion of GGBS concrete in the total concrete usage increased from 0.2% in 2023 to 1% in 2024.

Biodiesel

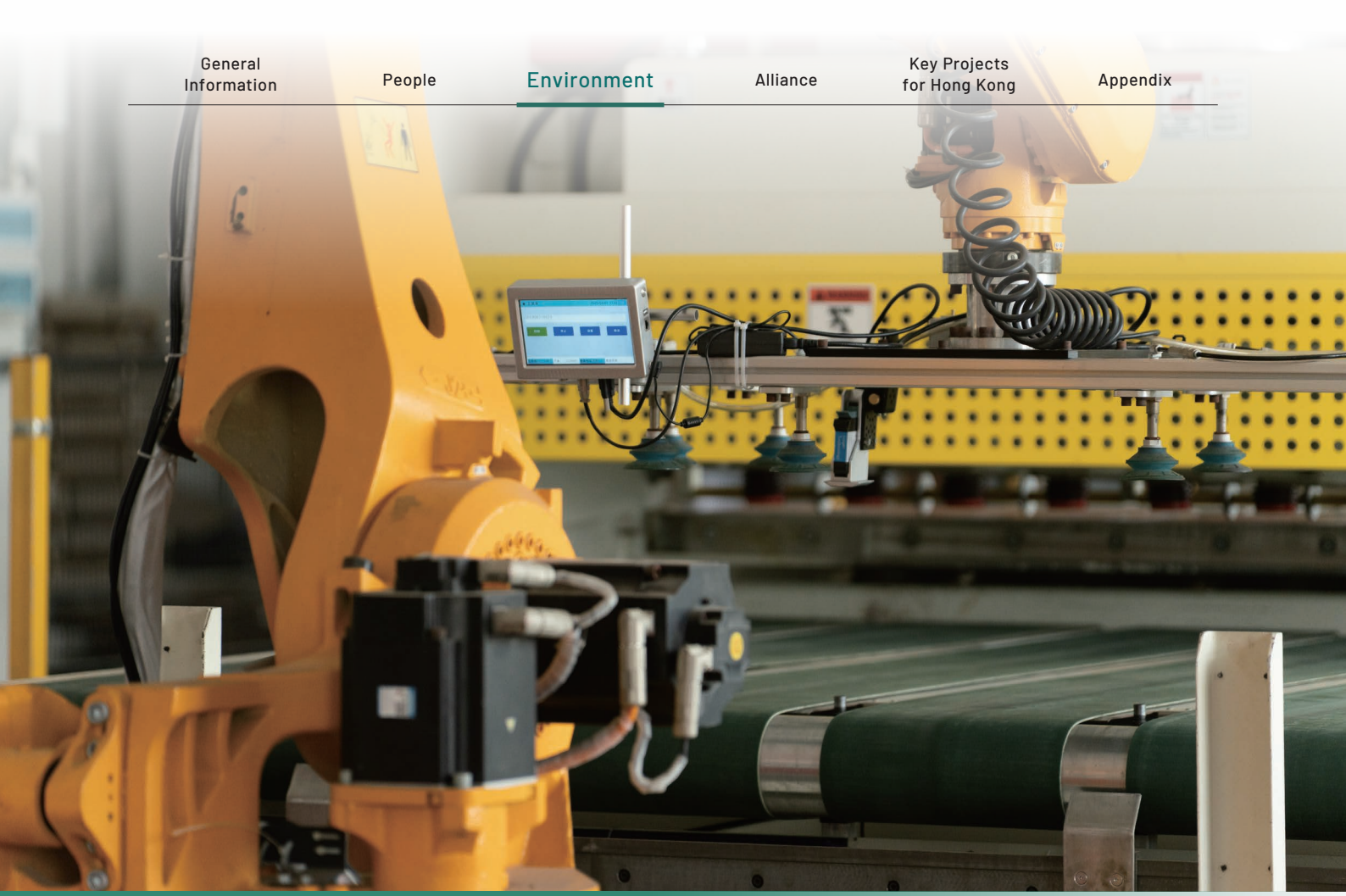
- Reduce dependence on fossil fuels
- Effectively reduce greenhouse gas emissions
- A total of 16.57 million liters of biodiesel were used.
- The proportion of biodiesel replacing traditional diesel will increase from 2023 25.7% to 2024 33.8%.

Low-carbon precast concrete prefabricated components

- Low-carbon concrete prefabricated components can reduce carbon emissions by 30-50%
- 28 days brick strength can reach 20 megapascals
- A total of 404 low-carbon concrete prefabricated components were used.

Green timber

- FSC/PEFC certification ratio 100%
- The volume of FSC and PEFC certified timber purchased was 7,764 cubic meters



3.2.2 Construction Industry Technology

CSHK understands its key role in the innovation of the construction industry. Since its establishment in 2020, CSHK has set up a scientific and technical work group, personally supervised by Mr. HUNG Cheung Shew, Chairman of CSHK. The committee is responsible for approving the development blueprint for intelligent management, coordinating the introduction strategies of innovative technologies into the Group's business, assessing operational impacts, and overseeing the technological progress across various departments.

To achieve the deep integration of technology management into daily operations, CSHK has established a systematic technology control system in each engineering division. By publicly recognizing the outstanding achievements in technology research and development, introduction, and promotion of subsidiary organizations, departments, and project teams, we encourage all employees to actively participate in innovative technology practices and continuously enhance their technological application literacy.

Accelerating the industrialization process of the construction industry is a core strategy of CSHK. Several innovative technologies have now been successfully developed and widely applied, such as the "C-SYS+ system," "C-SMART," "BIM," "MiC," and "MiMEP" solutions. Through multiple benchmark projects, these technologies significantly enhance construction efficiency and project benefits, while strengthening site safety control and quality assurance systems.

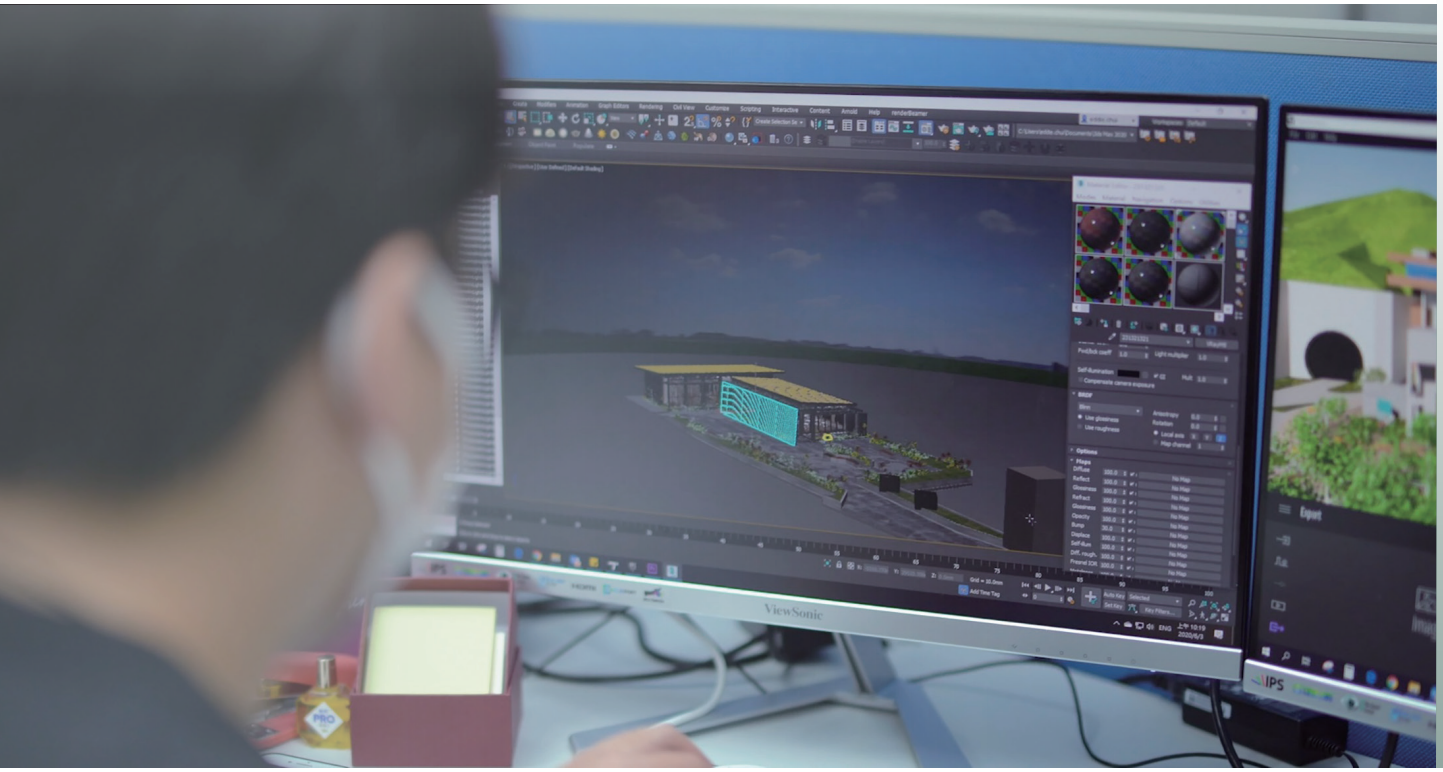
Castle Peak Road - BIPV Photovoltaic Integrated Soundproofing Screen Application

In the project of "Widening the Castle Peak Road between Kwun Tsing Road and Hai Wing Road", BIPV technology was innovatively adopted, with the consideration of integrating PV arrays and sound barriers throughout the entire process from design and production to construction. It has pioneered the integrated incorporation of highway sound barriers and PV systems, serving as Hong Kong's first permanent government BIPV infrastructure project and demonstrating a role in technological innovation in the industry and the field of green building.

The project has installed a total of 77 photovoltaic panels on the top of the soundproof screen (near the side of Ki Lun Kong Public Park), with a total area reaching 231.7 square meters. Customized design of PV panels, perfectly integrated with PMMA soundproof panels, reduces installation and maintenance costs while enhancing the overall appearance of the sound barrier.

The integrated photovoltaic soundproof screen achieves the transformation of the soundproof screen building from energy-consuming to energy-positive, with an estimated annual power generation of over 41,000 kilowatt-hours. The generated electricity will primarily supply two elevators of the pedestrian bridge adjacent to the soundproof screen (excluding the power system), with any surplus electricity fed into the public power grid. The electricity generated can reduce carbon emissions by approximately 41.7 tonnes, equivalent to the annual carbon absorption of about 2,285 trees, which is beneficial for reducing carbon emissions and promoting carbon neutrality.

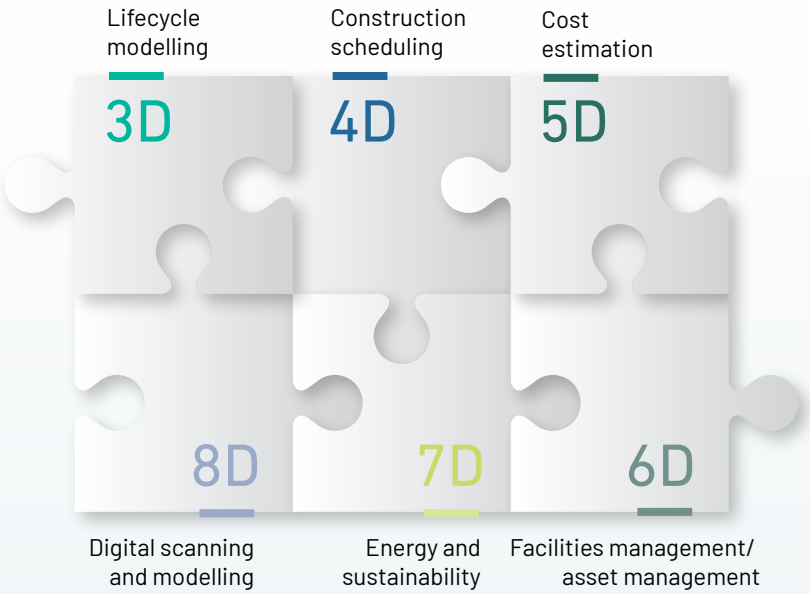
BIPV photovoltaic integrated soundproofing screen is applied in the project of "Widening the Castle Peak Road between Kwun Tsing Road and Hai Wing Road"



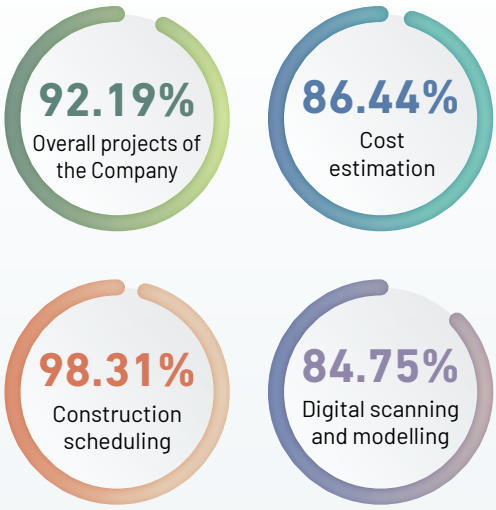
BIM

BIM technology is the core foundation for achieving intelligence in the construction industry. This technology is based on multidimensional data from construction projects, utilizing computer-aided design to construct three-dimensional digital building models that fully simulate the physical building information system. By systematically recording and deeply analyzing complex working conditions, the dynamic data of the construction site is fully digitized, enabling real-time decision-making and precise control by the management.

BIM Dimensions



「BIM」Application

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梁韬(010-62563559)

发文日：
2024年10月22日

申请号或专利号：202410856887.8　　发文序号：2024102200194040

申请人或专利权人：中国建筑资讯科技有限公司

发明创造名称：竣工建筑信息模型生成方法、装置、设备及存储介质

发明专利申请公布通知书

上述专利申请，经初步审查，符合专利法实施细则第 50 条的规定。根据专利法第 34 条的规定，该申请在 40 卷 4301 期 2024 年 10 月 22 日专利公报上予以公布。

提示：

1.发明专利申请人可以自申请日起 3 年内提交实质审查请求书、缴纳实质审查费，申请人期满未提交实质审查请求书或期满未足额缴纳实质审查费的，该申请被视为撤回。

2.专利费用可以通过网上缴费、银行/邮局汇款、直接向代办处或国家知识产权局专利局缴纳。缴费时应当写明正确的申请号/专利号、费用名称及分项金额。未提供上述信息的视为未办理缴费手续。了解缴费更多详细信息及办理缴费业务，请登录国家知识产权局官方网站。

3.申请人可以访问国家知识产权局政府网站（www.cnipa.gov.cn），在专利检索栏目中查询公布文本。如果申请人需要纸件申请公布单行本的纸件，可向国家知识产权局请求获取。

4.申请文件修改格式要求：

对权利要求修改的应当提交相应的权利要求替换项，涉及权利要求引用关系时，则需要将相应权项一起替换补正。如果申请人需要删除部分权项，申请人应该提交整理后连续编号的部分权利要求书。

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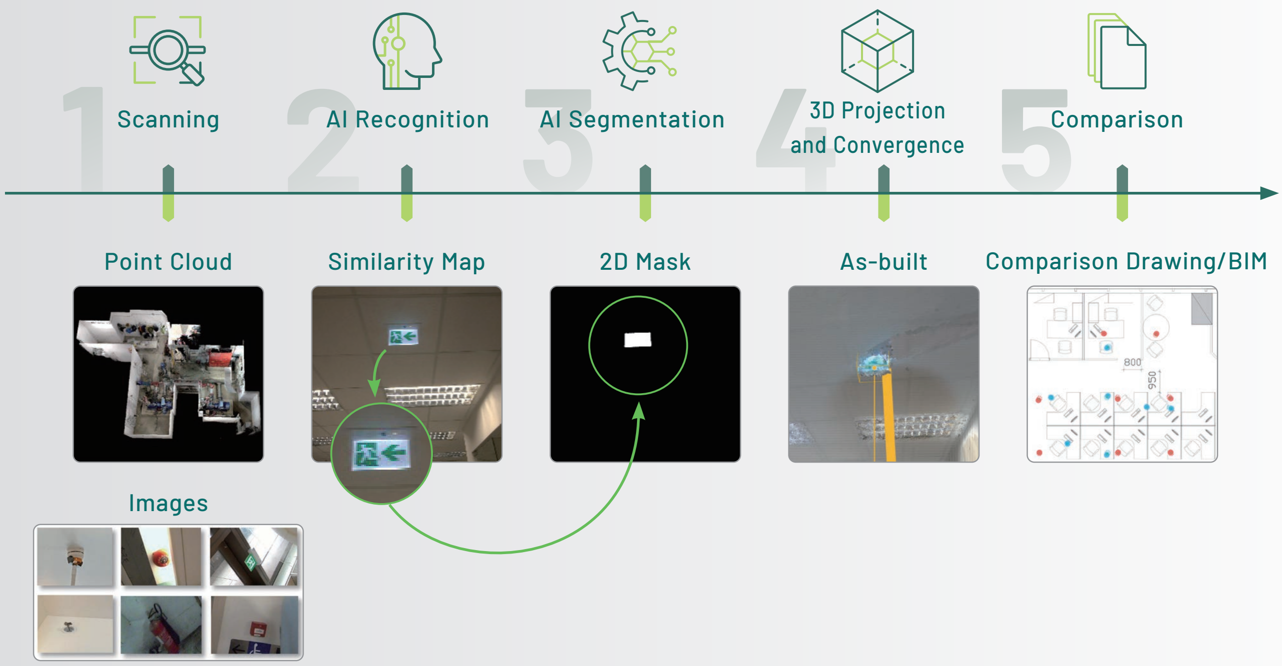
CSHK Masters AI Scanning to BIM Core Technology and Successfully Applied Invention Patent of C-Smart Inspection Procedure (C-SIP)

In 2024, China State Construction Science and Technology Ltd. successfully applied to the China National Intellectual Property Administration for an invention patent, the "C-Smart Inspection Procedure" (C-SIP).

The C-SIP was developed out of the realization that the current building completion inspection process is time-consuming and inefficient. The traditional building completion inspection process involves submitting applications, completing inspections, verifying all plan documents, and always waiting for work to be stopped on-site. The Company has mastered the core technology of AI Scan to BIM and expect to utilize it to speed up the inspection process and further improve efficiency. The technical principle of this patented invention is to scan the layout and as-built content of the building by laser, match it with the design drawings, and use the AI visual macro-model to accurately identify and locate the objects, and compare them with the drawings and the BIM model. The technology can significantly speed up the as-built inspection process, actually reducing time by about one-third, depending on the project.

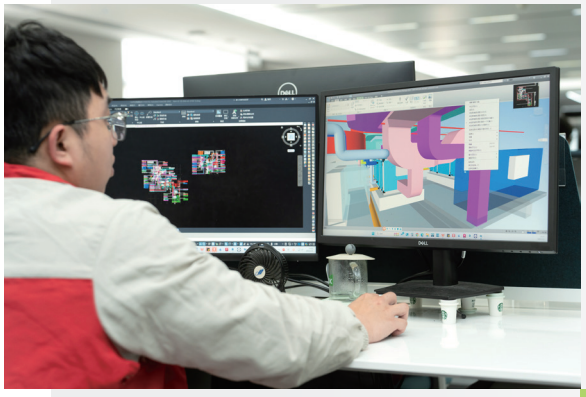


Innovation in BIM Technologies and Applications

Drone Measuring

By combining drone aerial photography for 3D modeling of the terrain, the high-precision image data obtained can be seamlessly integrated into the BIM platform. This data system not only supports construction progress comparison analysis, completion surface verification, and intelligent calculation of engineering quantities, but also can instantly capture excavation progress parameters, accurately calculate the total volume of earthworks, and perform mechanical analysis of excavation cross-sections, significantly optimizing cost control and transportation scheduling strategies. By synchronizing the dynamic adjustment of processes through the BIM model, a precise blasting engineering explosive configuration plan can be formulated. Practical applications have proven that this integrated technology improves measurement accuracy and reduces data collection and analysis time by 90%.

A drone



BIM Technology for Project Planning Enhancement

By utilizing BIM three-dimensional visualization technology, the engineering team can gain insights into the spatial relationships between the building structure and the construction site environment, conduct construction simulation rehearsals, and identify potential conflict points early. This predictive mechanism effectively improves the construction plan and traffic control planning. Typical cases show that through digital simulation of the rock layer profile, the slope height was adjusted from 7.5 meters to 10 meters, successfully reducing the excavation volume of 9% and shortening the working hours of 10%, demonstrating significant engineering benefits.

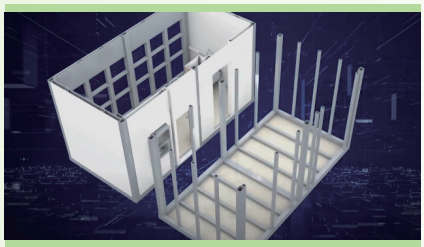
3.2.3 Industrialisation of the Construction

In recent years, the Hong Kong Government has actively promoted re-industrialization, aiming to leverage the local competitive advantages in research and innovation as well as design. This initiative combines cutting-edge technologies such as artificial intelligence, advanced materials, and "Industry 4.0" smart manufacturing technologies to cultivate high value-added industries and improve the industrial chain layout locally. In line with this development direction, CSHK has been accelerating the transformation of the construction industry into an industrialised one. We are committed to developing and implementing innovative technologies, focusing on improving construction efficiency and cost-effectiveness, while strengthening the engineering safety supervision and quality assurance system.

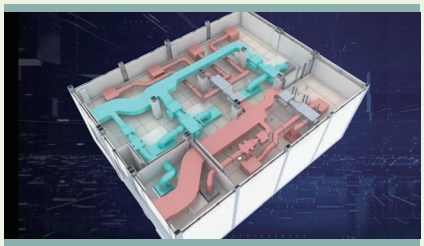
The intelligent construction processes we use are listed below.

Modular Integrated Construction

The quality of the production process is controlled by moving the field operations to a standardised factory where assembly components are manufactured. MiC production can be carried out synchronously with the early construction of the site. Over 89% of the interior finishes are completed in the factory. Compared to traditional construction methods, it can reduce construction time by at least 25%, resulting in a corresponding reduction of 25% in overall energy consumption, water usage, and wastewater discharge.



MiC



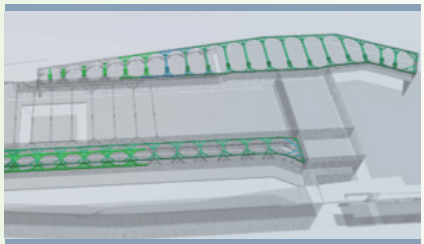
MiMEP

Multi-trade Integrated Mechanical, Electrical and Plumbing

Integration of electromechanical facilities into modular components, fabrication of components and preassembly in the plant will increases productivity, significantly shortens the construction cycle and reduces the complexity of on-site installation.

Modified Lateral Support Temporary Structure

Through the modular design of the engineering support system, the combination of structural units and material strength distribution are optimized to significantly improve construction efficiency and reduce resource waste and carbon emissions, as well as shorten the construction period to achieve low-carbon construction and energy conservation.



M-ELS

3.2.4 Intelligent Construction Process Application

CSHK has introduced MiC technology, moving traditional site operations such as steel structure assembly, welding works, surface coating, and elevator main machine casing installation to a controlled factory environment for completion. This innovative procedure has multiple advantages as below:

01

Avoid the need for temporary work platforms to be constructed on site.

02

Avoid risks associated with working at heights.

03

Reduce outdoor working hour restrictions and interference from weather factors.

04

The original sequential steps can be transformed into simultaneous construction, thereby significantly shortening the construction timeline.

The Guangzhou Nansha Primary School expansion project applies MiC modular integrated construction hoisting technology

In 2024, CSHK, in collaboration with Guangzhou Pearl River Foreign Investment Architectural Designing Institute Co. Ltd. under Guangzhou Pearl River Enterprises Group, jointly won the bid for the first concrete modular integrated prefabricated building pilot project in Guangzhou, as well as the near-zero energy consumption building pilot project in Guangzhou—the Nansha Primary School Shidai Nanwan Campus Expansion Project.

The pilot content includes actively responding to the Nansha District "Smart City Construction Work Plan", introducing the Company's self-developed MiC construction method and C-SMART All-in-One Smart Construction Management Platform, combining Hong Kong and Macau technology to explore smart construction integrated scenario applications, while maintaining high safety standards on the construction site. We have also introduced the "Construction Industry Caring Programme for Work Safety for New Workers" (P-N-C Scheme) used in the Hong Kong construction industry to enhance workers' awareness of occupational safety and health. CSHK adheres to the principles of green construction and is committed to creating the first near-zero carbon emission demonstration project in the operational phase in Nansha District, promoting the achievement of the "dual carbon" goals in Nansha.

MiC module hoisting

Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP) Empowering the transformation and upgrading of the Electrical and Mechanical Construction Industry

As one of the companies under CSHK, China Overseas Innovation & Technology (Zhuhai) Company started to explore the Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP) method in 2022, and is the first enterprise in China to have passed the four major ISO management system certifications for the MiMEP method. Through the deep integration of BIM forward design and fully automated production lines, the Company has realized the industrialization of the entire electrical and mechanical cycle from MiMEP technology research and development, modularized electrical and mechanical product design, to automated advanced manufacturing and digitalized electrical and mechanical operation and maintenance. The application of MiMEP technology can significantly improve construction accuracy and efficiency, effectively solving the traditional electrical and mechanical construction pain points such as unstable quality, difficulty in controlling pollution, and ease of delaying the schedule. In order to ensure that the whole process of "design-production-delivery" can be controlled, China Overseas Innovation has established a digital factory operation platform based on "AI+ERP+MES", which realizes the digital control of the whole process. In the next step, China Overseas Innovation will continue to plough into the field of modularized electromechanics and promote the transformation and upgrading of the electromechanical construction industry in the areas of low-carbonization, digitization and automation.

China Overseas Innovation & Technology (Zhuhai) Company

3.3 Environmental Management Policy and System

As the main contractor, we are committed to reducing the negative impact of construction on the environment through practical actions. We firmly establish a top-down environmental management system based on the ISO 14000:2015 Environmental Management System Standard. We demonstrate our commitment to and stewardship of the environment while identifying a path to sustainable development through the development of our Environmental Policy and Energy Policy.

With the assistance of the Safety and Environmental Protection Department, we have implemented a full-cycle environmental control mechanism to systematically identify and manage critical environmental factors and impacts from planning to project acceptance. To this end, we have set six sustainability indicators for on-site resource consumption and developed specific annual quantitative indicators for each objective. This includes evaluating achieved indicators and conducting in-depth analysis of sites that fail to meet the targets to identify key causes and propose solutions. It is to ensure that our site environmental targets are met on schedule while also driving continuous improvement of our overall environmental strategy.

In addition, in order to enhance the environmental awareness and professional skills of our staff, we have established a multi-dimensional training system, covering a range of internal and external environmental trainings. Furthermore, we regularly report on our environmental performance and propose improvement plans to ensure continuous improvement of our environmental management system.

Alliance

In our pursuit of promoting sustainable development in the construction industry, we value collaboration with upstream and downstream partners. By strengthening quality management and resource integration, we aim to improve overall efficiency and resilience of the supply chain. Meanwhile, upholding the principles of business ethics and moral responsibilities, we ensure transparency in procurement, maintain standardized production processes, and take into account environmental protection and social benefits while pursuing economic benefits. By establishing a cross-sector collaboration platform, we are committed to promoting green procurement, innovative technology applications and knowledge exchange to drive sustainable development within the supply chain and deliver results that not only hold commercial value but also carry significant social importance for Hong Kong and its surrounding regions.

Wang Xiaoguang (Executive Director, Chief Executive Officer and Chairman of the Sustainability Committee of CSCI) (first from left); Hung Cheung Shew, Danny (Chairman of CSHK) (second from right) and Huang Jiang (Executive Vice President of CSHK) (first from right) introduced the Company's development history to Christopher Hui (Secretary for Financial Services and the Treasury of Hong Kong) (second from left)

4.1 Sustainable Supply Chain

CSHK is committed to building a green supply chain, maintaining strict control over the environmental standards and safety quality of construction materials and products. We have developed a robust Procurement Policy and implemented a systematic supplier evaluation mechanism that incorporates key indicators such as environmental performance and social responsibility into our supplier selection and procurement decision-making processes. CSHK is committed to prioritizing partnering with suppliers who meet environmental standards and ESG requirements, and through transparent pricing and long-term collaboration, we strive to reduce environmental impact while maximizing quality and efficiency.

4.1.1 Supply Chain Management

To build an efficient and reliable supply chain management system, we have meticulously developed a comprehensive set of institutional norms, including the "Materials Procurement Work Procedure," "Procurement Policy," and "Supplier Code of Conduct," and we ensure their continuous improvement through a dynamic optimization mechanism. This series of systems provides a solid guarantee for the efficient operation of the supply chain and empowers partners to achieve sustainable development, enabling us to practice green building concepts with superior service quality and collaboratively outline a beautiful blueprint for the sustainable development of the industry.

The following are some of the measures we have taken in our supply chain management:

Supplier List	• Suppliers of quality, safety and health, and environmental protection related materials should complete the Supplier Registration Form before being included in the supplier list • The supplier admission evaluation will comprehensively consider key indicators such as the corporate strength, market reputation, and historical performance to ensure the quality of the the supplier list • Insist on "centralised procurement" and form long-term partnerships with suppliers included on the list to enhance market competitiveness • Establish a dynamic management mechanism to regularly assess supplier performance, delist those who continuously fail to meet standards, and cease business cooperation • If a delisted supplier needs to be reactivated, it must undergo a special review chaired by the General Manager of the Procurement Department and receive written approval to ensure that risks are manageable
Supplier Assessment	• During the new supplier admission phase, strict adherence to the principles of fairness and impartiality is required, with a comprehensive assessment of their quality control system, environmental compliance, and occupational health and safety performance • Potential suppliers must meet the necessary criteriato be included in the supplier list • Establish an annual review mechanism to implement regular performance assessments for all suppliers on the list
Supplier Chain Risk Assessment	• Regularly analyze the trends in key material prices, changes in project requirements, and market supply and demand, complies risk assessment reports, and implement corresponding monitoring measures to ensure that supplier quotations and services consistently meet market conditions and quality standards
Code of conduct for suppliers	• Specify the requirements of the code of conduct for suppliers, including: compliance with the laws and regulations of Hong Kong to provide quality services and products in accordance with the contract • Comply with the policies of CSHK, including quality policy, safety and health policy, environmental policy, energy policy, etc • Fulfil social responsibilities, protect the rights and interests of employees and ensure equal opportunities, prohibit child labour or forced labour, emphasise a culture of integrity and uphold good business ethics such as fair trade and competition • Manage and supervise upstream suppliers and manufacturers to ensure the quality and on-time delivery of goods
Supplier Punishment	• In cases where suppliers fail to meet the required standards, the Company will collect feedback from project sites, engineering departments, and relevant units to evaluate the level of non-compliance using the "Supplier Disciplinary Review Form" and will officially notify the suppliers in writing of the disciplinary measures implemented • Sanctions may be imposed under various circumstances, such as persistent delivery delays, failure to meet quality standards, contractual breaches, ethical misconduct, or violations of environmental and safety regulations leading to regulatory penalties for the Company • Suppliers with suspended supply qualifications are required to submit a comprehensive rectification report after the penalty period, outlining specific improvement measures, quality assurance plans, and subsequent supervision mechanisms. Restoration of cooperation qualifications is subject to evaluation and approval by the company

4.1.2 Value Chain Collaboration

CSHK's Materials Department conducts on-site investigations of suppliers while strengthening interactions with partners through various channels such as the annual supplier and subcontractor exchange forum and key partner satisfaction surveys. This comprehensive communication mechanism demonstrates our sincere willingness to listen humbly and enables us to promptly grasp the valuable opinions of our supply chain partners, working together to optimize the cooperation model and create a win-win situation.

Analysis of Annual ESG Survey Results

Objective: To understand the sustainability awareness and performance of our value chain partners (suppliers and subcontractors)

In 2024, CSHK launched its Annual ESG Survey to understand the sustainability awareness and performance of our value chain partners. We issued 393 questionnaires to suppliers and subcontractors, with a valid response rate of 50.13%. The survey results indicate that our supply chain partners are increasingly paying attention to sustainability issues and have made initial strides in certain areas.

In terms of environmental protection, we have noticed that certain supplier partners are in the process of establishing carbon emission management mechanisms and are attempting to adopt green energy and environmentally friendly building materials. Among them, a few leading companies have already secured ISO14001 environmental management system certification, demonstrating their commitment to environmental protection. Regarding social responsibility, some supplier partners are establishing employee training systems and gradually improving occupational health and safety management. At the same time, the concept of sustainable procurement is beginning to take shape and develop within the supply chain, developing a positive trend of transformation.

In terms of corporate governance, we have observed that supplier partners generally possess compliance awareness, with some companies attempting to integrate sustainability concepts into their daily operations. These are all commendable steps for development.

As an industry leader, we are committed to maintaining our leadership role and look forward to collaborating closely with our value chain partners to extend CSHK's sustainability philosophy throughout the entire industry chain, jointly building a more environmentally friendly and responsible construction ecosystem.

4.2 Synergetic Development

CSHK upholds the principle of collaborative growth, actively engaging in various sustainable development seminars and playing a leading role within the industry. We are committed to engaging in in-depth exchanges with experts, scholars, and professional institutions to share practical experiences and innovative achievements. We jointly explore effective pathways for the low-carbon transformation of the construction industry to provide practical solutions to promote the sustainable development within the industry.

Hung Cheung Shew, Danny (Chairman of CSHK) shared with participants the sustainable development trends and challenges in the construction industry at the SustainabilityHACK 2024.

Chairman of the Green Materials Technology Committee

In his role as Chairman of the Green Materials Technology Committee, Wang Qi, alongside Executive Chairman Mark Lau of Sunrise Green Technology, collaborated with 11 prominent industry entities, including K. Wah Construction Materials and Wai Kee Holdings Ltd. to advance the widespread adoption of green building materials within the Hong Kong construction sector. The committee promotes cooperation between the government, academic institutions, and enterprises by regularly organizing industry exchange events, and actively participates in the formulation of green building material standards, providing practical solutions for achieving carbon neutrality in Hong Kong's construction industry. Currently, we are actively promoting pilot projects that utilize innovative green building materials, validating the technical feasibility through practical engineering cases to provide reference models for industry-wide transformation.

Wang Qi (General Manager, Materials Department) (fourth from the left), alongside Mark Lau (Deputy General Manager, Materials Department) (fifth from the right), served respectively as the Chairman and the Executive Chairman of the Green Materials Technology Committee of the Hong Kong Construction Materials Association

Li Jing (middle) (Financial Controller of CSHK) was a speaker at the "2024 Hong Kong Sustainable Development Innovation Seminar"* organized by CSHK

Technology exchange and sharing activities

As a leader in the industry, CSHK has taken the lead in setting up a Green Finance Expert Group, holds regularly high-quality technology exchange activities. By organizing seminars, case sharing sessions and roundtable forums, authoritative experts from Our Hong Kong Foundation, Financial Services Development Council and China CITIC Bank International are brought together to discuss innovative financing models and carbon asset development strategies for the construction industry.

4.3 Quality Management

CSHK upholds the quality control policy of "Doing it right the first time and every time," striving to integrate excellent quality into every project. By establishing a full-cycle quality management framework through the ISO 9001 certification system with data-driven control at its core, we provide customers with high-standard digital construction solutions that win the trust and support of the market.

4.3.1 High-standard risk assessment

CSHK and its major subsidiaries have obtained the ISO 9001:2015 Quality Management System certification. In addition, we have also developed the "Project Engineering Quality Risk Assessment and Management Guidelines" to assist the project management team in systematically identifying, analyzing, and addressing potential engineering risks. Each construction site must implement a regular inspection mechanism to review the effectiveness of quality risk control measures on a monthly basis. If any execution gaps are identified, an abnormality report must be submitted in writing immediately, and a corrective plan must be initiated. This structured risk governance model strengthens the dynamic supervision of engineering quality while laying a solid foundation for the steady advancement of the project.

Quality Risk Assessment Factors

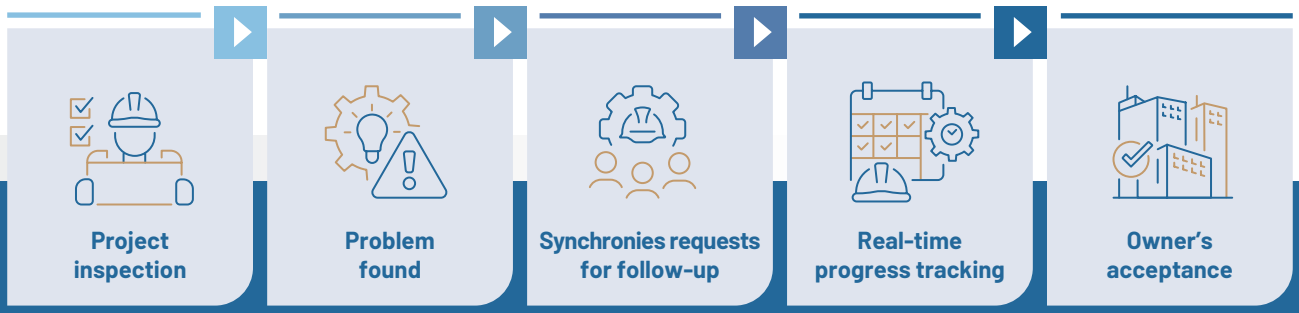
- Internal and external risk factors of CSHK
- Material and sub-contractor management risks
- Construction quality risks
- Site environmental risks including risks related to construction environment and geology
- Construction information risks
- Finished product risks
- Requirements or expectations of relevant stakeholders or groups, owners or owners' representatives, good neighbours and users, etc
- Pre-construction preparatory work, expected completion procedures, expected quality risks of project completion

4.3.2 Digitalisation of Quality Management

We promote the comprehensive integration of engineering construction and innovative technologies with the "TransTrack" system, particularly in achieving the quality target indicator of a self-inspection rate exceeding 90% by 2024 and establishing an intelligent full-process control system. Serving as an intelligent multi-party collaboration platform covering multiple dimensions such as quality and safety, "TransTrack" empowers construction site managers to achieve digital transformation of traditional management methods through dual-end collaboration via the web and mobile app, while significantly enhancing project collaboration efficiency and quality control standards through a strict internal quality pre-control mechanism.

By 2024, "TransTrack" has achieved:

- Executing a standardized self-inspection process at each critical stage of the project, leading to the automatic generation of traceable electronic quality files.
- Instantly recording issues at each stage of the project, with digital traceability throughout the entire process from internal self-inspection confirmation to joint acceptance by external units.



In 2024, the Happy Worker APP focuses on "digital intelligence quality control" as its core, pioneering a full-process closed-loop management system for technical disclosure. By developing an intelligent briefing module that links the positioning of site workers, the technical work specifications are deeply bound to the workers' clock-in data, achieving automatic dispatch of briefing tasks, real-time tracking of execution progress, and completing paperless signing and certification based on the Happy Worker platform. The system implements app pop-up warnings for individuals who do not meet the standards, simultaneously triggering a collaborative supervision mechanism between the subcontractor's management and the CSHK on-site team. This innovative model further extends to a subcontractor management performance evaluation module, which quantifies subcontractors' management attitudes through data analysis of compliance with disclosures, providing decision support for quality risk early warning.

4.4 Business and Professional Ethics

Within the modern corporate governance framework, integrity governance and the protection of customer interests have become the dual pillars of sustainable operation. CSHK drives the transformation of compliance culture through innovative institutional strategies. By deploying a layered integrity education system and rigorous anti-corruption mechanisms, we make sure that the concept of "integrity management" permeates the entire chain from strategic decision-making to site operations. Simultaneously, we have established a streamlined client communication framework to efficiently address and systematically monitor feedback from diverse channels, ensuring a proactive and responsive approach to customer engagement. As a result, the Company was awarded the "2024 Outstanding Contractor Award - Integrity Management Award" by Construction Industry Council, Hong Kong.

4.4.1 Anti-Corruption

CSHK is committed to business ethics and integrity and conducts its business in a principled manner, with an institutionalized management framework to regulate the conduct of its personnel. We have established and published an Integrity Management System* to clarify the responsibilities of staff at all levels in integrity management. We require our core management and all project managers to sign an annual "Undertakings on Integrity" to deepen the culture of compliance and integrity to all levels of project operations. At the project quality control level, we have established a systematic quality governance framework in the Quality Management Handbook*, which defines the areas of responsibilities at all levels. We have issued an Employee Handbook*, which sets out ethical and disciplinary guidelines covering anti-corruption, bribery prohibition, gift management and conflict of interest avoidance, etc., and requires strict compliance. Strengthening the integrity awareness of all employees, we have also established an independent reporting channel and strictly enforced confidentiality procedures to protect the identity of whistleblowers from wrongful dismissal or retaliatory treatment, thus forming an effective mechanism for monitoring and preventing malpractices in business conduct.

CSHK has established a systematic integrity education system based on the principle of "Layered Penetration and Full Coverage of All". During the reporting period, we integrated the official resources of the Community Relations Department of the Independent Commission Against Corruption (ICAC) with our in-house integrity coaching team to organize nine corruption prevention seminars throughout the year, providing training to a total of 1,200 people, and achieving 100% coverage of new recruits and annual training for staff in key positions.

CSHK has fully utilized its grassroots role in integrity building by formally releasing the "Hong Kong Site Integrity Compliance Manual"*. It covers the risks that may occur on construction sites, and adopts a list-type management, which is easy to understand and apply on the front line of construction sites. It contains 65 risk points in four areas, namely, supplies, quality, contracts and personnel, and 146 precautionary measures have been formulated to address these risks. We promote the application of the "1+6" site integrity standardization system. The "1" is the promotion and application of the manual as the main line, and the "6" is the six actions of integrity requirements, including organizing a kick-off ceremony, launching a focused learning, launching a corruption prevention training, building a publicity venue, organizing a clean activity, and launching a risk assessment on a regular basis. CSHK has always been committed to promoting the concept of integrity and compliance in the minds of the public, so that integrity awareness can be transformed into the bottom line of on-site operations.

4.4.2 Customer Communication

CSHK places great importance on customer satisfaction. We value feedback from our customers, and they can provide valuable input through various channels, including letters, phone calls, emails, and more. To effectively address customer feedback and complaints, we have established the Customer Feedback and Complaint Handling Work Procedures. All departments, subsidiaries, and relevant teams at construction sites are required to classify and promptly address complaints from owners, the public, and the media in accordance with this procedure, taking appropriate measures.

Complaints from customers or owners regarding the quality of work or materials.

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Assign suitable staff (such as site representatives, quality control engineers, or building services engineers) to follow up and review construction and non-conforming materials, and provide solutions.

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Develop effective corrective measures and obtain the owner's consent as necessary, then supervise and inspect the corrective work according to the inspection and testing procedures to ensure that the corrective measures are implemented smoothly and comply with contractual requirements

Key Projects for Hong Kong

As a leader in the construction industry, CSHK constructs the bones of cities with reinforced concrete while nurturing the soul of communities with humanistic care. CSHK is redefining modern construction with "technology + warmth," from sharing green building experiences to innovative practices at demonstration sites. We believe that the essence of a city's iconic status lies not in its height, but in the bustling footsteps of corporate executives strolling along the newly developed waterfront promenade in Central, the backdrop of people enjoying a stroll next to the flood barrier, the smiles of seniors recuperating in healthcare facilities, and the comforting glow of nightly lights as individuals return home safely. The sincerity in "Constructing Buildings and Cities, Yet More Significantly, Cultivating Hearts" serves as a heartfelt declaration of love to Hong Kong.

5.1 Green Building Catalogue

We enhance the sustainability of constructions by employing innovative construction technologies and sustainable building practices. Here is a list of green building projects we have been involved in:

Green Building Standard and/or Rating	Name of Project	Developer
BEAM Plus New Buildings - Platinum (Provisional)	Heritage and Cultural Resource Centre	Architectural Services Department, HKSAR
	Central H18C development scheme	Wing Tai Properties Limited
	Stage 1A main contract development of Hong Kong-Shenzhen Innovation and Technology Park	Hong Kong-Shenzhen Innovation and Technology Park company
	First Stage of Tseung Kwan O Desalination Plant	Water Supplies Department, HKSAR
	Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction Works	Drainage Services Department, HKSAR
	Joint Cavern Development at Anderson Road Quarry Site	Civil Engineering and Development Department, HKSAR
	Relocation of Sha Tin Sewage Treatment Works to Caverns – Ancillary Buildings, Cavern Ventilation System and Associated Works	Drainage Services Department, HKSAR
	Kai Tak New Emergency Hospital Project, Site A and Site B	Hospital Authority, HKSAR
	Package design and construction of Joint Cavern Development at Anderson Road Quarry Development Site	Civil Engineering and Development Department, HKSAR
	Main Contract (Site 3A) for Proposed Redevelopment at IL9088, New Central Harbourfront Site 3 Hong Kong	Pacific Gate Development Limited (Henderson)
	Proposed Residential Development at 391 Chai Wan Road & Adjoining Government Land Chai Wan Inland Lot No.178	China Motor Bus and Swire Properties
BEAM Plus New Buildings - Gold (Provisional)	Fanling Area 36 Phase 4 and A&A works at Ching Ho Estate	Housing Authority and Housing Department, HKSAR
	Redevelopment of Kowloon Tsai Swimming Pool Complex	Architectural Services Department, HKSAR
	Lei Yue Mun Phase 4 Public Housing Project	Housing Authority and Housing Department, HKSAR
	Wong Chuk Hang Station Phase 3 Commercial and Residential Project	Queen Investments Limited
	Kowloon Kai Tak 6603 Residential Development Project	Asia Power Development Limited
	West Rail Kam Sheung Road Station Phase 1 Property Development Project	Grand Ample Limited
	Wong Chuk Hang Phase 4 Commercial and Residential Project	WCH Property Development Company Limited
	Design and Construction of Kong Nga Po Police Training Facilities	Architectural Services Department, HKSAR
	Construction of Public Housing Development at Hang Tai Road, Ma On Shan Area 86B Phase 2	Housing Authority and Housing Department, HKSAR
	LOHAS Park Package Thirteen, Tseung Kwan O	Dynamic Wish Ltd
	Expansion of North District Hospital - site formation and foundation works	Hospital Authority, HKSAR
	Pak Tin Estate Redevelopment Phase 12 and 13	Housing Authority and Housing Department, HKSAR
	Foundation Works at Chung Nga Road West, Tai Po	Housing Authority and Housing Department, HKSAR
	Redevelopment of Grantham Hospital, Phase 1	Hospital Authority, HKSAR
	Redevelopment of Prince of Wales Hospital, Phase 2 (stage 1)	Hospital Authority, HKSAR
	Redevelopment of Our Lady of Maryknoll Hospital	Hospital Authority, HKSAR
	Data Centre Development Project	GDS
	Design and Construction of the Headquarters of an International Organization with conversion works from the Old Wan Chai Police Station	Architectural Services Department, HKSAR
	Development Project KIL11279 of Bailey Street and Wing Kwong Street, To Kwa Wan, Kowloon	Nation Star Development Limited
	Public Housing Developments at Kam Sheung Road Site 1 Phases 1 & 2, Yuen Long	Housing Authority, HKSAR
	Data Centre Phase 1 of Tseung Kwan O INNOPARK, Hong Kong	China Telecom Global Limited
	Siu Ho Wan Depot Property Development MTR Contract — Oyster Bay Station and Associated Works	MTR Corporation Limited
	Infrastructure works for Ka Wai Man Road, Kennedy Town	Housing Authority and Housing Department, HKSAR
	Infrastructure works for Kai Lung Wan South, Pok Fu Lam	Housing Authority and Housing Department, HKSAR
BEAM Plus New Buildings Version 1.2	Hopewell Centre Phase 2	Hopewell Holdings Limited
	Residential redevelopment at 15-21 Valley Road, Ho Man Tin Kowloon	Auspice Investment Limited
	Baptist University Student Dormitory and Teaching Building Development Project	Hong Kong Baptist University
	Design and Construction of Chinese Medicine Hospital and Government Chinese Medicines Testing Institute in Tseung Kwan O	Architectural Services Department, HKSAR

Innovating Technological and Digital Management to Pioneer Central's New Green Landmark

5.2 Main Contract (Site 3A) for The Proposed Development at IL9088 New Central Harbourfront Site 3 Hong Kong

Project Overview

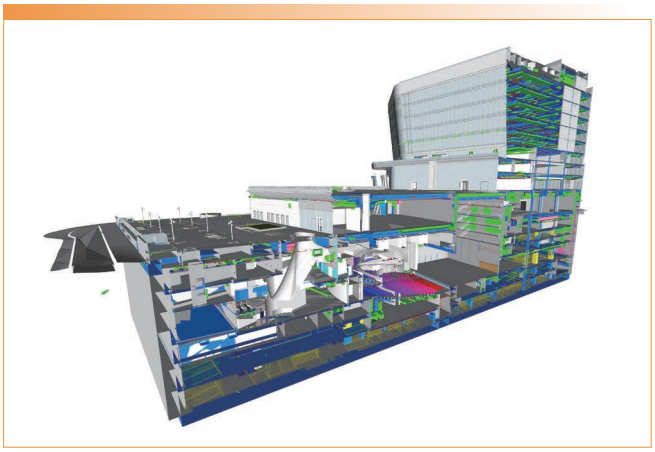
Contractor:	China Overseas Building Construction Limited
Commence date:	2024
Expected Completion Dates:	2028
Project Scope:	Construction of Building 1 (North Block) and Building 2 (South Block) along with a connecting arcade, development of underground space (81,900 square meters in total); construction of a three-level commercial area; creation of public leisure spaces; implementation of a connection project linking the Central core area with the waterfront, integrating surrounding facilities such as the convention and exhibition center

The Central Harbour front IL9088 Development Project (Site 3A) represents the culmination of the Central District Reclamation Project in Hong Kong, situated at the nucleus of Hong Kong's political and economic hub, close to key institutions such as the Central Government Offices, the Hong Kong Exchanges and Clearing Limited, and the Hong Kong Monetary Authority. Serving as the first major large-scale project spearheaded by a Chinese-funded contractor along the Central Harbour front, the project's completion not only reshapes the skyline of Hong Kong but also signifies a groundbreaking involvement of a Chinese-funded enterprise in this renowned area. With its design concept centered around a "bridge," this project aims to fashion a world-renowned landmark, fostering stronger links between Central's inner city and waterfront while offering extensive greenery and public spaces to foster community vitality and sustainable growth.

The project encompasses two buildings connected by an arcade, with a total floor area of 24,726 square meters. It will significantly enhance energy efficiency and construction quality through advanced low-carbon technologies and innovative designs, such as building-integrated photovoltaics, seawater cooling systems, and the Multi-trade Integrated Mechanical, Electrical and Plumbing (**MiMEP**) technology. In addition, the project aims to apply for multiple international green building certifications, paving the way for sustainable building progress in Hong Kong.

Innovative Strategies in Digital Transformation and Complex Construction Challenges

The project drives industry benchmarks through technological and digital innovation, pioneering the incorporation of BIM technology at the contractual level. It upholds stringent construction safety and labor rights standards, establishing a model of "zero delays, zero accidents, and zero disputes." This initiative spearheads the industry in digitalization, safety enhancement, and refined upgrades.



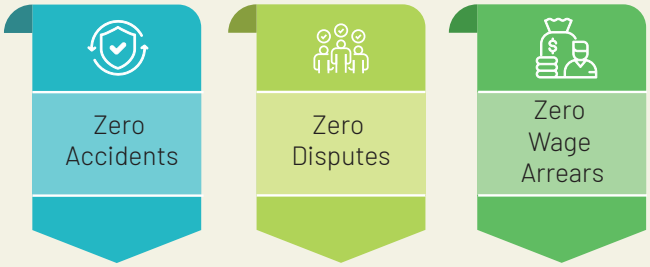
Project participants used BIM models as the communication medium to realize the digital management of the whole process of design, construction and completion

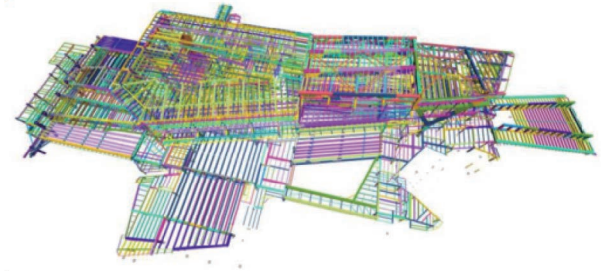
Breakthroughs in Technology and Digital Management

As the first private development project to elevate BIM technology to the engineering contract level, the project successfully promoted industry innovation with the goals of "zero disputes, zero delays, and zero accidents," and won the Gold Award for Private Projects at the Construction Industry Council's 2024 "Digitalization Awards" and the Innovation Silver Award at the Hong Kong Institute of Surveyors' "QS Awards."

Zero accidents, zero disputes, zero wage arrears

The project emphasizes safety and quality management, establishing a safety and environmental group alongside a 4 × 100 quality management system. Construction safety is ensured through constant monitoring, a zoned responsibility structure, and a digital supervision system. During the year, 58 environmental and safety training sessions, eight safety drills, and 136 safety inspections were conducted. The introduction of the TransTrack system enhances the visualization of the acceptance process, minimizing communication costs and construction risks. The goal is to achieve "zero accidents, zero disputes, and zero wage arrears," thereby advancing industry safety standards.





The total structural steel consumption of the building is approximately 28,000 tonnes, equivalent to steel consumption for 3.8 Eiffel Tower

Complex Construction Challenges in Steel Structures

The total steel consumption of the superstructure is about 28,000 tonnes, and the maximum span of the structure is 58 meters, including the heaviest monobloc of 79 tonnes and the longest member of 27.5 meters. The project has strengthened the feasibility of the proposal through a joint assessment mechanism at the same level, formulated a special safety checklist, and established a regular assessment mechanism to ensure the safety and control of the whole operation process.

Adapting to Climate Change and Building Biodiversity

5.3 Yuen Long Barrage and Nullah Improvement Schemes

During "Yuen Long Barrage and Nullah Improvement Schemes", works such as construction of automatic flood barriers, rainwater pumping stations and extension of nullahs will be carried out to enhance the flood resilience and ecological protection of Yuen Long district

Project Overview

Contractor:	China State – Alchmex Joint Venture
Commencement Date:	2023
Expected Completion Date:	2030
Project Scope:	Construction of automatic flood barriers, rainwater pumping stations, central control center and related electromechanical facilities, as well as the reconstruction and revitalization of Yuen Long Nullah, etc.

Located in the Northern Metropolis of Hong Kong, the Yuen Long Barrage Scheme is "first large-scale dam initiative in Hong Kong" (designed to meet a 200-year flood prevention standard) launched by the Hong Kong Drainage Services Department, HKSAR. This project represents a strategic response to to the challenges posed by global climate change and the frequent occurrence of extreme weather events. Leveraging advanced technology, the project team has integrated the concept of "active adaptation to climate change" across the entire design, construction, and operational phases. Upon its completion, the project is expected to significantly reduce local flood risks, enhance the hydrological environment, and bring benefits to hundreds of thousands of residents. It aligns with the Hong Kong government's vision of creating a "riverside city", fostering a stronger ecological link between the back-bay and the Yuen Long Nullah and providing resilient and robust flood protection measures.

Technology empowers the entire low-carbon construction chain and ecological conservation efforts

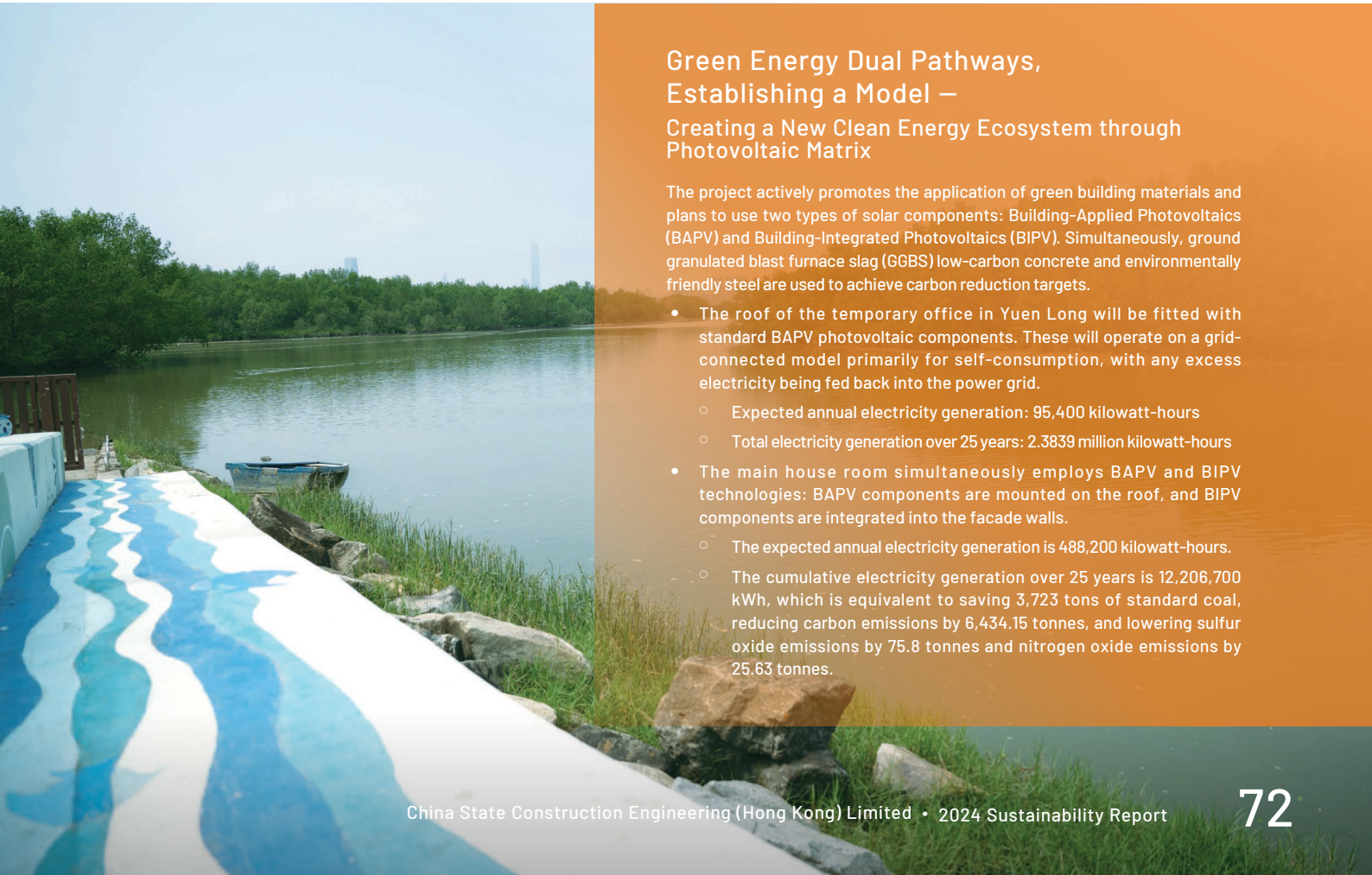
Through the modular and prefabrication construction system and innovative construction techniques, the project site leverages industrialized construction methods to significantly enhance efficiency. This approach reduces carbon emissions through the implementation of the M-ELS system and maximizes the use of low-carbon building materials and photovoltaic energy, establishing a novel clean energy ecosystem. Meanwhile, the project prioritizes ecological conservation by centralizing an intelligent ecological protection framework. It establishes a comprehensive 4S digital intelligence platform that seamlessly integrates smart wearables, environmental monitoring, and digital twin technology to achieve a technology-driven sustainable construction paradigm.

Industrial Innovation · Low-Carbon Pioneer —

Modular and Prefabricated Construction Systems Drive an Improvement in Construction Efficiency:

The construction site responds to the industrialized construction policy by fully implementing the application of prefabricated products to reduce carbon emissions at the source. The foundation pit support project introduces an innovative modular excavation and lateral support system (M-ELS), effectively enhancing operational efficiency and safety.

Modular excavation and lateral support system (M-ELS)



Green Energy Dual Pathways, Establishing a Model —

Creating a New Clean Energy Ecosystem through Photovoltaic Matrix

The project actively promotes the application of green building materials and plans to use two types of solar components: Building-Applied Photovoltaics (BAPV) and Building-Integrated Photovoltaics (BIPV). Simultaneously, ground granulated blast furnace slag (GGBS) low-carbon concrete and environmentally friendly steel are used to achieve carbon reduction targets.

- The roof of the temporary office in Yuen Long will be fitted with standard BAPV photovoltaic components. These will operate on a grid-connected model primarily for self-consumption, with any excess electricity being fed back into the power grid.
  - Expected annual electricity generation: 95,400 kilowatt-hours
  - Total electricity generation over 25 years: 2.3839 million kilowatt-hours
- The main house room simultaneously employs BAPV and BIPV technologies: BAPV components are mounted on the roof, and BIPV components are integrated into the facade walls.
  - The expected annual electricity generation is 488,200 kilowatt-hours.
  - The cumulative electricity generation over 25 years is 12,206,700 kWh, which is equivalent to saving 3,723 tons of standard coal, reducing carbon emissions by 6,434.15 tonnes, and lowering sulfur oxide emissions by 75.8 tonnes and nitrogen oxide emissions by 25.63 tonnes.

Ecological Intelligent Protection - Sound and Light Trails —

Precision Alignment of Engineering Practices with Biological Rhythms:

pteroptyx maipo (Acknowledgments: Augustine CHUNG, WWF Hong Kong)

The construction site is situated near several ecological conservation areas, necessitating the implementation of stringent environmental protection measures. Through engineering control and intelligent monitoring, we have transitioned from passive prevention to active remediation.

- ***pteroptyx maipo* Protection:** Mitigating light pollution by installing high shading curtains.
- **Intelligent Sound Environment Control:** Utilizing underground pipe jacking construction method, equipped with coordinated quality dampers to minimize noise from steel sheet piles.
- **Equipment soundproofing matrix:** utilizing low-noise equipment, such as silent generators, energy purification cabinets, and static pressure pile planting machines.

Digital Intelligence Hub, Twin Vision —

The 4S Platform Constructs a Full-Cycle Decision-Making Neural Network:

The construction site actively promotes the implementation of the 4S digital management platform, driving sustainable development through technological innovation.

- **Personnel Safety Network:** Comprehensive coverage of intelligent wearable devices to guarantee personnel safety.
- **Environmental monitoring system:** Real-time dynamic monitoring of the water level management system to effectively support flood prevention efforts.
- **Application of Digital Twin Technology:** Leveraging digital twin technology for real-time data collection and aggregation to establish an intelligent water conservation system.

Real-time dynamic monitoring of the water level management system

Staff putting on intelligent wearable devices

Serving the Community as a Trusted Community Bridge to Advance Social Cohesion

5.4 Redevelopment of Our Lady of Maryknoll Hospital

Project Overview

Contractor:	China State Construction Engineering (Hong Kong) Limited
Commencement date:	2022
Project Scope:	Demolition of the existing North Wing, East Wing and their associated ancillary buildings; construction of a new hospital building with dungeon carpark; refurbishment of outpatient buildings; landscaping works, external works, utility diversions and road works

The "Redevelopment Project of Our Lady of Maryknoll Hospital" will demolish, redevelop and refurbish the existing buildings to meet the growing demand for healthcare services of the Wong Tai Sin district residents

In response to the visions of "Healthy China" and "Healthy Hong Kong" and to address the issue of strained medical resources caused by an aging population, the Hong Kong government launched the "Ten-year Hospital Development Plan" in 2016, of which the Redevelopment of Our Lady of Maryknoll Hospital, constructed by CSHK, is a significant component of this strategy..

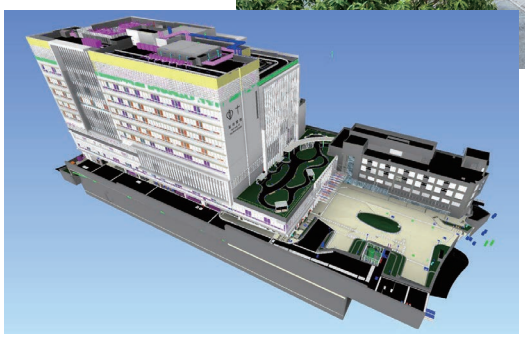
Our Lady of Maryknoll Hospital has served the Wong Tai Sin District for over 60 years, during which it has actively promoted health education and preventive services in the community, such as health check-ups for the elderly and vaccination services. However, the old buildings cannot be expanded, posing challenges for the medical facilities to adequately meet the rising service demands. The redevelopment will enable the hospital to improve its daytime medical services, with the aim of halving waiting times to meet the needs of local residents. CSHK will further utilize its cutting-edge construction technologies to help address Hong Kong citizens urgent demand for quality medical services.

Challenges of high-difficulty engineering in complex urban environments and multi-dimensional risk management strategies

Three-dimensional Breakthrough: Extreme Scheduling —

A Full-cycle Construction on a 20-meter Elevation Terrain

The height difference on the construction site reaches 20 meters, with residential areas, schools, and community facilities surrounding it, averaging only 10 meters away, which poses difficulties for material transportation and the operation of large equipment. The main entrance and exit are located on a busy street, with a slope of up to 1:8 and a width of only 3.15 meters, which restricts the access of construction vehicles and requires strict planning of traffic flow. Furthermore, there are other concurrent projects in the vicinity that require coordination with various government departments, and the application procedures can take up to several months, affecting the overall progress of the project. To address these challenges, we optimized the material transportation plan while coordinating with relevant departments in advance to shorten the application time, and we regularly held coordination meetings to promote the progress of the project.



The height difference on the construction site reached 20 meters

Building Friendly Neighborhood with Detailed Control Plan —

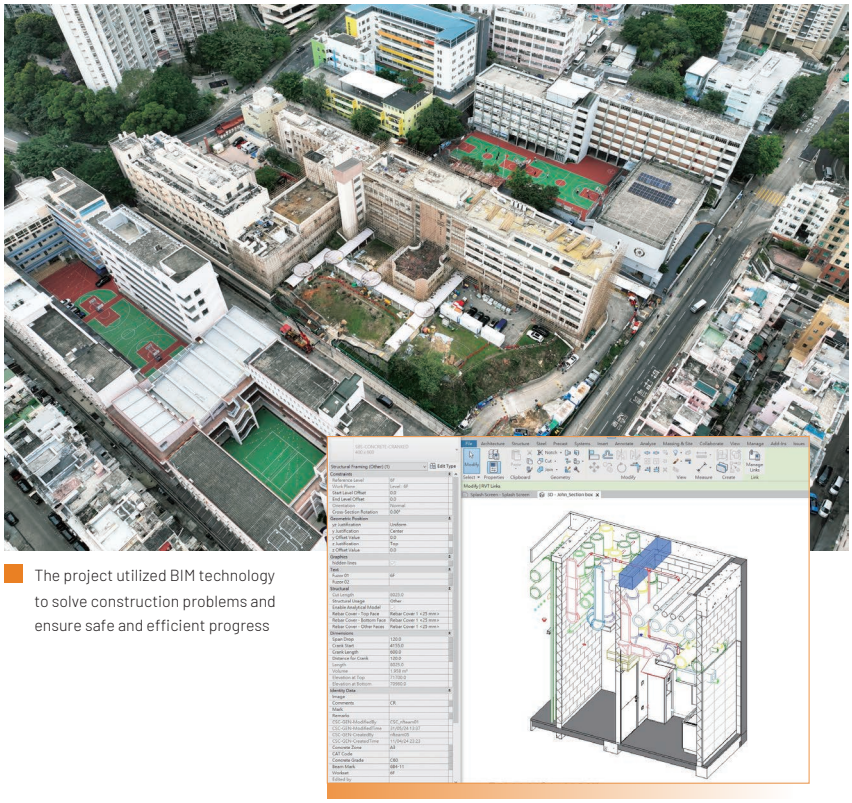
Double Threshold Defense Line for Vibration Noise in Community Sensitive Areas

There are several schools, community facilities, and operational hospitals around the project, and we need to ensure that construction noise, vibration, and dust are kept to a very low level to maintain the medical activities of the hospital and the teaching order of the schools. We have established a 24-hour real-time monitoring system (including subsidence, vibration, noise, and air quality) and implemented video surveillance to ensure that the impact on the community is minimized. We also communicate with regional representatives from time to time.

Think out of the Box: Optimizing Construction —

Uncovering Hidden Hazards in Century-Old Buildings

Due to the absence or ambiguity of the original building drawings, detailed exploration is required before demolition to verify the stability of the structure and to properly handle unmarked temporary buildings and underground pipelines. Harmful substances such as asbestos and dioxins present in old buildings require us to employ isolation techniques and specialized equipment to effectively control the spread of pollution, while managing waste in accordance with environmental protection standards. Furthermore, the hospital must continue to operate normally during the construction period, so careful coordination of the surgical schedule is required to minimize vibration and noise impacts. We actively utilize BIM technology to predict potential conflicts, optimize construction processes, and ensure the smooth progress of project in terms of safety and efficiency.



The project utilized BIM technology to solve construction problems and ensure safe and efficient progress

Breaking through the Challenges and establishing a new benchmark for humanitarian care and sustainable construction.

Formulation of a conservation and relocation plan for a phoenix tree of more than 40 years old at a construction site

The Redevelopment of Our Lady of Maryknoll Hospital is centered on the concept of "Community Family". Through in-person illustrations, the assistance of traffic supervisors, and the coordination of work processes according to the school calendar, a warm network of community care is woven. The project integrates BIM technology, modular construction and C-SMART Platform, and strictly follows international medical standards. The use of GGBS concrete in the construction process reduced carbon emissions by 14,621 tonnes, and the successful transplantation of over-40-year-old phoenix trees was awarded with dual green certification, realizing the triple vision of "healing architecture, ecological sustainability, community symbiosis".

Proactive understanding of the school calendars of neighboring schools to minimize the impact of works on students

Appendix

Appendix

Awards and Association Membership

Awards

Award	Won by	Issued by
Scientific and Technological Innovation Award 2023 of China Overseas	China State Construction Engineering (Hong Kong) Ltd.	China Overseas Holdings Ltd.
Corporate Innovation Index 2023 – Ranked no.8	China State Construction Engineering (Hong Kong) Ltd.	The Chinese University of Hong Kong
Hong Kong Professional Building Inspectors Academy Awards 2023 – Best General Contractor	China Overseas Building Construction Ltd.	Hong Kong Professional Building Inspection Academy Ltd.
HKIBIM Award 2023 – Grand Award of BIM Organization	China State Construction Engineering (Hong Kong) Ltd.	The Hong Kong Institute of Building Information Modelling
Architectural Services Department's Green Contractor Award 2023 - Silver Award and Special Award	China State Construction Engineering (Hong Kong) Ltd.	Architectural Services Department, HKSAR
2024 Construction Industry Council Digitalisation Award – Organisation (Contractor Category A) Cateogry Silver Award	China State Construction Engineering (Hong Kong) Ltd.	Construction Industry Council
Hong Kong International ESG List Annual Selection 2024 - Best ESG Practice Case Award	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Ta Kung Wen Wei Media Group
The Hong Kong Institute of Surveyors Grand Award 2024– Merit Award	China State Construction Engineering (Hong Kong) Ltd.	The Hong Kong Institute of Surveyors
Architectural Services Department Annual Award cum Technology & Innovation Award 2024 - Merit Award and Special Award (Constructability)	China State Construction Engineering (Hong Kong) Ltd.	Architectural Services Department, HKSAR
Australian Institute of Building's Hong Kong Professional Excellence Awards 2024 - Recognition Award	China State Construction Engineering (Hong Kong) Ltd.	Australian Institute of Building
"Top 10 Contractors" of BCI Asia	China State Construction Engineering (Hong Kong) Ltd.	BCI Central
CABE Built Environment Awards - Finalists	Transcendence Company Ltd.	The Chartered Association of Building Engineers
Outstanding ESG Enterprises Recognition Scheme 2024 – ESG Excellence in Environmental Professional Award	China State Construction Engineering (Hong Kong) Ltd.	Sing Tao News Corporation Ltd. The Hong Kong Polytechnic University
Outstanding ESG Enterprises Recognition Scheme 2024 - ESG Commendation Certification	China State Construction Engineering (Hong Kong) Ltd.	Sing Tao News Corporation Ltd. The Hong Kong Polytechnic University
TVB ESG Awards 2024 - Best in ESG Report	China State Construction Engineering (Hong Kong) Ltd.	Television Broadcasts Ltd.
TVB ESG Awards 2024 - ESG Environmental Innovative Technology Award	China State Construction Engineering (Hong Kong) Ltd.	Television Broadcasts Ltd.
HKMA/HKT Global Innovation Award 2024/25 - Excellent Award	Transcendence Company Ltd.	The Hong Kong Management Association and Hong Kong Telecom
Hong Kong Electronics Project Competition 2024 - First Runner-up	Transcendence Company Ltd.	The Hong Kong Institution of Engineers
HR Excellence Awards – Grand Award of Talent Management – Merit Award, Grand Award of Change Management – Merit Award, Community Caring Award - Elite Award, HR Analytics Award - Merit Award	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Institute of Human Resource Management

Appendix

Award	Won by	Issued by
TVB ESG Awards 2024 - Greater Bay Area ESG Excellence Enterprise Award	China State Construction Engineering (Hong Kong) Ltd.	Television Broadcasts Ltd.
Grand Award-Employer of the Year Best Talent Management Strategy Award	China State Construction Engineering (Hong Kong) Ltd.	CTgoodjobs
The Hong Kong Sustainability Award 2024 - Certificate of Excellence	China State Construction Engineering (Hong Kong) Ltd.	The Hong Kong Management Association
The Hong Kong Sustainability Award 2024 - Special Award – Excellence in Innovation	China State Construction Engineering (Hong Kong) Ltd.	The Hong Kong Management Association
HKCA Environmental Awards - Hong Kong Construction Environmental Awards	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Construction Association
HKCA Environmental Awards - Hong Kong Construction Environmental Awards	China Overseas Building Construction Ltd.	Hong Kong Construction Association
HKCA Environmental Awards - Hong Kong Construction Environmental Awards	China State Mechanical and Electrical Ltd.*	Hong Kong Construction Association
HKCA Environmental Awards - Hong Kong Construction Environmental Awards	Alchmex International Construction Ltd.	Hong Kong Construction Association
HKCA Construction Safety Award - Proactive Safety Contractor Award	China Overseas Building Construction Ltd.	Hong Kong Construction Association
HKCA Construction Safety Award - Proactive Safety Contractor Award	China State Foundation Engineering Ltd.	Hong Kong Construction Association
HKCA Construction Safety Award - Proactive Safety Contractor Award	China State Mechanical & Electrical Engineering Ltd.	Hong Kong Construction Association
HKCA Construction Safety Award - Proactive Safety Contractor Award	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Construction Association
HKCA Construction Safety Award - Proactive Safety Contractor Award	Alchmex International Construction Ltd.	Hong Kong Construction Association
Hong Kong ICT (HKICT) Awards - Smart Business Grand Award, Smart Business (Solution for Business and Public Sector Enterprise) Gold Award	Transcendence Company Ltd.	Digital Policy Office, Hong Kong
Hong Kong Green and Sustainable Finance Awards 2024 - Outstanding Green and Sustainable Loan Issuer (Construction and Engineering) - Visionary Social Responsibility Framework"	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Quality Assurance Agency
Architectural Services Department Contractor Award 2023 – Special Award (Worker-centric Construction Site)	China State Construction Engineering (Hong Kong) Ltd.	Architectural Services Department, HKSAR
Architectural Services Department Contractor Award 2023 - Green Contractor Silver Award	China State Construction Engineering (Hong Kong) Ltd.	Architectural Services Department, HKSAR
The 49th International Exhibition of Inventions in Geneva - Gold Medal with Congratulations of the Jury, Gold Award, Silver Award and Bronze Award	Transcendence Company Ltd.	Federal administration of Switzerland, Canton of Geneva, City of Geneva, World Intellectual Property Organization
1st OSH Innovation & Technology Award - Gold Award under Open Category	Transcendence Company Ltd.	Occupational Safety & Health Council and Labour Department, HKSAR

Appendix

Award	Won by	Issued by
First Prize in the Fifth Engineering Construction Industry BIM Competition (Municipal Public Works Category) - Tseung Kwan O Desalination Plant	China State Construction Engineering (Hong Kong) Ltd.	China Association of Construction Enterprise Management
First Prize of the Fifth Engineering Construction Industry BIM Competition (Industrial and Energy Engineering Category) - Hong Kong Organic Waste Recycling Centre Phase II	Alchmex International Construction Ltd.	China Association of Construction Enterprise Management
Second Prize of the Fifth Engineering Construction Industry BIM Competition (Public Buildings Category) - Kai Tak New Acute Hospital (Site B) integrated application of BIM in construction phase	China State Construction Engineering (Hong Kong) Ltd.	China Association of Construction Enterprise Management
Third Prize of the Fifth Engineering Construction Industry BIM Competition (Civil Architecture Construction-Residential Building Category) - Redevelopment of electromechanical project of Our Lady of Maryknoll Hospital	China Overseas Innovation & Technology (Zhuhai) Company China State Mechanical & Electrical Engineering Ltd.	China Association of Construction Enterprise Management
Third Prize of the Fifth Engineering Construction Industry BIM Competition (Application Specialty Category-Construction Industrialization Category) - Electrical and mechanical construction MiMEP assembly application in Chinese Medicine Hospital and Government Chinese Medicines Testing Institute in Tseung Kwan O	China Overseas Innovation & Technology (Zhuhai) Company China State Mechanical & Electrical Engineering Ltd.	China Association of Construction Enterprise Management
Third Prize of the Fifth Engineering Construction Industry BIM Competition (Civil Architecture Construction Category-Residential Building Category) - Achievements of BIM Technology Application in Construction Stage of Baptist University Student Dormitory and Teaching Building Development Project	China State Construction Engineering (Hong Kong) Ltd.	China Association of Construction Enterprise Management
Special Prize of the Fifth Engineering Construction Industry BIM Competition (Construction Industrialization Category) - Electrical and Mechanical Engineering MiMEP assembly application at Kai Tak New Acute Hospital (Site B)	China Overseas Innovation & Technology (Zhuhai) Company China State Mechanical & Electrical Engineering Ltd.	China Association of Construction Enterprise Management
The third batch of prefabricated decoration pilot projects in Shenzhen	China State Construction Engineering (Hong Kong) Ltd.	Building Industrialization Association of Shenzhen
Hong Kong Volunteer Award 2024 - Outstanding Corporate Award	China State Construction Engineering (Hong Kong) Ltd.	Home and Youth Affairs Bureau, HKSAR and Agency for Volunteer Service, Hong Kong
CIC Outstanding Contractor Award 2024 (Major Contractor) - Corporate Innovation Award, Revitalisation Award, Integrity Management Award	China State Construction Engineering (Hong Kong) Ltd.	Construction Industry Council
CIC Outstanding Contractor Award 2024 (Specialist Contractor) - Revitalisation Award - Revitalisation Award	China State Mechanical & Electrical Engineering Ltd.	Construction Industry Council
The Most Popular Enterprise for Global Talent Award	China State Construction Engineering (Hong Kong) Ltd.	Hong Kong Global Talent Carnival

Appendix

Association Membership

Name of the Association	Member Unit	Type of Member
China Association for Engineering Construction Standardization - Cleanrooms and Associated Controlled Environments and Laboratory Professional Committee	China State Construction International Medical Industry Development Co., Ltd.	Standing member unit
China Association of Building Energy Efficiency - Green Hospital Committee	China State Construction International Medical Industry Development Co., Ltd.	Standing member unit
China Association of Building Energy Efficiency	China State Construction International Medical Industry Development Co., Ltd.	Council member unit
China Association of Medical Equipment - Branch of Hospital Architecture and Equipment	China State Construction International Medical Industry Development (Shenzhen) Co., Ltd.*	Member unit
The Hong Kong Chinese Enterprises Association	China Overseas Building Construction Ltd.	Member
The Hong Kong Chinese Enterprises Association	China State Civil Engineering Ltd.	Member
The Hong Kong Chinese Enterprises Association	China State Foundation Engineering Ltd.	Member
Hong Kong Air Conditioning and Refrigeration Association Ltd.	China State Mechanical & Electrical Engineering Ltd.	Member
The Hong Kong Security Association	China State Mechanical & Electrical Engineering Ltd.	Member
The Hong Kong Construction Association	Alchmex International Construction Ltd.	Member
The Hong Kong Institute of Building Information Modelling	China State Construction Engineering (Hong Kong) Ltd.	Corporate member
The Hong Kong Institute of Building Information Modelling	Transcendence Company Ltd.	Corporate member
Hong Kong Modular Integrated Construction Manufacturer Association	China State Mechanical & Electrical Engineering Ltd.	Member
The Association of Registered Fire Service Installation Contractors of Hong Kong Ltd.	China State Mechanical & Electrical Engineering Ltd.	Member
Hong Kong Electrical Contractors' Association Ltd.	China State Mechanical & Electrical Engineering Ltd.	Permanent board member
Hong Kong Green Building Council	China State Construction Engineering (Hong Kong) Ltd.	Silver Sponsor
The Association of Electrical and Mechanical Engineering (Hong Kong) Ltd.	China State Mechanical & Electrical Engineering Ltd.	Member
Business Environment Council Ltd.	China State Construction Engineering (Hong Kong) Ltd.	Distinguished Member

Appendix

Overview of Key Performance Indicators

Environmental Performance

Exhaust Gas[1]

Air pollutant	Unit	Emissions in 2023	Emissions in 2024
Nitrogen oxides (NOx)	Kg	2,143,996.4	3,398,369.4
Sulphur oxides (SOx)	Kg	140,768.3	223,263.3
Respirable suspended particulates	Kg	150,714.3	20,851.9

Greenhouse Gas Emissions[2]

Category	Unit	Source of emissions	Emissions in 2023	Emissions in 2024
Scope 1: Direct emissions	tonne of CO2e	Combustion of fossil fuels-stationary source & non-mobile source	80,074.0	114,395.9
	tonne of CO2e	Combustion of fossil fuels - mobile source	1,948.8	1,962.1
	tonne of CO2e	Fugitive emission[3]	5,819.0	73.2
	tonne of CO2e	Industrial production processes -welding	5,963.7	138.0
	tonne of CO2e	Carbonate	0.0	0.0
Scope 2: Energy indirect emissions	tonne of CO2e	Purchased electricity	11,214.2	14,726.1
	tonne of CO2e	Purchased heat	0.0	0.0
Total GHG emissions (Scope 1 + 2)	tonne of CO2e		105,019.7	131,295.4
GHG emissions intensity (Scope 1-2, by revenue)	tonne of CO2e/HKD million		3.4	3.2
Scope 3: Other indirect emissions	tonne of CO2e	Air business travel[4]	39.1	58.8
	tonne of CO2e	Building materials	1,331,230.7	1,712,737.6
	tonne of CO2e	Subcontractor energy consumption	102,237.7	37,310.8
	tonne of CO2e	Water consumption	2,496.0	402.3
	tonne of CO2e	Wastewater treatment	9.2	568.5
	tonne of CO2e	Waste disposal	13,915.3	59,327.6
	tonne of CO2e	Energy upstream emissions	–	62,876.9
	tonne of CO2e	Staff commuting	–	5,151.9
Total GHG emissions (Scope 1-3)	tonne of CO2e		1,554,908.6	2,009,730.0
Total GHG emissions intensity (Scope 1-3, by revenue)	tonne of CO2e/HKD million		50.4	48.9

Appendix

Waste

Category	Unit		Total in 2023	Total in 2024
Hazardous Waste	tonne	Third-level contaminated sea mud		476.0
	tonne	Other hazardous waste		4.6
Total hazardous waste	tonne		7,183.0	480.6
Hazardous waste intensity (by revenue)	tonne/HKD million		0.2	0.01
Non-hazardous waste	tonne	Inert construction and demolition waste	3,200,792.0	6,014,433.3
	tonne	Non-inert construction and demolition waste	89,769.2	61,188.9
	tonne	Other non-hazardous waste	23,583.8	89,220.4
Total non-hazardous waste	tonne		3,314,145.0	6,164,842.5
Non-hazardous waste intensity (by revenue)	tonne/HKD million		107.5	150.0

Water

Statistics	Unit	Total in 2023	Total in 2024
Total water consumption[5]	cubic metre	5,742,016.0	2,474,781.5
Water consumption intensity (by revenue)	cubic metre/HKD million	186.3	60.2
Total wastewater discharge	cubic metre	772,085.0	812,169.7
Wastewater discharge intensity	cubic metre/HKD million	25.0	19.8
Total water reused[6]	cubic metre	2,443.0	37,839.0
Reused water intensity (by revenue)	cubic metre/HKD million	0.1	0.9

Energy

Category of energy	Unit	Consumption in 2023	Consumption in 2024
Gasoline	Megawatt-hour equivalent	3,713.0	4,331.4
Diesel	Megawatt-hour equivalent	243,767.0	338,643.2
Liquefied petroleum gas	Megawatt-hour equivalent	0.0	0.0
Liquefied natural gas	Megawatt-hour equivalent	0.0	0.0
Pipeline gas	Megawatt-hour equivalent	0.0	0.0
Acetylene	Megawatt-hour equivalent	24,369.0	557.6
Natural gas	Megawatt-hour equivalent	0.0	0.0
Lignite	Megawatt-hour equivalent	0.0	0.0
Methanol	Megawatt-hour equivalent	0.0	0.0
Towngas	Megawatt-hour equivalent	0.0	0.0
Purchased electricity	Megawatt-hour equivalent	26,775.0	33,030.9
Purchased heating	Megawatt-hour equivalent	0.0	0.0

Appendix

Energy (Continued)

Category of energy	Unit	Consumption in 2023	Consumption in 2024
B5 biodiesel	Megawatt-hour equivalent	45,724.0	103,490.0
Sold eledricity	Megawatt-hour equivalent	0.0	0.0
Sold heating	Megawatt-hour equivalent	0.0	0.0
On-grid Self-generated Photovoltaic Power	Megawatt-hour equivalent	–	0.0
Propane	Megawatt-hour equivalent	0.0	0.0
Kerosene	Megawatt-hour equivalent	0.0	0.0
Coke oven gas	Megawatt-hour equivalent	0.0	0.0
Fuel oil	Megawatt-hour equivalent	0.0	0.0
Total energy consumption	Megawatt-hour equivalent	344,376.0	480,053.0
Energy intensity (by revenue)	Megawatt-hour equivalent/ HKD million	11.2	11.7
Renewable energy	Megawatt-hour equivalent	49.0	0.0

Packaging Materials

Category	Unit	Consumption in 2023	Consumption in 2024
Total consumption of packaging materials	tonne	0.0	0.0
Packaging material intensity (by revenue)	Megawatt-hour equivalent/ HKD million	0.0	0.0

Use of Raw Materials

Category	Unit	Consumption in 2023	Consumption in 2024
Non-renewable materials			
Concrete	cubic metre	1,057,945.9	1,497,898.8
Cement mortar	cubic metre	5,909.1	7,485.5
Reinforced steel bar	tonne	267,614.2	318,856.5
Profiled steel	tonne	42,155.2	45,099.3
Iron sheet pile	tonne	3,530.7	8,103.1
Wooden sheet pile	tonne	0.0	6,857.5
Cement	tonne	36,581.6	32,644.6
River sand	tonne	208,422.6	23,383.8
Stones	tonne	128,368.7	376,776.7
Bricks	tonne	0.0	0.0
Lime floor slabs	tonne	0.0	0.0
Aluminium products	tonne	0.0	0.0
Steel products	tonne	0.0	0.0
Silica gel	tonne	0.0	0.0

Appendix

Use of Raw Materials (Continued)

Category	Unit	Consumption in 2023	Consumption in 2024
Non-renewable materials (Continued)			
Glass	tonne	0.0	0.0
Timber for packaging	tonne	0.0	0.0
FSC and PEFC-certified timber	cubic metre	7,119.8	7,764.4
Other timber	cubic metre	12.8	9.5
Other steels	tonne	32,022.8	73,620.3
Steel Pipe Tubes	tonne	27,228.6	8,311.2
Paper	tonne	158.9	190.6
Insulation material	tonne	0.0	0.0
Cable	metre	0.0	0.0
Prefabricated board	cubic metre	0.0	0.0
Prefabricated column	cubic metre	0.0	0.0
Prefabricated beam	cubic metre	0.0	0.0
Prefabricated stairs	cubic metre	0.0	0.0
Asphalt	tonne	0.0	0.0
Industrial oxygen	tonne	93.3	0.0
Block	cubic metre	0.0	0.0
Renewable materials			
Bamboo flooring	tonne	0.0	0.0
Cork flooring	tonne	0.0	0.0
Straw bale insulation	tonne	0.0	0.0
Cotton insulation material	tonne	0.0	0.0
Wheat straw boards	tonne	0.0	0.0
Sunflower seed board	tonne	0.0	0.0
Soy foam insulation	tonne	0.0	0.0

1 : Sources of air emissions include diesel generator and vehicle emissions, with reference to AP-42: Compilation of Air Emissions Factors published by the U.S. Environmental Protection Agency for diesel generator emission factors, and EMEP/EEA Air Pollutant Emission Inventory Guidebook — 2016 published by the European Environmental Agency for vehicle emission factors.

2 : GHG emissions quantification process and emission factors refer to the national standards and guidelines of the People's Republic of China – "Greenhouse Gas Emissions Accounting Methodology and Reporting Guidelines for Public Buildings Operating Enterprises (Trial)"), "Greenhouse Gas Emissions Accounting Methodology and Reporting Guidelines for Other Industrial Enterprise (Trial)" and "Land Transport Enterprises – Guidelines on Greenhouse Gas Emission Accounting and Reporting (Trial)", as well as the "Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings in Hong Kong" prepared by the Environmental Protection Department and the Electrical and Mechanical Services Department of Hong Kong, the "SME Carbon Audit Toolkit" compiled by the University of Hong Kong and the City University of Hong Kong, and the international standards ISO 14064-1 and the Greenhouse Gas Protocol.

3 : Including emissions from fire suppression systems and refrigerant emissions within the reporting scope. While fugitive GHG emissions from BTM (bromotrifluoromethane) used in fire suppression systems are not included in the six Kyoto Protocol GHG categories, they are included in this carbon assessment to provide a true and fair picture of GHG-related information. BTM is one of the controlled substances listed in Annex A of the Montreal Protocol, with a conversion factor of approximately 1.0 metric ton of CFC-11 (trichlorofluoromethane) equivalent.

4 : Including airplanes, trains and ferries.

5 : Energy upstream emissions are a new quantified Scope 3 emission breakdown for the year, which quantifies the Group's upstream emissions based on the actual amount of energy consumed by the Group in Scope 1 and Scope 2.

6 : Employee commuting emission, a new Scope 3 emission category quantified for the year, are measured by collecting commuting data from a group sample. The total emissions are estimated using the sample ratio and employee number to meet a 95% confidence interval.

Appendix

Social Performance

Category			Number in 2023	Number in 2024
Current employees[7]	Gender	Male	5,590	5,640
		Female	1,557	1,388
	Age group	30 or below	1,915	1,980
		31-40	2,100	2,230
		41-50	1,344	1,229
		51 or above	1,788	1,589
	Employment rank	Senior	15	15
		Middle	81	90
		Executive	982	1,128
		General employees	6,069	5,795
	Region	Hong Kong	6,760	6,450
		Macau	18	0
		Chinese Mainland	367	569
		USA	0	0
		Canada	0	0
		Others[8]	2	9
Other workers[9]	Gender	Male Female	14,759	20,427
Monthly paid employees[10]	Gender	Male	4,412	4,859
		Female	995	1,153
	Age group	30 or below	1,755	1,918
		31-40	1,841	2,086
		41-50	905	985
		51 or above	906	1,023
	Employment rank	Senior	15	18
		Middle	81	92
		Executive	979	973
		General employees	4,332	4,929
	Region	Hong Kong	5,021	5,434
		Macau	18	0
		Chinese Mainland	367	569
		USA	0	0
		Canada	0	0
		Others[11]	1	9

7 : Total number of employees as of 31 December 2024
8 : Including UK, Portugal, the United Arab Emirates and Singapore.
9 : Including contractors/sub-contractors, interns, volunteers, and other workers whose workplace or work content in controlled by CSHK
10 : Total number of monthly-paid employees as of 31 December 2024. In order to align with the CSHK's roadmap for setting target statistics, data related to new hires, lost employees, and training is only applicable to monthly-paid company contract employees
11 : Including UK, Portugal, the United Arab Emirates and Singapore.

Appendix

Category			Number in 2023	Number in 2024
Monthly paid employees new hires	Gender	Male	1,324	670
		Female	357	152
	Age group	30 or below	804	289
		31-40	597	326
		41-50	172	119
		51 or above	108	88
Rate of monthly paid employees new hires[12]	Gender	Male	30%	14%
		Female	36%	13%
	Age group	30 or below	46%	15%
		31-40	32%	16%
		41-50	19%	12%
		51 or above	12%	9%
Number of monthly paid employee turnover	Gender	Male	768	702
		Female	188	151
	Age group	30 or below	316	256
		31-40	367	328
		41-50	157	122
		51 or above	116	147
	Region	Hong Kong	910	852
		Macau	9	0
		Chinese Mainland	37	1
		USA	0	0
		Canada	0	0
		Others[13]	0	0
Rate of monthly paid employee turnover[14]	Gender	Male	17%	14%
		Female	19%	13%
	Age group	30 or below	18%	13%
		31-40	20%	16%
		41-50	17%	12%
		51 or above	13%	14%
	Region	Hong Kong	18%	16%
		Macau	50%	0%
		Chinese Mainland	10%	0.18%
		USA	0%	0%
		Canada	0%	0%
		Others[15]	0%	0%

12 : Rate of monthly paid employee new hires = (Monthly paid employee new hires in 2024/Number of monthly-paid employee as of 31 December 2024) x 100%.
13 : Including UK, Portugal, the United Arab Emirates and Singapore.
14 : Rate of monthly paid employee turnover = (Monthly paid employee turnover in 2024/Number of monthly-paid employee as of 31 December 2024) x 100%.
15 : Including UK, Portugal, the United Arab Emirates and Singapore.

Appendix

Health and Safety [16]

Statistics		Statistics for 2023	Statistics for 2024
Employees	Number of recordable work-related injuries	0	4
	Work-related injury rate[17]	0.00	0.05
	Number of high-consequence work-related injuries[18]	0	0
	High-consequence work-related injury rate[19]	0.00	0.00
	Number of work-related fatalities	0	0
	Work-related fatality rate[20]	0	0
	Lost days due to work-related injuries	0	5,197
	Number of hours worked[21]	14,067,188	14,625,986
	Rate of injury per thousand people[22]	0.00	0.57
Other workers[23]	Number of recordable work-related injuries	129	148
	Work-related injury rate[24]	0.87	0.50
	Number of high-consequence work-related injuries[25]	0	0
	High-consequence work-related injury [26]	0.00	0.00
	Number of work-related fatalities	0	0
	Work-related fatality rate[27]	0	0
	Lost days due to work-related injuries	0	0
	Number of hours worked[29]	29,518,000	59,034,030
	Rate of injury per thousand people[30]	8.74	7.25
Statistics	Lost time injury rate (LTR)[31]	0.59	0.41

16 : There were no employees or other workers with occupational diseases at CSHK during the Reporting Period.
17 : Work-related injury ratio =(Number of recordable work-related injuries/Working hours) × 200,000.
18 : Injuries where recovery to pre-injury condition is not possible or not expected within six months.
19 : High-consequence work-related injury rate = (Total number of high consequence work-related injuries/working hours) x 200,000.
20 : Work related fatality rate = (Number of work-related fatalities/Number of hours worked) x 200,000.
21 : The estimate is based on each employee working 8 hours per day, excluding hours lost due to sick leave and similar absences.
22 : Rate of injury per thousand people = (Number of recordable work-related injuries of employees/Total number of employees on board)* 1000. The total number of employees on board in 2024 was 7,028.
23 : Including contractors/sub-contractors, interns, volunteers, and other workers whose workplace or work content are controlled by CSHK
24 : Work-related injury ratio = (Number of recordable work-related injuries/Working hours) × 200,000.
25 : Injuries where recovery to pre-injury condition is not possible or not expected within six months.
26 : High-consequence work-related injury rate = (Total number of high consequence work-related injuries/working hours) x 200,000.
27 : Work related fatality rate = (Number of work-related fatalities/Number of hours worked) x 200,000.
28 : Some other workers are paid on basis and are covered by insurance in case of injury. Replacements will be arranged by their employers, so there is no loss of working days.
29 : Estimated by number of hours worked per workers per working day, 7 to 8 hours per day depending on the workers' location
30 : Rate of injury per thousand people = (Number of recordable work-related injuries of other workers/Total number of other workers)* 1000. The total number of other workers in 2024 was 20,427.
31 : LTIR=(Number of recordable injuries of total workforce/Number of hours worked of total workforce) × 200,000.

Appendix

Training and Development[32]

Statistics			2023	2024
Training percentage of monthly paid employee	Gender	Male	69%	100%
		Female	54%	100%
	Employment rank	Senior	100%	100%
		Middle	80%	100%
		Executive	55%	100%
		General employees	69%	100%
Average training hours of monthly paid employee	Gender	Male	9.8	8.8
		Female	7.1	5.3
	Employment rank	Senior	1.3	8.7
		Middle	6.0	10.7
		Executive	7.6	6.5
		General employees	9.8	8.4
	Number of training hours per person		9.3	8.1

Supply Chain Management[33]

Statistics		Statistics for 2023	Statistics for 2024
Total number of suppliers	Hong Kong	503	5,207
	Macau	1	0
	Chinese Mainland	60	0
	Others[34]	1	0
Percentage of local purchases		97%	100%

32 : Including data of employee turnover who has received training in the Reporting Period.
33 : CSHK applies standardised supplier recruitment, management nad monitoring practices to all suppliers of the same kind to ensure fairness in the system.
34 : Including USA, Canada and Europe.

Appendix

Anti-corruption[35]

Statistics		Number in 2023	Number in 2024
Number of people receiving information on anti-corruption policies and procedures	Board members	–	–
	Senior	15	18
	Middle	81	92
	Executive	982	973
	General employees	6,069	4,929
Percentage of people receiving information on anti-corruption policies and procedures	Board members	–	–
	Senior	100%	100%
	Middle	100%	100%
	Executive	100%	100%
	General employees	100%	100%
Number of people receiving anti-corruption training	Board members	–	–
	Senior	7	18
	Middle	23	92
	Executive	90	973
	General employees	986	4,929
Percentage of people receiving anti-corruption training	Board members	–	–
	Senior	47%	100%
	Middle	28%	100%
	Executive	9%	100%
	General employees	16%	100%
Average anti-corruption traning hours	Board members	–	–
	Senior	0.5	0.1
	Middle	0.3	0.1
	Executive	0.1	0.2
	General employees	0.2	0.3

Community Investment

Statistics	Unit	Number in 2023	Number in 2024
Total amount of investment	HKD	2,122,214.0	751,000
Number of participating volunteers	Number of People	4,782.0	15,878.0
Number of volunteer participation hours	hour	17,210.5	4,632.0

35 : Including data of employee turnover who has received information or training during the current period

Appendix

China State Construction Engineering (Hong Kong) Ltd. was in accordance with the GRI Standards Report for the period from 1 January 2024 to 31 December 2024.

GRI Standard Content Index

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI2: General Disclosures 2021	**Organization and its Reporting Practices**		
	2-1 Organizational details	General Information – About CSHK	6
	2-2 Entities included in the organization's sustainability reporting	General Information – About This Report	9
	2 - 3 Reporting period, frequency and contact point	General Information – About This Report This Report was published in May 2025.	9
	2 - Restatements of information	There are no restatements of information in this Report.	-
	2 - 5 External assurance	Appendix – Independent Assurance Statement	96
	Activities and Workers		
	2 - 6 Activities, value chain and other business relationships	Alliance There are no significant changes in the location of suppliers, the structure of the supply chain or the relationships with suppliers.	6 58
	2 - 7 Employees	People	18
	2 - 8 Workers who are not employees	People The Group will propose that the projects cover its direct value workers, the latter of which are mainly located in the contractors and/part of the opposite workers to carry out the work.	18
	Governance		
	2 - 9 Governance structure and composition	General Information - Sustainability Philosophy –"P.E.A.K."	3
	2 - 10 Nomination and selection of the highest governance body	Abolished due to warranty requirement restrictions, as a private company, details of the board of directors, remote monitoring and board composition are considered confidential and will not be publicly disclosed.	-
	2 - 11 Chair of the highest governance body	General Information - Message from the Management	10
	2 - 12 Role of the highest governance body in overseeing the management of impacts	General Information - Sustainability Philosophy –"P.E.A.K."	3
	2 - 13 Delegation of responsibility for managing impacts	General Information - Sustainability Philosophy –"P.E.A.K."	3
	2 - 14 Role of the highest governance unit in sustainability reporting	General Information - Sustainability Philosophy –"P.E.A.K."	3
	2-15 Conflicts of interest	As a subsidiary of CSCI, we are most often required to provide effective services to the project. For more details, please refer to CSCI's Annual Report 2024: https://manager.wisdomir.com/files/409/2025/0429/20250429164501_02940179_tc.pdf	-
	2-16 Communication of critical concerns	CSHK's construction committees, each of which is participated in by the Group's senior management, meet regularly, with the heads of the relevant sections communicating with senior management on the relevant critical concerns during the meetings.	-

Appendix

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
	2-17 Collective knowledge of the highest governance unit	CSHK's senior management attends other seminars and/or reads materials on ESG topics to further enhance their expertise.	-
	2-18 Evaluation of the performance of the highest governance unit 2-19 Remuneration policies 2-20 Process to determine remuneration	As a subsidiary of CSCI, we are most often required to comply with, and are subject to, various risk-based investigation standards under this and related policies, which can be found in CSCI's 2024 Annual Report: https://manager.wisdomir.com/files/409/2025/0429/20250429164501_02940179_tc.pdf	-
	2-21 Annual total compensation ratio	The data is incomplete and will follow the data collection program established by CSCI, which is planned to be disclosed in the next report.	-
	Strategy, Policies and Practices		
	2-22 Statement on sustainable development strategy	General Information - Message from the Management	10
	2-23 Policy commitments	General Information - Stakeholder Engagement People - Occupational Safety Management System People - Talent Development, Caring for the Community Alliance - Business and Professional Ethics	11 21 29 41 65
	2-24 Embedding policy commitments	People - Occupational Safety Management System People - Talent Development, Caring for the Community Environment Alliance - Business and Professional Ethics	21 29 41 65
	2-25 Processes to remediate negative impacts	Shall CSHK and the government (regarding internal organization or management system of security incidents) hold a strong and repetitive view against the breaching the fairness of the law, relevant application expressions are also set out inside the Employee Handbook.	-
	2-26 Mechanisms for seeking advice and raising concerns	The Employee Handbook states that if staff have questions about different policies, they could make enquiries to the appropriate departments.	-
	2-27 Compliance with laws and regulations	During the Reporting Period, no material non-compliance was identified by CSHK.	-
	2-28 Membership associations	Appendix – Awards and Association Membership	78
	Stakeholder Engagement		
	2-29 Approach to stakeholder engagement	General Information - Stakeholder Engagement	11
	2-30 Collective bargaining agreements	The Group does not have a collective bargaining mechanism.	-

Appendix

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-1 Process to determine material topics	General Information - Stakeholder Engagement	11
	3-2 List of material topics	General Information - Stakeholder Engagement	11

Technological innovation

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	Environment - Low-carbon Construction Transformation Environment - Green Building Materials and Technologies	42 47

Exploring carbon-neutral construction

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	Environment - Environmental Management Policy and System	57
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Overview of Key Performance Indicators - Environment Performance	82
	305-2 Energy indirect (Scope 2) GHG emissions	Overview of Key Performance Indicators - Environment Performance	82
	305-3 Other Indirect (Scope 3) GHG emissions	Overview of Key Performance Indicators - Environment Performance	82
	305-4 GHG emissions intensity	Overview of Key Performance Indicators - Environment Performance	82
	305-5 Reduction of GHG emissions	Overview of Key Performance Indicators - Environment Performance	82
	305-6 Emissions of ozone depleting substances (ODS)	Overview of Key Performance Indicators - Environment Performance	82
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx) and other significant air emissions	Overview of Key Performance Indicators - Environment Performance	82

Waste management

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	Environment - Low-carbon Construction Transformation Environment - Environment Management Policy and System	42 57
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Environment - Low-carbon Construction Transformation	42
	306-2 Management of significant waste-related impacts	Environment - Low-carbon Construction Transformation	42
	306-3 Waste generated	Overview of Key Performance Indicators - Environment Performance	82
	306-4 Waste diverted from disposal	Overview of Key Performance Indicators - Environment Performance	82
	306-5 Waste directed to disposal	Overview of Key Performance Indicators - Environment Performance	82

Appendix

Managing labour shortage

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	People - Talent Development, Caring for the Community	29
GRI 401: Occupational Health and Safety 2018	401-1 New employee hires and employee turnover	Overview of Key Performance Indicators - Social Performance	86
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	People - Talent Development, Caring for the Community	29
	401-3 Parental leave	Overview of Key Performance Indicators - Social Performance	86

Establishing a safety culture at work

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	People - Occupational Safety Management System	21
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	People - Occupational Safety Management System	21
	403-2 Hazard identification, risk assessment, and incident investigation	People - Occupational Safety Management System	21
	403-3 Occupational health services	People - Occupational Safety Management System	21
	403-4 Worker participation, consultation, and communication on occupational health and safety	People - Occupational Safety Management System	21
	403-5 Worker training on occupational health and safety	People - Occupational Safety Management System	21
	403-6 Promotion of worker health	The Company has a comprehensive health care program and has purchased employment insurance in accordance with the law. We also organize a variety of physical and mental activities, such as ball games, cooking activities, etc., to promote the physical and mental health of our employees.	-
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	People - Occupational Safety Management System	21
	403-8 Workers covered by an occupational health and safety management system	People - Occupational Safety Management System	21
	403-9 Work-related injuries	People - Occupational Safety Management System Overview of Key Performance Indicators - Social Performance	21 86
	403-10 Work-related ill health	People - Occupational Safety Management System Overview of Key Performance Indicators - Social Performance	21 86

Appendix

Promoting talent development in the industry

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	People -Talent Development, Caring for the Community	29
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Overview of Key Performance Indicators - Social Performance	86
	404-2 Programs for upgrading employee skills and transition assistance programs	People - Talent Development, Caring for the Community	29
	404-3 Percentage of employees receiving regular performance and career development reviews	Overview of Key Performance Indicators - Social Performance	86

Product quality and safety

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	Environment – Green Building Materials and Technologies	47
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Environment – Green Building Materials and Technologies	47
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	During the year, we did not violate any health and safety regulations or voluntary agreements relating to our products and services.	-

Protecting customer and business data

Sustainability Reporting Standards	General Disclosures	Reference/Explanation/Reason for Omission	Page Number
GRI 3: Material Topics 2021	3-3 Management of material topics	Environment – Green Building Materials and Technologies	47
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	During the year, there have not been any complaints about infringement of customer privacy or loss of customer data.	-

Appendix

Independent Assurance Statement

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INDEPENDENT ASSURANCE
OPINION STATEMENT

Statement No.: SRA-HK-826480

China State Construction Engineering (Hong Kong) Limited
Sustainability Report 2024

The British Standards Institution is independent of China State Construction Engineering (Hong Kong) Limited (hereafter referred to as "CSHK" in this statement) and has no financial interest in the operation of CSHK other than for the assessment and assurance of CSHK Sustainability Report 2024 (the "Report").

This independent assurance opinion statement has been prepared for CSHK only for the purposes of assuring its statements relating to the Report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read. This statement is intended to be used by stakeholders and management of CSHK.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by CSHK. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to CSHK only.

Scope

The scope of engagement agreed upon with CSHK includes the following:

1. The assurance covers part of the Report and focuses on systems and activities of CSHK and its subsidiaries in Hong Kong, which include construction and engineering, investment, architectural technology products and information technology, during the period from 1st January 2024 to 31st December 2024 (the "Reporting Year"), for following specified sustainability performance information.
   - Greenhouse Gas Emission – Total GHG Emissions (Scope 1 and Scope 2)
   - Raw Materials Consumption – FSC and PEFC certified Timber Purchased
   - Employees – Work-related injury rate and fatal accident rate per 1,000 persons

Type 2 Moderate Level of Assurance in accordance with the AA1000 Assurance Standard v3 ("AA1000AS v3") evaluates the nature and extent of CSHK adherence to four reporting principles: Inclusivity, Materiality, Responsiveness and Impact, and reliability of the above specified sustainability performance information/data disclosed in the Report.

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This statement was prepared in English and translated into Chinese for reference only.

Inclusivity

The Report has reflected the fact that CSHK has engaged with its significant stakeholders through various channels such as interview, questionnaire, email, meeting, grievance mechanism, employee event and volunteer activity, phone/email, exchange session, seminar, on-site visit, and more.

CSHK's operation involves various methods of engaging its stakeholders on an on-going basis. The Report covers economic, social and environmental aspects of concern to its stakeholders with a fair level of disclosure. In our professional opinion, CSHK adheres to the principle of Inclusivity. Areas for enhancement of the Report were adopted by CSHK before the issuance of this opinion statement.

Materiality

CSHK publishes sustainability information that enables its stakeholders to make informed judgments about CSHK's management and performance. In our professional opinion, the Report adheres to the principle of Materiality and identifies CSHK's material aspects by using appropriate methods of materiality analysis and demonstrating material issues in materiality assessment results section of the Report. Areas for enhancement of the Report were adopted by CSHK before the issuance of this statement.

Responsiveness

CSHK has implemented practices that respond to the expectations and perceptions of its stakeholders. These include sustainability reporting for both internal and external stakeholders. In our professional opinion, CSHK adheres to the principle of Responsiveness. Areas for enhancement of the Report were adopted by CSHK before the issuance of this statement.

Impact

CSHK has established processes to understand, measure and evaluate its impacts in qualitative and quantitative way. These processes enable CSHK to assess its impact and disclose them in the sustainability subject matter of the Report. In our professional opinion, CSHK adheres to the principle of Impact. Areas for enhancement of the Report were adopted by CSHK before the issuance of this statement.

Assurance Level

The Type 2 Moderate Level of Assurance provided in our review is defined by the scope and methodology described in this opinion statement.

Responsibility & Limitations

It is the responsibility of the CSHK's senior management to ensure that the information being presented in the Report is accurate. The assurance is limited by information presented by CSHK. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

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Opinion Statement

We conclude that the specified sustainability information of the Report provides a fair view of CSHK's sustainability programmes and performance in the Reporting Year. We believe that the social and environmental performance indicators for the sustainability subject matter of the Report are fairly represented in the Report, in which CSHK's efforts to pursue sustainable development are widely recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurors in accordance with the AA1000 Assurance standard v3, AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations. We considered CSHK has provided sufficient evidence during the assurance processes.

Methodology

Our work was designed to gather evidence on which our conclusion is based. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to CSHK's policies to check on the appropriateness of statements made in the Report;
- Discussion with senior executives on CSHK's approach to stakeholder engagement. We had no direct contact with external stakeholders;
- Interview with staff involved in sustainability management, report preparation and provision of report information;
- Review of key organizational developments;
- Review of supporting evidence for claims made in the sustainability subject matter of the Report including raw data and supporting evidence of the sustainability information; and
- An assessment of CSHK's reporting and management processes concerning reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000 AccountAbility Principles 2018 Standard ("AA1000AP (2018)").

Conclusions

A detailed review against the AA1000AP (2018) Principles of Inclusivity, Materiality, Responsiveness and Impact is set out below

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Competency and Independence

The assurance team was composed of lead assurors, who are experienced in the industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEX's ESG Reporting Guide, UNGC's Ten Principles, ISO 20121, ISO 14064, ISO 14001, OHSAS 18001, ISO 45001, ISO 9001, and ISO 10002, etc. British Standards Institution is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Michael Lam – Senior Vice President, APAC Assurance
29th May 2025

Verifier of the Report:

Mr. Aaron Chim
Lead Assuror

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Appendix

Glossary

In this Report, unless the context otherwise requires, the following terms shall have the meanings set out below:

Defined Terms or Abbreviations		Corresponding contents
"This Report"	means	This Sustainability Report
"Reporting Period"	means	The period from 1 January to 31 December 2024
"CSHK"or"We"	means	China State Construction Engineering (Hong Kong) Ltd. and its subsidiaries
"CSCI"	means	China State Construction International Holdings Ltd.
"Happy Worker APP"	means	Happy Worker mobile application
"AI"	means	Artificial Intelligence
"AR"	means	Artificial Reality
"BIM"	means	Building Information Modelling
"BIPV"	means	Building Integrated Photovoltaics
"C-SMART"	means	C-Smart Site Integrated Management
"C-SYS+System"	means	C-SYS+Enterprise Management and Data Platform
"DBO"	means	Design - Build - Operate
"ESG"	means	Environmental, Social and Governance
"FSC"	means	Forest Stewardship Council
"GRI Standards"	means	Global Reporting Initiative
"SASB Standards"	means	Sustainability Accounting Standard (SASB) Foundation Standards
"GGBS"	means	Ground Granulated Blast-furnace Slag
"MiC"	means	Modular Integrated Construction
"MiMEP"	means	Multi-trade Integrated Mechanical, Electrical and Plumbing
"OHS"	means	Occupational Health and Safety (Occupational, Safety and Health)
"PEFC"	means	Programme for the Endorsement of Forest Certification
"SDGs"	means	United Nations Sustainable Development Goals
"VR"	means	Virtual Reality
"4S"	means	Smart Site Safety System