Sustainability Report 2021

Shaping a new future

Gammon

Contents

Our Brands:

Gammon

Civil, foundations, building, E&M and construction services covering plant and equipment, concrete technology and steel fabrication

LAMBETH

Engineering design services

ENTASIS

External façades and general contractor

digitalO

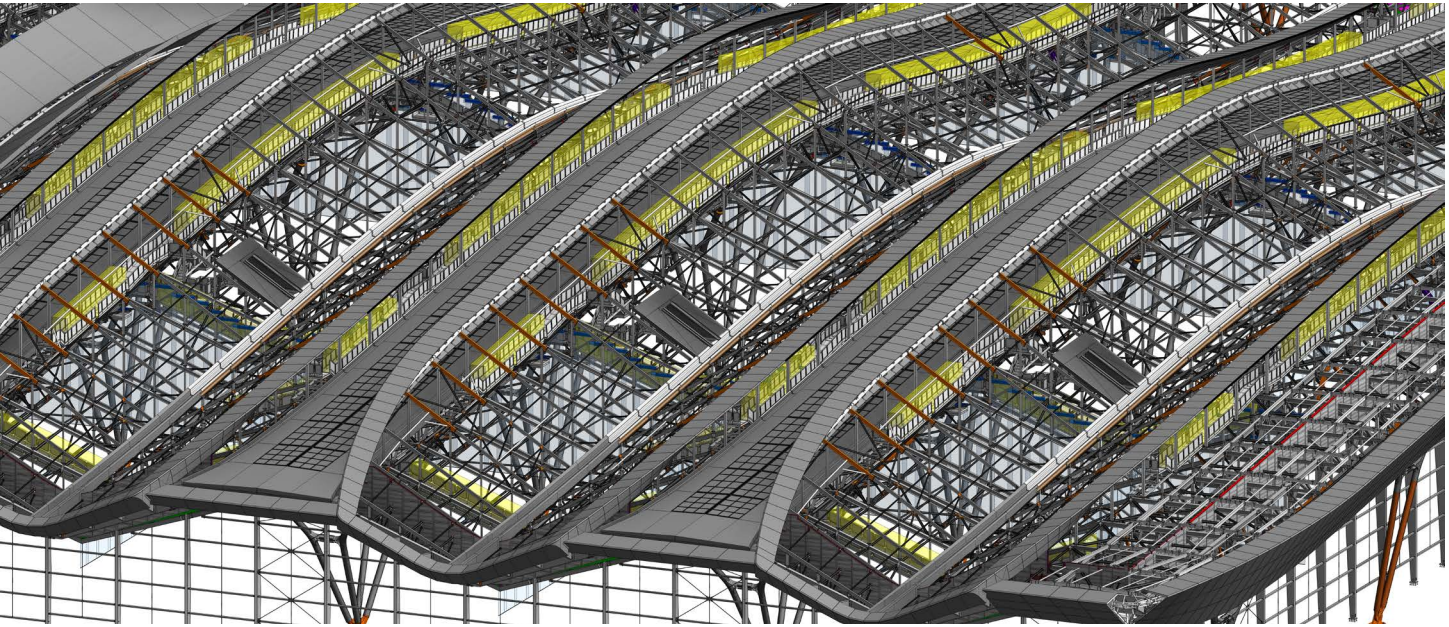
Technology and innovation

IntoG

Interior fit-out and contracting

Introduction

This year's report is titled 'Shaping a new future', as 2021 ushered in a range of new and exciting programmes and initiatives set to chart a course to a new future. We sadly bid farewell to our Chief Executive of 16 years, Thomas Ho, who retired but look forward to what is ahead under the stewardship of new Chief Executive, Kevin O'Brien. Our co-launch of the Power Up Coalition with the Business Environment Council will, we hope, help deliver lower carbon construction sites and 2021 also saw us use more green and sustainable finance products. Our efforts to be a more inclusive company continued with the formal launch of our Women in Gammon and Allies (WinG) employee network and support for high school girls through the Girls Go Tech programme. At our head office, we installed a smart immersive lab, complete with BIM cave, and were able to showcase to clients and partners the impressive progress we have been making towards being the smart and digital contractor of choice. With the help of digitally engineered project delivery, the future of residential developments may also be set to change with our award of the first concrete modular integrated construction project for the private sector. The new future unfortunately continues to be one where the COVID-19 pandemic lingers but we are confident in the resilience of our One Team, given the effort made to achieve over 90% vaccination rate by the end of 2021. We hope you enjoy reading about these stories and more, as we shape a new future.



Digital model of the roof on our Terminal 2 Expansion Works project.

Structure and alignment of the report

GRI 102-10 | GRI 102-53 | GRI 102-54 | GRI 102-56

After the initial sections on the company, projects and highlights, the report is largely organised under the four focus areas of our sustainability strategy, Responsible Growth – 25 by 25 (view here). Governance information and management approaches for the operation of the business remain largely unchanged and are presented in the 'How we manage' section. The appendices include data disclosures (Appendix A) and greenhouse gas inventory verification statement (Appendix B). The report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core Option and has been verified against the GRI Standards from the Global Sustainability Standards Board and in accordance with AA1000 v3 (AS) (2018) Accountability Principles by an independent third party, as shown in Appendix C. The GRI Content Index (Appendix D) references the required general and material topic disclosures and locations where they can be found in the report. Appendices E, F and G contain a list of awards, green building projects and memberships of associations and industry bodies respectively.

The Director for Health & Safety, Sustainability, Systems & Audit is responsible for commissioning the professional external body to undertake the assurance. There were no significant changes during the reporting period regarding Gammon's size, structure or supply chain. All active entities within the Gammon Group have been included in the coverage of this report, as listed in the Governance section.

This report is available online only through our website at www.gammonconstruction.com/en/sustainability-report.php. Should you wish to provide any comments on the report or suggestions for us to pursue, please drop us an email at sustainability@gammonconstruction.com. We welcome your views.

Kevin O'Brien, Chief Executive of Gammon Construction Limited

Message from the Chief Executive

I took over as Chief Executive of Gammon in September 2021, in the enviable position of helming a company with its strongest ever order book and plenty of opportunities in the pipeline. But a strong order book needs to be converted into good performance and environmental, social and governance (ESG) factors are increasingly important when we are evaluated by our stakeholders, customers, financial institutions and prospective employees. It is imperative we are doing the right thing and driving the ESG agenda daily.

Gammon is considered an influencer in the areas in which we operate and one of our notable achievements in 2021 was the co-launch with the Business Environment Council of the Power Up Coalition which encourages timely electrification of construction sites in Hong Kong. At the outset, 14 companies and organisations, including Gammon and the power companies, signed up to this important initiative which provides an opportunity for industry players to work together on a shared mission to decarbonise construction activities and protect the health of the public and those working on sites. More have joined since the launch.

It's also important that we seek out projects where we can offer our skills and help the broader community address sustainability challenges. I'm very proud of our role as civils contractor for the new gas-fired turbine at Black Point Power Station, for example, which we took up in 2021. Upon completion, this will make a significant positive impact to Hong Kong's carbon reduction targets.

Additionally, we need to accelerate the move to modern methods of construction (MMC) which will help us deliver more efficiently and safely, and to a higher level of quality. We were delighted to be awarded two residential contracts in 2021 that will be delivered using modular integrated construction (MiC) methods.

Message from the Chief Executive

Presenting our digital capabilities to Wheelock senior management.

We've established a special MiC taskforce to help us with knowledge development and recruitment of people to work on the projects and enhance quality and progress control and we will be paying careful attention to the business practices of our supply chain as we shift more of our activities off site.

Our innovation incubator, Digital G, continued to connect and create partnerships with external companies, both locally and internationally, to bring new and emerging technologies that enhance efficiency, productivity and safety into our core business, as well as sell to the wider industry. We spent considerable effort engaging with our customers and government bodies throughout the year, showcasing these digital technologies in our Immersive Smart Lab which features a BIM computer-aided virtual environment (CAVE), while also growing Gammon's digital brand.

Some of the new technology we will be introducing to the company is designed to improve safety, which unfortunately remains one of the biggest challenges in the industry today. Tragically, we were given a reminder of this fact after a fatality at one of our projects. We responded swiftly with an internal investigation and comprehensive reviews on all projects and will ensure all collective learning is fed back into the business so there is no opportunity for a repeat incident.

Another challenge faced by the industry is attracting talent. One of our long-term solutions is to promote STEM-related education and the construction industry as a viable career option for future generations. We took part in promotional activities in schools and sponsored The Women's Foundation's Girls Go Tech programme which encourages high school girls to pursue traditionally male-dominated STEM-related subjects. I further believe our commitment to creating a fair, positive and inclusive workplace, which included the formal launch in 2021 of the Women in Gammon and Allies (WinG) network, will play a part in helping to address this resourcing challenge. I am currently on a Male Allies programme developed by The Women's Foundation and look forward to bringing what I have learnt back into the company with the support of our D&I champions.

> **It is imperative we are doing the right thing and driving the ESG agenda daily.**

We have now launched Project Agile, to look for improvement opportunities across the business. We aim to build new capabilities and become more agile and efficient, share best practices, and become an even more effective counterpart to our customers, business partners and employees. With COVID-19 continuing to cause disruption to the supply chain, commodity prices and labour supply, this agility will also help us to continue navigating the challenges of delivery in the months and years ahead.

GRI 102-14

01 About us

Organisation and report coverage

GRI 102-1 | GRI 102-2 | GRI 102-4 | GRI 102-5 | GRI 102-6 | GRI 102-50 | GRI 102-51 | GRI 102-52

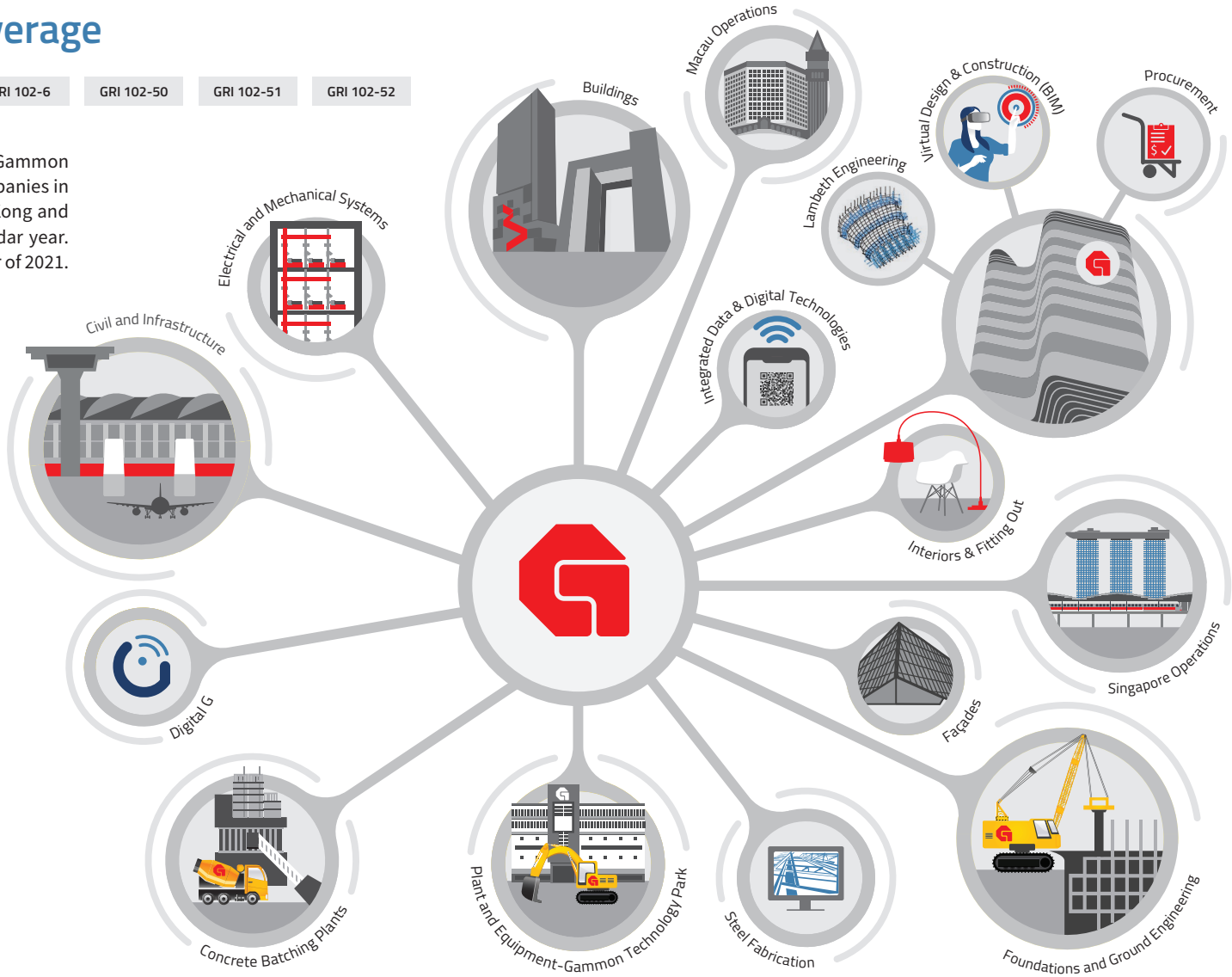
This annual sustainability report covers the operations of Gammon Construction Limited, its subsidiaries and associated companies in the construction business (the Gammon Group) in Hong Kong and Macau, Mainland China and Singapore for the 2021 calendar year. The previous report for 2020 was issued in the third quarter of 2021.

Organisational profile

The principal activities of the Gammon Group are civil engineering, foundation works, building, interiors and facade construction, electrical and mechanical installation, manufacturing and supply of fabricated steel, manufacturing and selling concrete, and plant and equipment development and operation. Our business is divided into different divisions and departments, as is summarised in the illustration.

Our clients include the following:

- Government works departments and other government authorities
- Cultural, sports and educational facilities
- Commercial, residential and industrial property developers
- Transport and utilities providers
- Property and other built asset owners
- Other contractors



01 About us

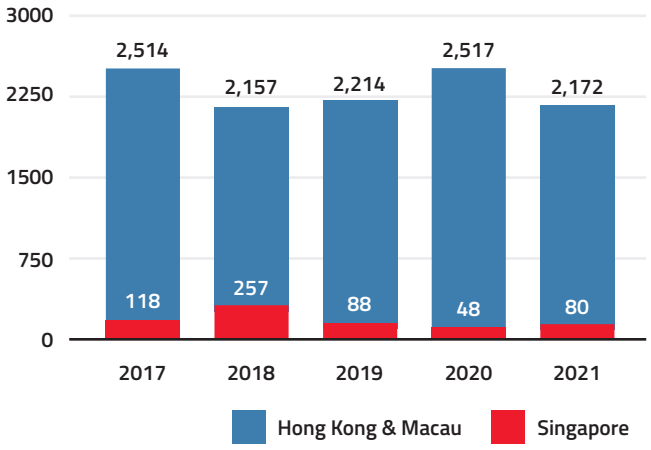
Scale of the business and operations overview

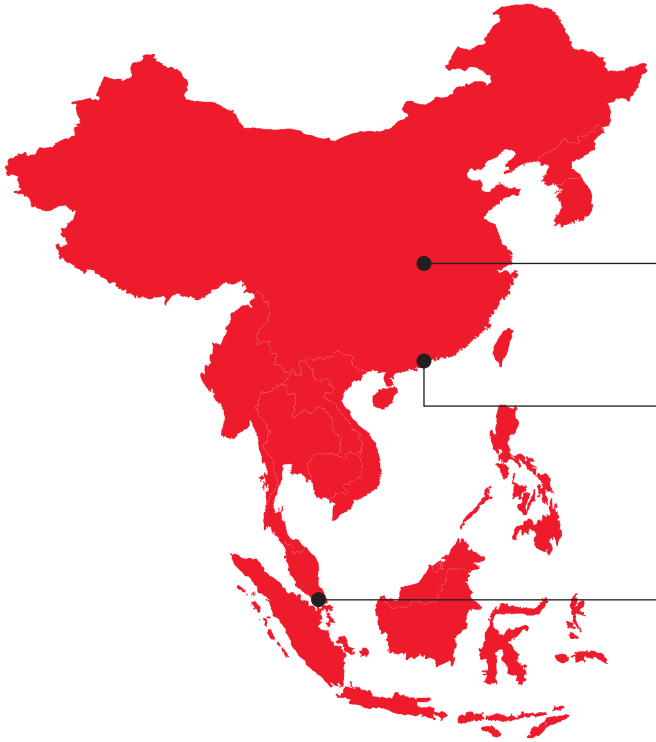
GRI 102-7

In 2021, we had 118 active projects across the business. The group turnover and workforce data broken down by region is presented below.

We describe major project completions and new projects during 2021 in 'Projects spotlight and outlook'. Further details of our operations, company information and performance can be found in the key performance indicators (KPI) table (Appendix A). Quantifying our products or services is complex due to the varied and integrated nature of our business, however our current listing of all ongoing major projects is available on request. We are not able to disclose details of our capitalisation, as this information is commercially sensitive.

Total turnover by region (US$ milions)

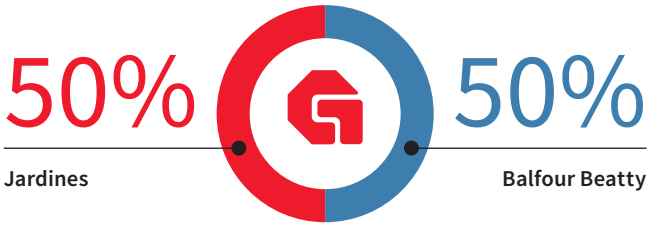




Total employees by region (end December 2021):

TOTAL EMPLOYEES	6841
MAINLAND CHINA	427
HONG KONG & MACAU	5908
SINGAPORE	506

Ownership of the business is:



No revenue directly generated in mainland China as the Shenzhen office provides support functions and revenue generated through Pristine is included under Hong Kong and Macau.

02

Project spotlight and outlook

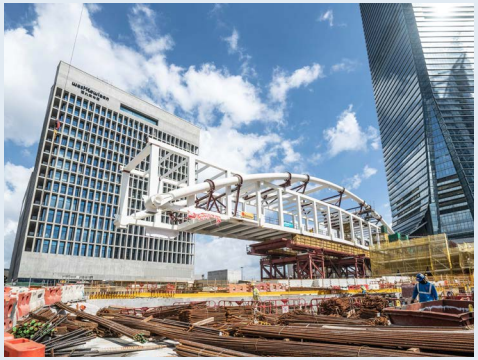
One-team delivery: diversified services, digitally enabled solutions

Project highlights

GRI 102-4 GRI 102-6

Legend

- Electrical & Mechanical
- Civil
- Steel
- Foundations
- Concrete
- Digital G
- Buildings
- Interiors & Façades
- New project

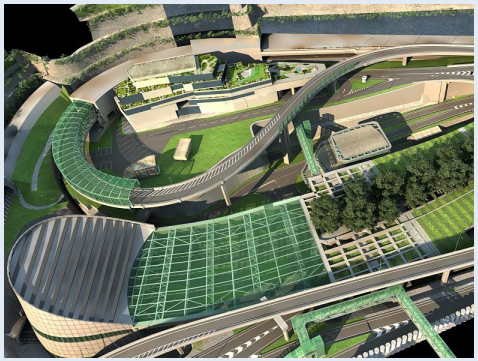


Artist Square Bridge

We successfully push-launched the Artist Square Bridge across nine lanes of traffic to form a gateway to the West Kowloon Cultural District.

Central Kowloon Route – Buildings, Electrical and Mechanical Works

Design works progressing well on the BEAM Plus Platinum Administration Building.



Noise covers, enclosures and barriers for Tseung Kwan O - Lam Tin Tunnel

Our Steel Department designed modular noise barriers and enclosures that reduce work at height, materials, lifting and, ultimately, embodied carbon emissions.

Advanced Manufacturing Centre (AMC)

We installed Hong Kong's first large-scale multi-trade integrated MEP (MiMEP) plant room in the six storey AMC project which was constructed with a strong focus on DfMA and digtal solutions.

Demolition and Foundation Works at Prince of Wales Hospital

We completed the new elevated road connection as part of the preparation and foundation works for the major new expansion adjacent to the live Prince of Wales Hospital which forms part of the Hospital Authority's Hospital Development Plan.

98 How Ming Street, Kowloon East

We met our first installation milestone of completing the non-typical floors which consist of true-curved inclined curtain wall units.

Ang Mo Kio Station and Tunnels, Singapore

We were awarded a S$644m (HK$3.8bn) design and build contract to construct a new underground train station, as part of a joint venture for the new Cross Island Line.

Third Runway System (3RS) Batching Plant

We had a further 84 ready-mix concrete products certified by CIC's Green Product Certification – Carbon Labelling Scheme, 45 of which are for our 3RS batching plant.

Residential MiC Projects

We were awarded two major MiC projects: the first private residential contract in Hong Kong to adopt concrete MiC, and a student hostel development at City University of Hong Kong (CityU).

Asia World Expo Restrooms Renovation

The majority of the built-in fixtures were installed using a prefabricated approach to reduce waste and increase efficiency.

Airport projects

Work is well underway on our three projects at Hong Kong International Airport: Terminal 2 Expansion Works; Automatic People Mover and Baggage Handling System Tunnels and Related Works; and the Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Roads.

Water World Ocean Park: The main structure is iconic in its own right and capable of capturing as much attention as the rides themselves.

M+ Museum is an important addition to Hong Kong's cultural landscape.

We won the first concrete modular integrated construction project for the Hong Kong private sector.

Completed and new projects

Our performance in 2021 continued to be strong. Major projects completed during the year include the eagerly awaited M+ Museum. Consisting of three major structures, the development is a world-class arts and cultural centre and a spectacular new landmark in Hong Kong. Many of the architectural finishes and works for the exhibition spaces were extremely complicated to execute, and most of the concrete surfaces are fair-faced – on a scale not seen before in Hong Kong. The doors also opened to Water World Ocean Park, the first theme park built by Gammon. The project was notable for its use of leading digital technology to help overcome the challenges of the main structure's highly unconventional geometry and the site's steep terrain.

Market outlook

Looking ahead, there are considerable transportation and infrastructure opportunities including MTR network extensions, the Northern Metropolis and Lantau Tomorrow Vision developments, major roads and tunnels, for example Route 11 with Hong Kong's longest suspension bridge. About 50,000 new residential units a year are also required to meet the government's 2029 public housing target. The introduction of a bill in 2021 that prevents filibustering means we can expect the Legislative Council to approve new public works more quickly, and we have already seen an increase in funding approvals. In Singapore, the construction industry is expected to grow steadily as government spending on infrastructure continues.

New project highlights

New project highlights include winning two significant contracts that will be delivered using a modular integrated construction approach. One will be the one of the world's largest MiC student hostel projects to date, while the other is a residential development. In Singapore, we were awarded a design and build contract for a new underground railway station which we will deliver under a joint venture arrangement. We were also awarded the main civil works for the new gas-fired turbine at Black Point Power Station which, when finished, will make a considerable difference to Hong Kong's carbon reduction targets. A complete list of new projects is on the following page.

Projects awarded in 2021

Division	Job Name
Civil	Black Point Power Station D2 Main Civil Work
Building	LOHAS Park Package 12 Government Accommodation
	Office Development at Queen's Road East
	LOHAS Park Package 11 Residential Development
	Lung Cheung Road Residential Development
	Advance Work - Pokfield Rd, the University of Hong Kong
	Queensway Footbridge Two at Harcourt Garden and Adjoining Areas at Pacific Place
	Ho Man Tin Station Package 2 Property Development
	Site Clearance at Wong Yue Tan
	Project Management Services for Yee Wo Street
	Tai Wai Station Residential Development
	LOHAS Park Package 12 Residential Development
	Urban Renewal Authority Residential Development at Tonkin St, Sham Shui Po
	Student Hostel at Whitehead for City University
E&M	Fullerton Ocean Park Hotel Electrical Alteration and Addition Works
Interiors (IntoG)	Lions Rise Mall Enhancement Works
	Expo Public Circulation Area Toilet Renovation
	Nina Hotel Room Mock-Up
Steel Fabrication	Cathay City Solar Photovoltaic System
	HAECO H2 & 3A Solar Photovoltaic System
	Siu Ho Wan - Cable Bridges

Division	Job Name
Foundations	Ground Investigation Works for Proposed Building at House 9 Plantation Road
	Ground Investigation Works for Flat Development at Anderson Road
	Ground Investigation Works for Proposed School Development at Tung Chung
	Ground Investigation Works for Commercial Development in Causeway Bay
	Foundation Works for Proposed Residential Development at Wang Wo Tsai St
	Foundation Works at Chun Tin Street
	Cyberport Expansion Project
	Design and Construction of Piling Works for Residential Development at Sai Sha (Site A), Shap Sze Heung
	Pipe Piling for Sai O Pumping Station, Shap Sze Heung, New Territories
Singapore	Bored Piling Works for Contract N106 North South Corridor between Novena Rise and Toa Payoh Rise
	Contract TR307 – Provision of Mechanical Services for Road Tunnels
	Bored Piling Works for Contract N113 North South Corridor between Yishun Avenue 5 and Admiralty Road West
	Design and Build of Ang Mo Kio Station and Tunnels
	Global Switch Woodlands Data Centre - various minor works packages

03 Performance at a glance

SAFETY

Group Accident Incident Rate of
3.4 (target of **3.8**)

32% decrease in the number of accidents /$ turnover since 2016

14% drop in the number of accidents compared with 2020

Carried out **12,511 health screenings**

and **197 health talks & workshops**
for the benefit of our staff and subcontractors

ENVIRONMENT

Achieved the **Gold Award** for the Construction Sector in the Hong Kong Awards for Environmental Excellence for the Sai Sha Road Widening and Associated Infrastructure JV project

Increased use of Enertainers to replace diesel generators from **4** to **7**

Co-launched the **Power Up Coalition** with the Business Environment Council to accelerate grid electricity and avoid diesel generators

VALUE CHAIN

Advised on development of Construction Industry Council's **Sustainable Finance Certification Scheme**

Installation of **Immersive Smart Lab** in head office for use and demonstration of different technologies including BIM cave

Won the **first** concrete modular integrated construction private residential project in Hong Kong

84 new Construction Industry Council Green Product Certifications for low carbon concrete products

PEOPLE

Over 2 million HK$ in prize giveaways to achieve over **90%** vaccination rate for Hong Kong employees and subcontractors by the end of 2021
(compared with 72% of general population)

Women in Gammon and Allies Network (WinG) officially launched for International Women's Day

Organised 81 community events throughout Hong Kong, Singapore and mainland China and donated **HK$1.9 million** to good causes

16.2 Training hours per person

SUSTAINABILITY MONTH

Sustainability Month held in October

including **20** webinars from internal and external speakers

4 technical visits

5 topic-specific activities, quiz and staff commuting survey

04

Award highlights

Many of our 2021 awards reflect the considerable focus we have placed on digitalising traditional construction processes and reducing the environmental and social impact of our activities. Industry recognition such as that highlighted on the following pages demonstrates we are now realising our vision to be the smart and digital contractor of choice. We share details of other awards throughout this report and a full list can be found in Appendix E.

Gammon is focused on creating a forward-looking culture that nurtures and rewards innovation and sustainability

Digitalising construction processes

Digital transformation and digital project delivery are two of our key business priorities, therefore we were delighted to receive Gold in the Organisation Category (Main Contractor, Category A) at the Construction Industry Council (CIC) Construction Digitalisation Award 2021. The award recognises outstanding local projects and organisations for their contribution to the promotion and adoption of digital tools and workflows and for bringing about innovation in these areas to improve sustainability, safety, productivity and quality, with measurable KPIs. Judging was carried by out by a panel of esteemed local and international industry experts and assessed against four key attributes: technical execution and benefit realisation; strategy and leadership; innovation management and operation; and environmental, social and corporate governance and industry impact.

Repeat recognition

For the eighth time we took home the top award in the Construction Industry category of the Hong Kong Awards for Environmental Excellence. Gold was awarded to our Sai Sha Road widening project, where noteworthy environmental initiatives include a solar power renewable energy system, holistic tree management using sensors, carbon reduction through early site electrification, and use of a hybrid reality platform and 3D visualisations to facilitate better planning, environmental risk identification and ultimately more sustainable construction.

Our Advanced Manufacturing Centre project was also recognised with a Certificate of Merit in the Construction Sector, while our Concrete Technology Department won a Certificate of Merit in the Manufacturing and Industrial Sector.

04 Award highlights

People focused

We were presented with two major accolades at the CTgoodjobs Best HR Awards 2021 ceremony in November: a Best Corporate Wellbeing Grand Award, as well as Gold in the Best Innovative HR Initiative Award.

The trophies recognise our various caring and wellness programmes such as on-site health checks, mental health initiatives and extra precautions and hygiene practices to address COVID-19, as well as our digital HR platform launched in 2021 which better facilitates the management of people and their information.

Outstanding professional achievements

We picked up 13 of the 66 available awards at the Hong Kong Institute of Construction Managers 2020 Construction Management Awards ceremony which was held in August 2021.

Highlights of the evening included the presentation of the prestigious Excellent Construction Team Grand Award (A&A Works category) to our Central Plaza Podium Extension project. Phyllis Chen was also the winner of Grand Awards in both the Young Construction Manager and Construction Manager A&A Works categories (see page 33 for an interview with Phyllis). We went on to collect a further six Grand, three Merit and a Distinction award before the night was out.

Double delight

We were presented with both the Corporate Innovation and the Revitalisation award in the Major Contractor Category at the inaugural CIC Outstanding Contractor Award 2021.

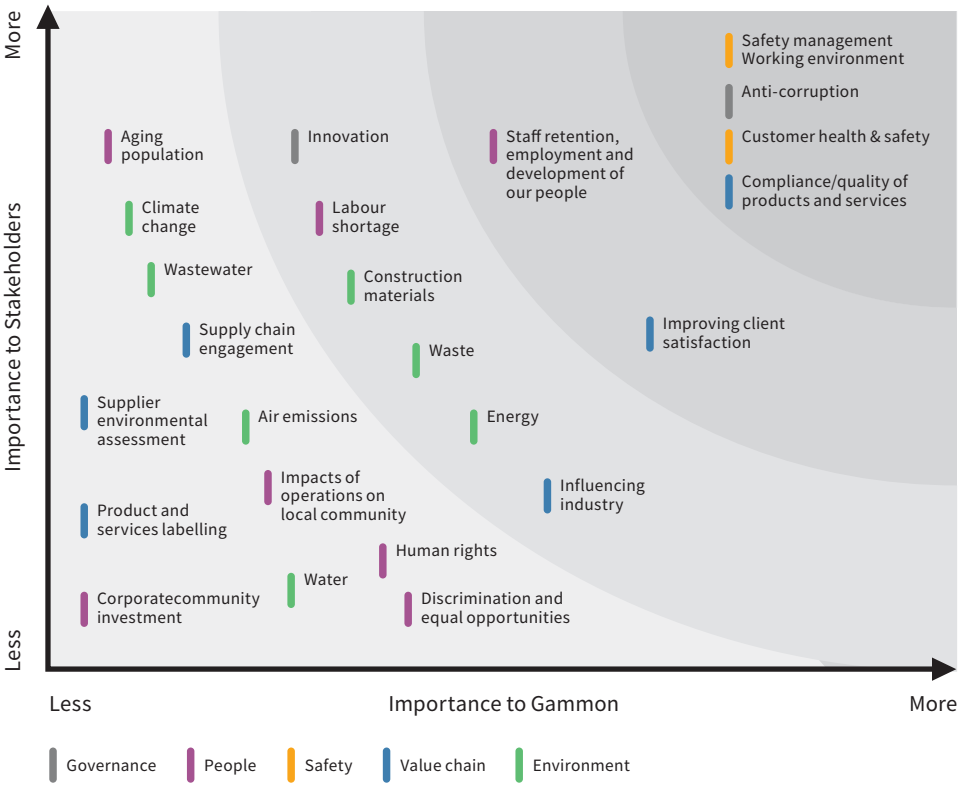
The Corporate Innovation Award recognises us as a leader in the application of innovation and use of new technologies and a moderniser of the industry. The Revitalisation Award recognises our contribution to effective recruiting and retaining of talented workers through a structured training scheme and improved working environment and image, while also providing youngsters with a clear career pathway.

05 Materiality assessment

GRI 102-40 | GRI 102-42 | GRI 102-43 | GRI 102-44 | GRI 102-46 | GRI 102-47 | GRI 102-49 | GRI 102-53 | GRI 103-1

No formal stakeholder engagement and materiality assessment exercise was conducted for the 2021 report, as the material issues change very little from year to year. The previous assessment is presented in the Sustainability Report 2019, Appendix D, and the materiality matrix is presented below.

Materiality Matrix



At that time, our management validated 13 material issues presented below against the Responsible Growth – 25 by 25 sustainability strategy focus areas:

During 2022, we plan to have our biennial sustainability conference, or similar advocacy / engagement event. As part of that event, we aim to gather stakeholder feedback on our material issues which will inform the 2022 report.

06

Safety - Zero Harm

Our goal is always Zero Harm

Highlights of the year

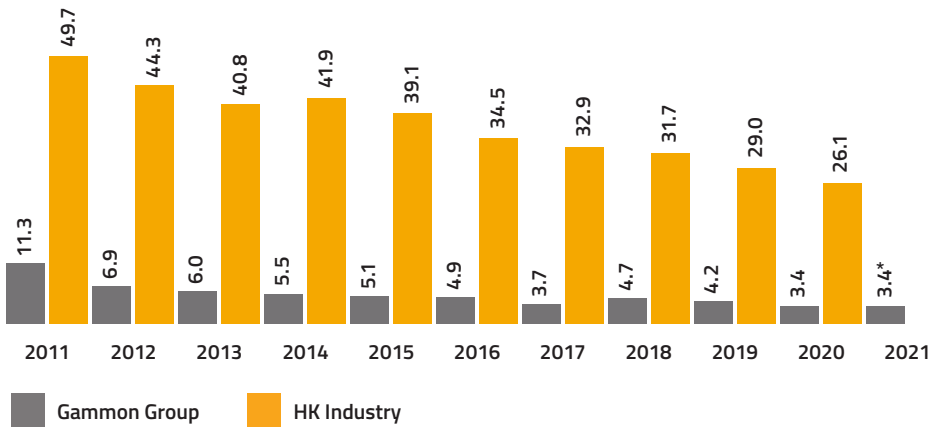
One of the overriding safety concerns of the year continued to be keeping our staff and workers protected from COVID-19. The vaccination drive run by our Wellness Team (see page 40 for further details), was bolstered by outreach events run on some of our sites at which other contractors could get innoculated. We also reinforced safety measures established the previous year including social distancing rules and temperature checks at all site and office entrances. Additionally, we conducted COVID drills on sites to ensure staff were familiar with the procedures to follow in the event a case was confirmed and to allow us to check and fine-tune our approach throughout the year.

We achieved our accident incident rate target of 3.4 but sadly a fall from height on one of our sites resulted in a fatality. Lessons were learned and disseminated across the business and appropriate actions were taken. We will continue to work to eliminate this risk, which remains one of the industry's greatest.

As contractors, we have a responsibility to achieve continuous improvement in the arena of safety. The promotion of construction design and management (CDM) is part of that responsibility. During 2021, we therefore provided advice on strategy and implementation to industry leaders, continued ongoing speaking engagements at universities, and gave the topic major billing at our 2021 health and safety conference. The annual conference was held virtually and had a record number of attendees at almost 1,600, helped in part by promotion from the Hong Kong Occupational Health & Safety Council, Institution of Occupational Safety and Health (IOSH) Hong Kong branch and the Lighthouse Club.

We also joined shareholder Balfour Beatty's global safety standdown in September where our four Golden Rules – be fit for work; always receive a briefing before starting work; report all unsafe events and conditions; and stop work when anything changes - were the main subject of discussion.

Accident and incident rate graph compared with construction industry



GRI 403-9

* Construction industry figure for 2021 not available

Annual safety conference

Director Tony Small speaks at our annual health and safety conference. Tony was also appointed chair of the IOSH Hong Kong branch in 2021.

After a hiatus in 2020 due to COVID, we came back strongly with our 2021 safety conference. This embraced the theme of construction safety, innovation and technology. Speakers highlighted the importance of safety culture and shared their insights and experience on a range of topics, showcasing how technological innovation is positively transforming onsite work safety and the general health and mental wellbeing of employees in the construction industry. The virtual conference included speakers from the Hong Kong and Singapore governments, as well as representatives of public sectors, universities, health and safety institutions, construction professional bodies and our colleagues.

Speaking subjects included Managing Health and Safety in Complicated Supply Networks: The Australian Construction Experience; CDM Innovations at Glasgow Caledonian University; Advocating Occupational Safety and Health in Hong Kong; Dust Control in Construction – Silica Awareness; and Third Runway System Project Safety Update.

Safety solutions for those physically present in our head office were also showcased in our Immersive Smart Lab including smart ear defenders that protect operatives hearing and monitor noise in the local environment, as well as a strategic partnership with 3D Repo to help plan project safety.

An MiMEP plant room is lifted into position.

90% complete when installed

30 days less site work

30% less labour

The advantages of MiMEP

During the year, we installed Hong Kong's first large-scale multi-trade integrated mechanical electrical and plumbing (MiMEP) plant room. As well as reducing the risk of working at height, the MiMEP approach delivered a high level of quality while also decreasing the amount of site labour required.

"The MiMEP design incorporated structural, plant and architectural finishes under a 'one team' approach," says Director Sammy Lai. "Using 4D visualisations, the team could review logistics and validate the lifting and installation sequence while 3D printing supported the design and planning process. The integrated design also adopted a 'plug-and-play' concept which allowed for faster installation and early commissioning.

"All builders work such as walls, floor finishes and louvres were completed before MiMEP onsite installation. The four modules that made up the plant room were installed in only one day, while the slab was constructed using pre-fabricated Bondek to save concreting time."

The MiMEP was constructed offsite at our flying factory and the approach meant the plant room was 90% complete when installed, saving 30 days of site work, reducing labour by 30% and decreasing wastage.

Raising standards

In line with our policy of continual improvement of performance, we amended our sub-contract terms and incentivised sub-contractors to raise standards.

The changes included more stringent and prescriptive requirements for rebar cages and the like, as well as restrictions on temporary materials that can be used for scaffolding. We now pay subcontractors to install additional temporary support in the cages whereas previously such chairs were deemed to be included in sub-contractors' rates, leading to a lack of incentive to comply with the specified requirements.

We also established a subcontract safety incentive scheme that converts into an adjustment to interim payments if certain standards are not met.

> **As well as reducing the risk of working at height, the MiMEP approach delivered a high level of quality while also decreasing the amount of site labour required.**

Construction manager bronze

Senior Construction Manager Cliff Leung was awarded Bronze in the Heritage Conservation Category of the Construction Manager of the Year Awards 2020 run by the Chartered Institute of Building (HK). Cliff received the distinction for his work on the Central Police Station Conservation and Revitalization contract (Tai Kwun), with judges remarking on the difficulties of the project, Cliff's professional planning skills, good communication with stakeholders and introduction of new technology to the project.

Senior Construction Manager Cliff Leung

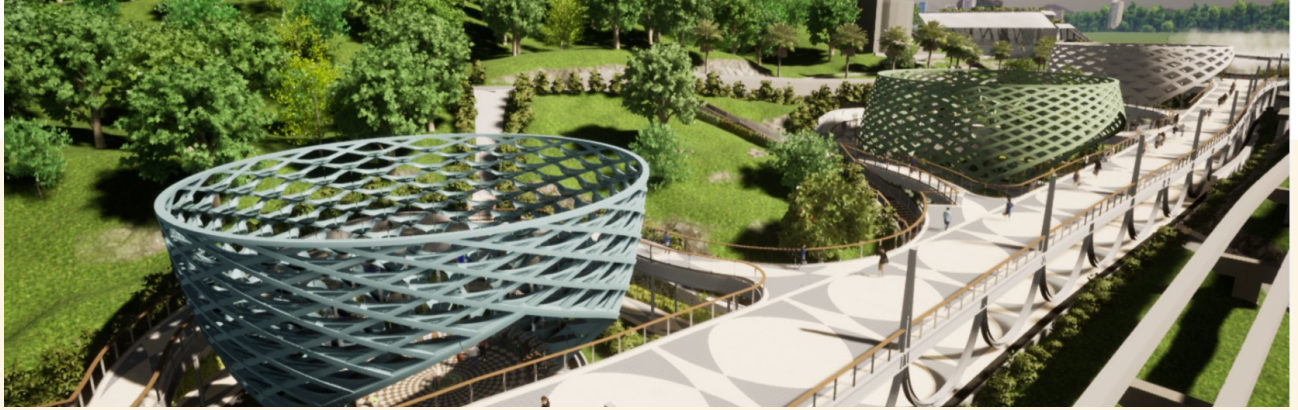
5G on trial

In Singapore, we worked with the Building and Construction Authority, the Government Technology Agency, and telecoms company Singtel to trial the use of 5G technologies to improve safety and efficiency. Michael O'Connell, General Manager in our Singapore office, shares some of the findings.

The trials took place on our Sentosa project and included a range of potential applications of 5G technology including using robots and drones to scan and inspect construction sites, connected CCTV to check compliance with safety protocols, and mixed reality to simulate planned construction processes.

One of the obvious benefits of the high-capacity low-latency 5G network was that 3D scanning data collected by the robots could be processed while the robot was still on site, as opposed to waiting until workers returned to the command centre with the data on a memory card or tablet. This means we could turn around the data processing up to 30-40% faster which is a massive productivity boost.

Additionally, we were transmitting live site images from the robot cameras back to the control centre, where image recognition software detected any safety issues, like incorrect PPE. This ultimately means in the future we could have robotic supervisors walking around laser scanning our sites while also performing an autonomous monitoring role which improves the business case for investing. Using the 5G network we also successfully connected to our in-house developed G-EYE mobile CCTV station and transmitted live video back so that computer vision could detect any breaches of safety protocol or potential hazards. As the G-EYEs are portable and can be deployed anywhere on site, this could potentially allow us to reduce the number of supervisors we need on each project in the future.



A rendering from our Sentosa project which was used to trial potential applications of 5G technology.

Michael (right) demonstrates 5G use cases during a trial on our Sentosa project.

The mixed reality trial was also very successful. We could essentially take an operations or safety team through a step-by-step virtual installation in the actual location on site, like a digital trial run for the upcoming activity. I can certainly see this being useful for some of the key risk activities on our new mass transit railway project here in Singapore. As for 5G-connected drones, while they would make it easier to inspect and monitor construction sites, I think in the longer term their widespread use for inspecting construction is likely to depend on whether they can meet industry standards.

The additional capacity provided by 5G also allows for the transfer of large cloud point data files generated from 3D laser scanning. You need 5G capabilities because of the size of the data of some BIM models today; they're incredibly detailed. If you want to use those models for verification of what you've built, you need 5G capability. If you want to laser scan something and overlay it for the BIM model you can get a very accurate representation. But if you don't have the bandwidth or the latency, we have found that the 3D model tends to drift.

Potentially, there are more use cases for 5G on construction sites because the biggest constraint to your technologies or ideas is always the network. Our initial findings from the trials were positive; the next stage is to test 5G connectivity in a subterranean environment in our new project.

Partnering for Hong Kong's safety

We formed several partnerships that will help us improve health and safety throughout the Hong Kong construction industry through the use of innovative digital technologies.

In June, we signed a memorandum of understanding with Guildhawk, a tech-led language services consultancy whose AI technology facilitates multilingual information for built assets and links this data to digital versions of manuals or drawings. This enables optimisation of all interactions with these buildings, whether in terms of access to and sharing of data, avoidance of costly or dangerous errors, or insights into more efficient maintenance. It also aims to help enhance safety through the multilingual digitisation and conversion to video of health and safety, compliance and training materials. Fundamentally, avatars and AI will bring manuals and essential training to life.

"With Guildhawk's total solution, information can be digitalised efficiently and presented in more engaging ways," says Paul Evans, Executive Director – E&M and Chief Technology Officer at Gammon.

We also formed a strategic partnership with 3D Repo, whose platform helps improve health and safety through collaborative risk identification. We were the first organsation in Hong Kong to use the softare which has tracking tools that allow project teams to view potential problems and resolve them in 3D before physical construction starts. The products of both these partnerships will be promoted and delivered to the Hong Kong market by our innovation incubator, Digital G. Further strategic parterships are discussed on page 34.

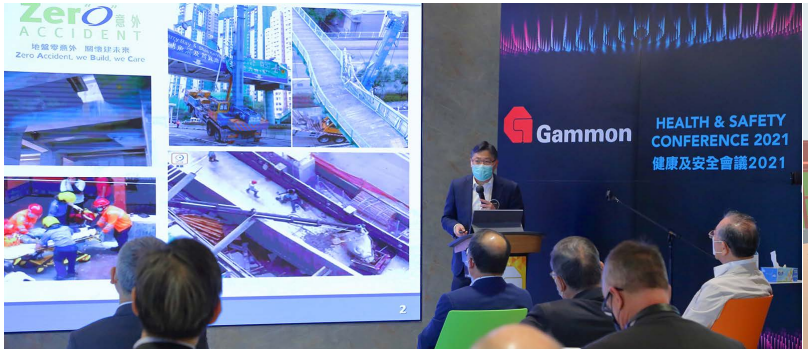
Progress on Responsible Growth - 25 by 25: Zero Harm targets

	Objectivies	Target by 2025	Status	Progress in 2021
1	Improve safety on our sites and our methods to reduce the number of accidents	25% reduction in the number of reportable accidents[1] on site / HK$ billion of turnover	On track	There was a 14% drop in the number of reportable accidents and Group AIR target of 3.4 was achieved. Safety incentive scheme for subcontractors and expected safety measures were integrated into subcontracts.
2	Achieve zero fatalities	Zero	Further improvement needed	Sadly, a fatal incident happened on a HK project. Although injuries have still occurred, a significant drop of 65% and zero injuries to public was observed. We believe off-site construction, DfMA and MiC / MiMEP to be the right direction for Zero Harm.
3	Achieve zero permanently disabling injuries	Zero	Further improvement needed	
4	Achieve zero injuries to our workers	Zero	Further improvement needed	
5	Achieve zero injuries to the members of the public	Zero	On track	

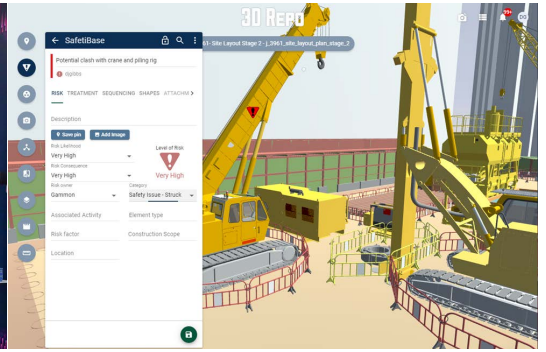
On track to meet target

Further improvement needed

[1] Based on total revenue for 2021



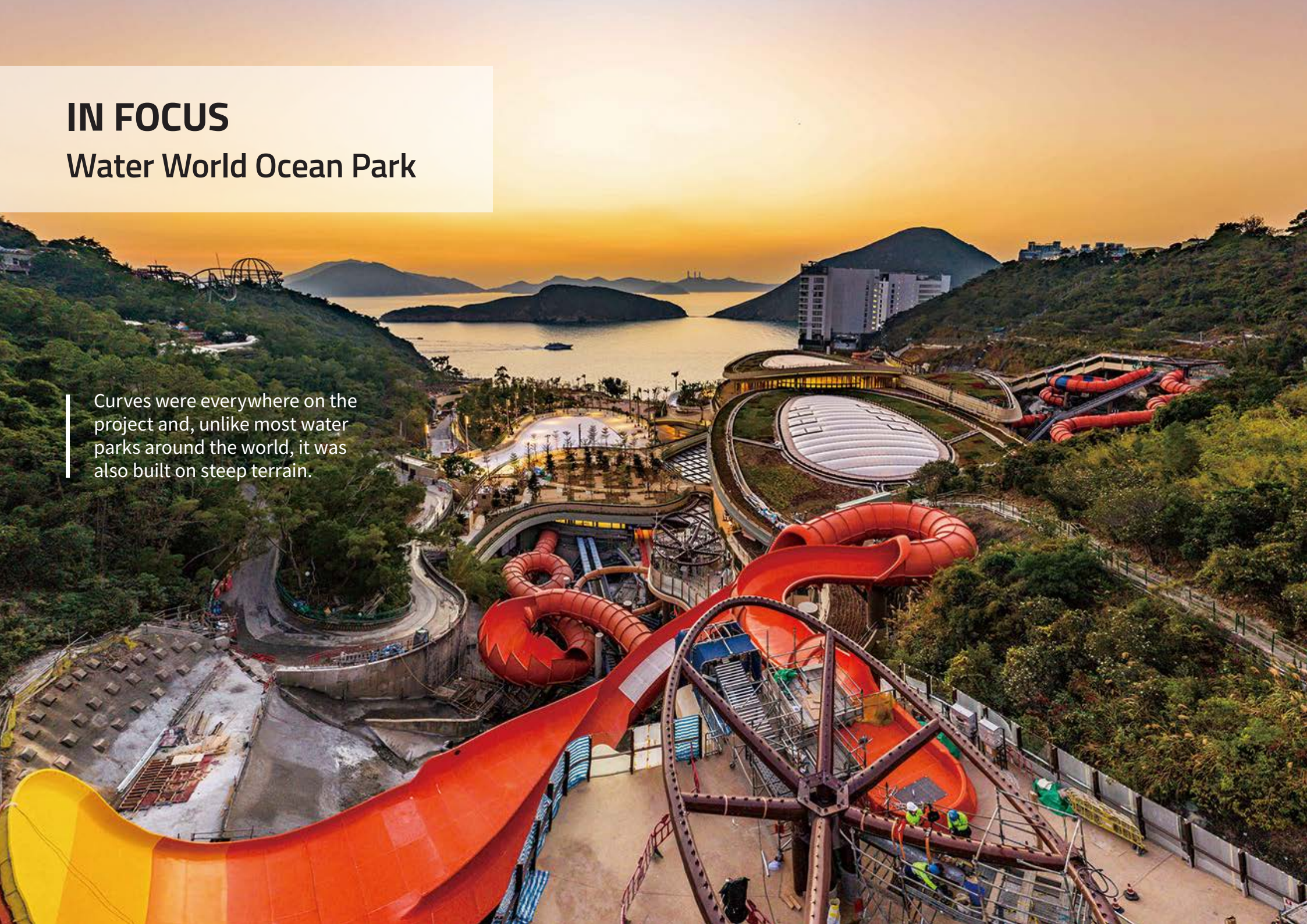
Our annual safety conference attracted a record number of attendees.



We have formed a strategic partnership with 3D Repo.

IN FOCUS

Water World Ocean Park



Curves were everywhere on the project and, unlike most water parks around the world, it was also built on steep terrain.

Water World Ocean Park is remarkable as much for the way it was built as for the finished product.

The rides are made up of about 2,650 metres of fibreglass flumes.

Learning curves

We completed our Water World Ocean Park project which opened to the public on 21 September 2021, officially becoming Hong Kong's first year-round all-weather waterpark. Delivering the project, however, was no walk in the park! Not only was the geometry of the main structure highly unconventional, but the team also had to operate on uneven and steep terrain, on a site with severely limited working space and storage – as well as restricted access to it. It was also the first theme park we had built.

Works included construction of a five-level main concrete structure topped with iconic disc-shaped roofs and fit-out and installation of attractions including water slides, wave surfers and wave machines. Mechanical and electrical services installation and other building services work were also required to support specialist systems including wave generators and a water filtration plant.

The project would have been virtually unbuildable without advanced use of digital technology. The power of BIM was utilised through 4D Synchro Pro, drone flyers, photogrammetric analysis and laser scanning, allowing the team to address the demands of both the landscape and the design, and overcome their unique challenges.

"The design was so complex and the surrounding terrain restricted access to such an extent that project-wide use of BIM was inevitable," reflects Gammon Contracts Manager John Adams, who led the team. "The geometry we were dealing with would have been very difficult to express in 2D."

"Operating on the steep terrain and planning access to the work fronts was one of our greatest challenges," says John. "Using drones, we took thousands of overlapping photos and scanned the landscape to allow us to build an extremely accurate 3D digital visualisation, letting us better understand the different angles and visualise level changes on the steep terrain. It also helped with interface between the building and site formation because we could use it to capture the slope profile, overlay it with BIM and highlight any clashes. Previously difficult to quantify objects, such as trees, could additionally be reflected from the photogrammetry model and become measurable data."

External, superstructure and E&M works were inextricably intertwined on the project and the success of the team can also be attributed to its one-team approach. The Civils project team were supported during delivery by our E&M division and modelling team, in-house temporary works designer Lambeth, Gammon Steel, Gammon Concrete, and cranage and plant provided by our Plant Department.

07

Environment – Zero Waste

Working towards zero waste in energy, water and resources

We can expect around 60% reduction in construction waste for typical floors using MiC on our Tonkin St residential project.

Highlights of the year

One of the highlights of 2021 was our formal co-launch of the Power Up Coalition with the Business Environment Council, as a new initiative under the Low Carbon Charter. It aims to work with the private sector to ensure early connections to electricity at sites before work begins to achieve quieter, cleaner, healthier and lower-carbon construction.

Our support for other decarbonisation opportunities in 2021 included the purchase of some electric vehicles for company use, as part of our plan to replace all petrol cars in the next few years. Additionally, we bought more Enertainer battery energy storage devices, bringing our total to seven.

We were proud to work with HSBC to implement a green guarantee of HK$258 million to replace the performance bond for our Terminal 2 Expansion Works project (T2). The green obligation is to achieve a BEAM Plus Platinum rating but we will also use offsite construction, CIC Green Product Certified concrete and low carbon energy. Our T2 and Queensway Bridge projects were also certified under the CIC Sustainable Finance Certification Scheme and green guarantees were agreed for four other building projects. At the end of the year, two revolving loan facilities were also renewed as sustainability linked, with bank charges linked to the performance of the company against six sustainability-related KPIs.

We were also delighted to win two major MiC projects, which we know gives us the best opportunity to reduce waste, water and energy use. The Tonkin Street development is Hong Kong's first private residential project to adopt concrete MiC, while the CityU contract will be one of the world's largest MiC student hostel projects to date.

Powering up construction

GRI 305-1

The Power Up Coalition was formally launched on 16 April with the support of the Development Bureau and Construction Industry Council, with 14 companies and organisations, including Gammon and the power companies, showing their support by joining as members of the initiative. In order to reduce the use of diesel generators, each member agreed to commit to promote and facilitate early delivery of sufficient electricity connection for all Hong Kong construction sites before the commencement of superstructure contracts planned to commence on site no later than one year after the date of joining. Companies also committed to support other decarbonisation opportunities where possible, such as wider use of battery energy storage, greater use of electric plant and equipment, improved energy efficiency, driving behavioural change, and the use of green finance.

Gammon's Group Sustainability Manager, Emma Harvey, facilitates at the launch of the Power Up Coalition.

Reduced waste to landfill / incinerator by

15% compared with 2020

48% since 2016

CNC plasma cutting machine for steel sections at Pristine.

Robots and automation

At our steel fabrication factory, Pristine, investment in two new automatic computer numerical control (CNC) steel section cutting machines have been providing time and labour savings.

"Steel sections can go into the machines which use CNC plasma cutting," explains Senior Project Engineer Alan Yuen from the steel fabrication team. "All the operator needs to do is push a button. We typically need about 30 to 40% less labour for the cutting process when we use the CNC machines compared with manual cutting, plus the work is carried out about 30% more quickly. Wastage is also reduced as CNC generates a better cutting plan, quality is improved and human errors from manual processes are minimised."

Pristine has also continued to expand the capabilities of its automated welding production line and by the end of 2021 owned five welding robots. The table below presents the benefits of our robotic approach, using the production of 11 clutch pipe piles per day as an example.

For 11 clutch piles	Manual approach	Robotic approach
Labour/plant requirement	12 welders	4 robotic arms + 2 welders to monitor
Assistant welders required (for pre-and post-work activities)	12	8
Welding wire per pile	30kg	26kg

Use of the clutch pipe piles themselves also provide sustainability benefits on site. Unlike sheet or pipe piles, grout curtain walls are required only from the toe of the pile to rockhead, not to ground level. This provides a reduction in cement, chemicals and labour. On our Central Kowloon Route - Kai Tak West project, an 88,829m length of clutch pipe piles resulted in a saving of about 5,486 tonnes of cement compared with the use of pipe piles.

GRI 301-1

Carbon crunching

Rex Wong is Project Environmental Engineer in our Construction Services Department (CSD) which provides in-house services of plant and equipment, steel fabrication and concrete technology to our projects. He shares some environmental highlights achieved by CSD in 2021, as well as a few personal thoughts on his chosen career.

Do you have a career-defining moment?

In my first job I transformed a paint mixing machine into a vacuum air sampler to collect information on odours to help address complaints received by Environmental Protection Department (EPD). I had such a sense of achievement, others were impressed by what I'd created, and I realised my 'environment' career was going to be very much about research and development.

Tell us about some carbon-reducing activities to come out of CSD in 2021.

We signed an agreement with CarbonCure and will begin trials in 2022, injecting CO_2 into ready mix concrete to reduce cement content and lower the carbon footprint of our concrete. We also started studying ground granulated blast-furnace slag (GGBS) as an alternative to pulverised fuel ash (PFA) in cement. The eventual elimination of coal use at Hong Kong's power stations means PFA will no longer be produced. GGBS has the potential to reduce 50% of cement's carbon emissions.

Our Concrete Technology Services got 84 ready-mix concrete products certified under CIC Green Product Certification, bringing our total to 384 which is 75% of the certified products on its list. The concretes are produced at our four batching plants, and 315 have the highest carbon rating of Platinum, while 43 have the second highest rating of Gold.

Rex works closely with Gammon's Concrete Technology Services, supporting its development of lower carbon mixes.

What keeps you motivated at work?

The drive to reduce carbon. Every activity or process results in carbon emissions and we need to reduce these to live sustainably. This is a global issue. Carbon accounting forms a large part of my duties at Gammon. Since 2011, I've been capturing our emissions from a range of activities such as transport, purchasing, plant and equipment fuel, and electricity usage. I think I calculated about 26 activities in 2021. In fact, one of our big achievements in 2021 was being awarded a Level 4 CarbonCare Label, which means we achieved more than 60% carbon intensity reduction compared with our base year of 2012. We also received a 'star' label for our commitment to reporting to CarbonCare, which we've been doing for several years.

What's the most challenging aspect of your job?

It's tough to get some people to change their ways. They can be very traditional and it's hard to get them to break comfortable habits. This applies to seemingly simple things like getting frontline workers to recycle, through to convincing management to invest in a cutting-edge new carbon-reducing technology. Education and showing tangible results are key to successfully convincing people to change their practices.

Less is more

All our projects are challenged to identify opportunities to reduce solid waste, energy and water. We share a few success stories from 2021.

Investigated

Our Intermodal Transfer Terminal Bridge project team at Hong Kong airport reduced the amount of cement used for marine sediment stabilisation which resulted in lower carbon emissions and cost. Testing determined the optimum mixing ratio which contained a minimum of carbon-intensive Portland cement - 0.5% in fact, a huge improvement compared with the 5-20% typically used in Hong Kong. This equated to a reduction of 1,964 tonnes of cement and 1,993 tonnes of CO_2e emissions.

GRI 301-1

Re-used

On our Central Kowloon Route - Kai Tak West project, 4,850 tonnes of modular struts were sent to other Gammon projects to be re-used. This resulted in the avoidance of about 6,000 tonnes of CO_2e emissions compared to buying new.

GRI 305-1

Our Intermodal Transfer Terminal Bridge project team at Hong Kong airport reduced the amount of cement used for marine sediment stabilisation by over 90%

Eliminated

Additionally, the team on our airport tunnelling project eliminated 45 bored piles and 2,635 tonnes of CO_2e emissions by designing an alternative floating foundation for a new seawater pump house. The building is the first in Hong Kong to be supported directly onto deep cement mixed panels under Buildings Department's regulation and approval. We believe it offers an attractive solution to further development and infrastructure planned on newly reclaimed land, such as the Tung Chung reclamation.

GRI 305-3

Created

Building on the success of the earlier design, our foundations department began fabricating modular steel automatic wheel washing systems to replace the conventional method of ground excavation and concreting. Our modular versions reduce water use, are reusable, have minimal maintenance, remove the need for excavation and concreting and the subsequent demolition upon project completion, and require less labour. The team also developed a modular desilting water treatment system that can be reused.

GRI 301-1

We have developed a modular, reusable wheel washing system.

Progress on Responsible Growth - 25 by 25: Zero Waste targets

	Objectivies	Target by 2025	Status	Progress in 2021
1	Reduce carbon emissions to mitigate the impacts of climate change (2016 as a baseline) GRI 305-4	25% reduction in carbon intensity (kg CO_2e / HK$1 million turnover) 25% reduction in carbon intensity (kg CO_2e / days worked)		Unfortunately, carbon intensities increased, influenced by diesel-dominated remote mega airport projects and heavy foundation jobs. More engagement and collaboration for early planning of electrification through Power Up Coalition.
2	Pursue zero waste to landfill to minimise resource wastage GRI 306-3	25% reduction in landfill waste intensity tonnes / HK$1 million turnover (2016 baseline)		Waste intensity of HK & Macau business continues to reduce and is on track.
3	Pursue zero wasted energy to reduce air quality impacts and carbon emissions GRI 302-1	25% reduction in energy intensity MJ / HK$ 1 million turnover (2016 baseline)		Energy intensity (energy efficiency) behind target mainly due to heavy civil and foundation works.
4	Pursue zero wasted water to avoid resource wastage	25% reduction in water intensity (m^3) / HK$1 million turnover (2016 baseline)		Water intensity behind target caused by water-intensive heavy civil and foundation works, even with significant water treatment and recycling. New concrete batching plant operation also affecting water intensity.
5	Increase renewable energy generation to reduce fossil fuel reliance and carbon emissions GRI 302-1	50% increase in renewable energy generation on project sites based on installed capacity (kWp) in 2018		Maintaining of system at Sai Sha Road and Kai Tak West to generate 115kWp (TKO office 200 kWp PV system also implemented)

On track to meet target

Further improvement needed

IN FOCUS

Supporting Hong Kong's Climate Action Plan

We have been proactively collaborating with our clients and participating in projects that contribute to achieving the goal of carbon neutrality through two main decarbonisation strategies under Hong Kong's Climate Action Plan 2050 (CAP2050) namely "net-zero electricity generation" and "energy saving and green buildings".

CLP Power's new gas-fired generation unit D2 - transition from coal to natural gas

As carbon dioxide emitted by natural gas is nearly half that of coal, CLP is increasing its low-carbon electricity supply and helping customers reduce their carbon footprint. The ratio of gas-fired generation will be raised to nearly half the total fuel mix under the Government's climate action target to cease using coal for daily electricity generation by 2035. We are proud to be the civil contractor of the new gas-fired generation unit D2 at Black Point Power Station, responsible for construction of foundation and pile caps, RC and steel structure, steel platform and wall/roof cladding of the turbine building, heat recovery steam generator and cooling tower, plus other auxiliary structures and road works. The new gas turbine will also be able to use hydrogen. Once green hydrogen becomes available, this will further reduce carbon emissions.

Solar PV projects - decarbonising electricity supply

Following the success of our award-winning solar PV system at Gammon Technology Park, we worked with our solar specialist partner EcoSmart to complete another 200kW solar PV project at Cathay Pacific City in May. In December, we kick-started the largest solar project in Hong Kong, with a total capacity of 3 megawatt, on the rooftop of HAECO's facilities at Hong Kong International Airport. As the structural specialist of these projects, we adopted a DfMA approach to enhance productivity, minimise on-site work, improve safety and contribute to our aspiration for zero waste.

Building green and cooling efficiently

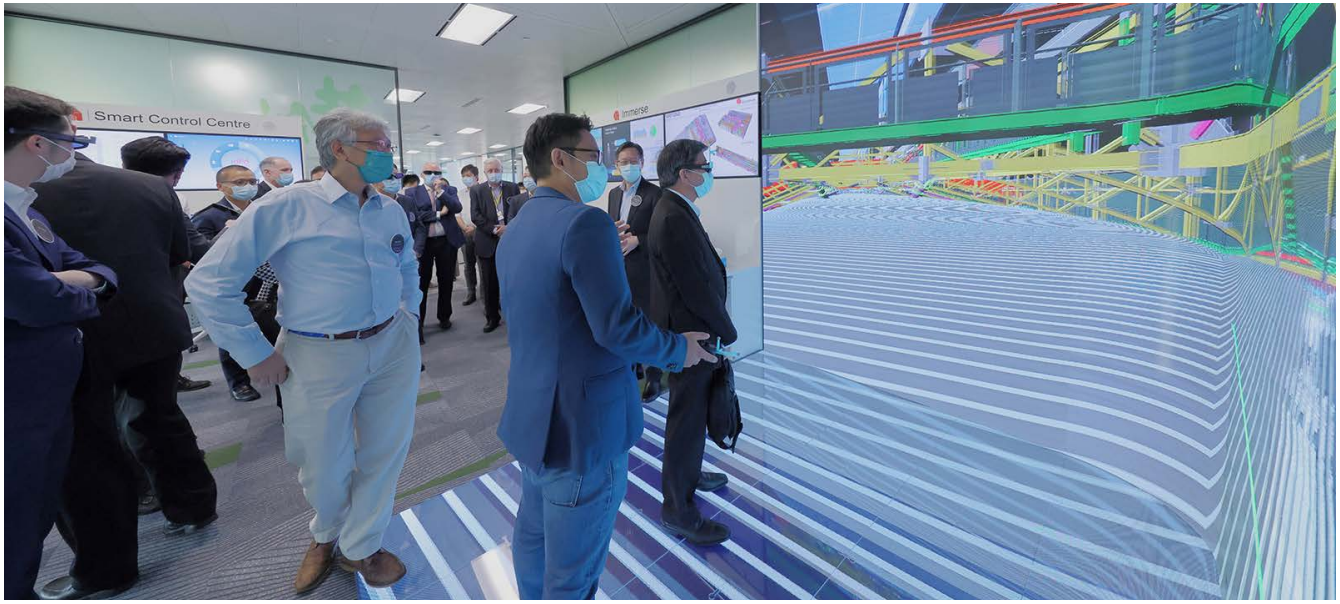
One of the CAP2050 strategies is to reduce energy use in buildings including district and high-efficiency cooling systems. On our Advanced Manufacturing Centre project located in Tseung Kwan O Industrial Estate, we are responsible not only for construction of this green and smart manufacturing hub with a target of BEAM Plus Gold rating but also design and installation of the Seawater District Cooling System and associated chilled water distribution.

Similarly, the Lyric Theatre Complex, a centre of excellence showcasing the best of Hong Kong and international dance and theatre located at West Kowloon Cultural District, is being constructed by us with a target of BEAM Plus Gold rating. We are also responsible for construction of the district cooling outfall and modification of the existing vertical seawall to suit.

08

Value Chain – Co-Creation

We collaborate up and down our value chain



Our Immersive Smart Lab facilitates collaboration and creativity.

Hightlights of the year

A key action during 2021 was the building of an integrated digital platform (IDP) for data integration and information exchange on our sites. Consisting of several modules, it covers pre-construction planning and design, construction and post construction stages, all of which are centered and connected into a single source of truth common data environment for information management (see the diagram on page 49). A virtual reality module enables digital visualisations across all stages of a project's lifecycle. The IDP provides us with a roadmap for the future, as well as an integrated approach to digital applications on our projects.

To showcase our digital technologies, we set up an Immersive Smart Lab, an impressive space featuring a BIM computer-aided virtual environment (cave) at our head office. A 3m-high floor-to-ceiling curved LED screen provides users with a 1:1 scale of their BIM environment in a 3D and 4D immersive environment. A dedicated and collaborative space, the Lab enables our project teams and customers to view models and all associated data in one location, facilitating problem solving and decision making.

The Lab certainly aroused the interest of customers, government officials and other guests during the numerous visits and presentations we held throughout the year, providing the opportunity for them to meet our new Chief Executive and enjoy an immersive experience while also learning about the smart and digital solutions we have adopted to make construction safer and more efficient.

Our subsidiary and innovation incubator, Digital G, continued to connect and create partnerships with external companies, both locally and internationally, to bring new and emerging technology that enhances efficiency, productivity and safety into our core business, as well as sell to the wider industry where appropriate. We also ran weekly training for several months for 'digital accelerators' – people earmarked by project leaders as being change-makers on their projects – covering subjects including blockchain, AI analytics, data-driven decision-making, and general appreciation of new technology.

Common knowledge

On our first totally cloud-based project – the Terminal 2 Expansion Works – the improved capacity for collaboration through a common data environment is supporting the development of sustainable approaches, as BIM Manager Stanley Mok describes.

"Working in a common BIM environment is enabling the different departments to work together more efficiently on the project's large signature roof modules, enhancing the level of detailed coordination and improving the design based on live information to prevent waste in fabrication.

We've even developed an automated tool to prevent data loss during information exchange for fabrication, which occurs between different authoring software. Our tool verifies the data and ensures the information is correct for the fabrication process.

"We're fully promoting a paperless approach as well, with the entire department working together in the collaboration software platform Revizto which facilitates sharing of the latest design information and minimises the risk of misalignment."

The common BIM environment on our T2 project is enabling greater collaboration.

Efficiency measures

We've continued to improve our piling app and in 2021 expanded it to incorporate pipe and socketed H-pile works, in addition to the existing bored piling for which it was initially developed. An e-inventory system and sensors have also been implemented to better track and monitor our drilling plant and equipment. Senior Project Engineer Franco Fung from our Foundations Department explains how use of this technology is supporting strategic planning and improving productivity in the team.

"The piling app for socketed H-piles replaces the handwritten forms traditionally used by rig operators to input drilling progress or excavated material. Operators instead use a tablet and the information is then accessible in a variety of graph or report forms. Senior management can then see precisely what's happening onsite, which rigs are performing well, or which operators might need coaching to improve productivity."

As well as improving transparency of information, the app has reduced administrative and repetitive work. Franco estimates a labour saving of about an hour per day. As we used the app on four projects in 2021, we achieved a total saving of about 100 hours per month.

"We also began using an in-house developed e-inventory system to keep better control over our heavy piling equipment," says Franco. "The equipment's unique ID code is scanned when it leaves the depot and arrives on site, and we only need to log into the system to quickly see where everything is. This is reducing paperwork and administrative tasks. Plant sensors were also deployed on all heavy piling equipment in 2021 and these use GPS and a cloud system that tracks plant location and utilisation. As data is updated daily, it allows prompt identification of idle plant and supports strategic planning for allocation to both new and ongoing jobs."

We've continued to improve our piling app and in 2021 expanded it to incorporate pipe and socketed H-pile works, in addition to the existing bored piling for which it was initially developed.

Woman at work

In 2021, Phyllis Chen was a triple Grand Award winner - Construction Manager (A&A), Young Construction Manager, and Excellent Construction Team (A&A Works) - at the prestigious Construction Management Awards organised by the Hong Kong Institute of Construction Managers, as well as the recipient of the Outstanding Young Alumni Award in Professional Achievement from PolyU's Department of Building and Real Estate.

Project Manager Phyllis Chen

We talk to Phyllis about her award-winning work, changes in the construction industry, and her new role on a large MiC project. What's behind your multiple awards as the project manager of the Central Plaza Podium Extension project?

It was a relatively small project with big challenges, in particular the short construction period and maintaining operation of the building. Initially we were restricted to around two hours of construction per day which was unworkable with the tight programme. But by liaising closely and extensively with the management office we identified further potential working hours. We also introduced catch-up measures to offset the working hour restrictions, such as modular construction methods for the perimeter catch platform and Bondek formwork for the reinforced concrete structure.

You've been in the construction industry for 18 years, 15 with Gammon, what impact is technology having?

I've seen many changes, in particular the introduction of digital tools to help manage projects. But the changes in the coming few years will be much more significant compared with 10 years ago. Everything will be digital, DfMA and off site. That means as engineers we need to keep learning and upgrading ourselves, even if we have qualifications and experience. We need to learn new technology, develop better communications with factories in the PRC, improve our understanding of the manufacturing process, and manage more complicated logistics.

But I'm really happy to be learning new things after 18 years in the industry. I'm also starting to see more females and younger people joining the industry because they are attracted by the technology and innovation mindset and that's great.

Tell us about your next challenge.

It's another contract with a very tight programme! I'll be leading delivery of the CityU student hostel project which consists of a two-level podium and three 13 to 18 storey towers of student residences. We've committed to reducing the construction period significantly with our MiC approach.

MiC is the future of construction and this project will be key to further developing our expertise and making Gammon more competitive.

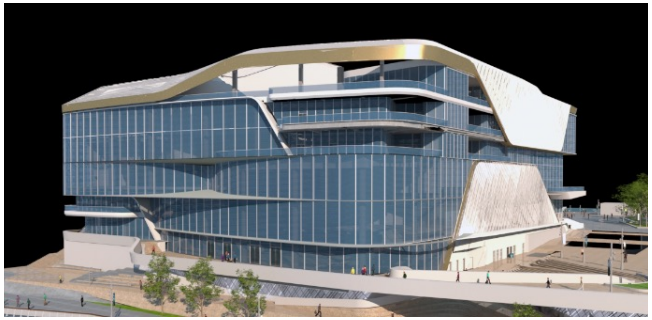
The benefits of automation

Our Lyric Theatre (L2) project involves highly complicated geometry and design, including complex multi-trade integrated modular units. By automating BIM, the team has enhanced accuracy, eliminated repetitious activities and boosted output. BIM Manager Kenny Choi explains.

“By using Revit, Navisworks and other BIM APIs, we’ve narrowed the gap between new recruits and experienced BIM staff. Repetitive and error-prone tasks are delegated to our toolchain, so BIM staff at any skill level can focus on the engineering instead of being bogged down in time-consuming procedures and unnecessary repetition. Automation frees BIM staff but also brings an extra layer of precision. For drawing production, for example, we use an API that aligns and annotates all information with just one click of the mouse.”

Compared with a traditional approach where all elements are tagged and adjusted individually, we calculate the API makes us 80% faster and more precise. We’ve also written a script that helps verify spatial allocation for maintenance of E&M equipment. We write the criteria and rules and the API performs system-checking which reduces the likelihood of future rework or adjustments.

“Navisworks APIs offer real-time elevation inspection, and multiple locations can be queried at once. That means there’s no more excessive navigation during coordination, all tedious steps are gone. Additionally, we’ve been using APIs for quantity take-off. By inputting an automatic calculation, we can more efficiently and accurately figure out the area, length and volume of elements such as ducts, pipes and cable trays. This is a huge help to the commercial teams.”



The automation of BIM on the Lyric Theatre project has improved precision and output.

Signing ceremony for the memorandum of understanding between Gammon and GIS specialists Esri China.

Sign of things to come

In addition to the safety-related strategic partnerships discussed on page 21, we also formed two further external collaborations that support the development of cutting-edge digital solutions for our clients and the broader architecture, engineering and construction industry.

This includes a memorandum of understanding with Esri China to co-develop GIS-based solutions. These solutions will focus on combining BIM and GIS to support the construction digitalisation process. The collaboration will also explore potential opportunities that may arise from the common spatial data infrastructure and smart city development initiatives in Hong Kong. Additionally, we will research how Esri’s suite of cloud-based mapping and spatial data analysis platform can be used to develop and visualise all data collected on a construction project including geometric and geographical data and stereo photography images. We also formed an agreement with Sensat, a UK-based digital twin technology company, for the purpose of integrating all drone-captured topographical, asset and real-time operations data into a digital platform that will help the construction industry deliver the huge infrastructure development demand ahead in Hong Kong.

Innovations on airport APM/ BHS project

We developed an innovative reinforced slurry wall to use in lieu of clutch pipe piles in soft ground conditions. As well as being faster and more economical to construct, its low-headroom installation is ideally suited to operating under airport height restrictions.Prefabricated beams are fixed by bolt and nut to remove the need for welding on site.

The project team also purchased two self-erecting mobile cranes, the first of their kind in Hong Kong. Unlike conventional cranes used in Hong Kong, they require neither foundations nor auxiliary cranes to assist with erection and dismantling. They are also extremely versatile; with set-up taking only minutes, they can be quickly relocated to cover both a large area of the site and scope of work.

Gammon innovation competition results

Our innovation competition focused on recognising ideas that brought the most added value to their projects in 2020.

In February, we chose the winners of our 2020 Innovation Competition. Among 37 excellent entries, six teams made it to the final where they presented their innovations in front of a panel of judges comprised of government leaders, clients and other professional organisations, as well as Gammon top management.

Champion – D-F-M-AMC: Our Advanced Manufacturing Centre (AMC) project took top spot with its maximisation of DfMA and digital technology.

1st runner-up – 5G Smart Control Centre: Running various digital platforms, the Centre was established at the Temporary Quarantine Facilities project at Penny's Bay.

2nd runner up – Mega ELS Skidding System: Applied on our Central Kowloon Route - Kai Tak West project for assembly, transportation installation and reuse of the marine section of excavation and lateral support (ELS).

Finalist – GamQuick, an engineered rapid hardening concrete developed by our Concrete Technology Services team.

Finalist – Alternative 'floating' foundation for the new seawater pumphouse on our tunnel project at the airport.

Finalist – Smart Alternative Solution, a reward and recognition scheme for ideas that demonstrated value for our Sai Sha Road Widening project.

Progress on Responsible Growth - 25 by 25: Co-Creation targets

	Objectivies	Target by 2025	Status	Progress in 2021
1	Increase off-site construction to increase efficiency in resource use, improve safety and programme	25% reduction in on-site hours worked / HKD $1M turnove		Continued early client engagement and strategic supplier partnerships facilitating more offsite solutions. We missed our target but the trend of reducing on-site hours is in the right direction.
2	Improve management and project delivery efficiency through integrated digital project delivery	25% of all projects delivered through integrated and collaborative digital project delivery system (using a CDE[1]) with digital progress monitoring		Achieved and ahead of target. Three-fold increase of active users of CDE, compared with 2020.
3	Increase production and use of more sustainable materials to reduce pressure on finite natural resources	25% of procurement spend on more sustainable materials[2] GRI 301-1		Target achieved. Initiated supplier engagement on lower carbon materials and product carbon footprint.
		25% of concrete quantity produced is certified or equivalent to 'Platinum' level under the CIC Green Product Certification Scheme[3] GRI 301-2		Ahead of target. Over 25% of concrete quantity produced was of CIC's lowest embodied carbon grade or equivalent. Planning for concrete production with carbon curing technology and alternative cement substitute.
4	Collaborate with the value chain to support SDGs	To launch a collaborative programme with our value chain and CSI partners in 2020, 2025 target to be confirmed		Hit the target. Co-organised three events with the Business Environment Council for the Power Up Coalition to work towards generator-free construction sites.

On track to meet target Further improvement needed

[1] CDE = Common Data Environment
[2] Defined as products with recognised 'green' labels e.g. for carbon or overall environmental performance, water or energy efficiency, or having high recycled content, regional sourcing etc.
[3] Previously termed 'Outstanding' grade in the now-replaced CIC Carbon Labelling Scheme

IN FOCUS

Venetian Macao Londoner

Hotel check-in

Shakespeare's Hall

Central spine

One of the challenges was carrying out modification works at the central spine while keeping the escalator links to all levels operational

A reimagining

Completed in 2021, our Venetian Macao Londoner podium refurbishment project was an extensive British-themed reimagining of Sands Cotai Central. In addition to the exceptional levels of detail and craftmanship required to meet the standards of the world-class luxury design, the team had to work to a tight programme while surrounded by an operating casino and shopping mall.

"Dust and noise control and coordination with multiple stakeholders were key concerns on the project," says Construction Manager Billy To. "I'm very proud of our team's high standards and attitude to meeting the demands of the client. This was at the core of our success.

"At the mall, shops were in operation which meant we had to work at night. For ceiling replacement works we erected a lot of ceiling panels and graphical hoarding to ensure the environment looked good. We used a 3D digital visualisation to simulate the environment and condition after ceiling platform erection which we could then present to shop tenants before work started, to give them peace of mind.

"When we were replacing stonework in public corridors, we divided the works into small areas to ensure we could complete it in one night, because we had to reinstate the area for public use during the day. We used movable partitions and plastic sheets to control dust movement and cleaned thoroughly every morning."

A further challenge was carrying out modification works at the central spine while keeping escalator links to all levels operational, as Assistant Project Manager Rita Ho explains.

"We had to erect a lot of covered walkways in areas with very high headroom. This was quite difficult and needed a lot of falsework and protective measures but 3D simulations helped us with the planning and safety."

"One of the more unusual aspects of the job was the creation of sculptures of historical British figures, working from just a hand sketch," adds Rita. "We created clay moulds first which, due to COVID, were then approved by video inspection before the final product was produced."

09

People - Caring

Caring for our employees

Human resources, learning and development are now managed through an easily accessible digital platform.

Highlights of the year

When vaccines became available in 2021, we put considerable effort into encouraging and supporting our staff, workers and their families to get inoculated. As a result, we ended the year with a vaccination rate of 94% for eligible Gammon Group staff and 92% for eligible subcontractors, easily surpassing the Hong Kong general population rate of 72.3%.

To help combat the psychological impacts of the pandemic, we also extended our staff Employee Care Line service to include family members. Professionals on 24-hour counselling hotline help address stress and anxiety, with face-to-face sessions arranged with a counsellor or clinical psychologist if required.

As part of our commitment to creating a positive, fair and inclusive workplace where everyone feels safe and supported, we signed the Hong Kong Equal Opportunities Commission's Racial Diversity & Inclusion (D&I) Charter for Employers. In Singapore, we signed the Tripartite Alliance for Fair & Progressive Employment Practices. The Women in Gammon and Allies (WinG) network formally launched on International Women's Day. We also began internally developed e-learning that introduces the concepts of D&I to help us better understand its importance, as well as explain some of the typical barriers to inclusion, known as 'unconscious bias'.

Our digitalisation journey included the launch of a digital human resources (HR) platform from Workday to help us improve efficiency and accessibility. It enables all employees, whether monthly paid staff or daily paid workers in Hong Kong, Macau, Singapore and mainland China to access their data online, from anywhere at any time, and the HR team to more efficiently manage that data and other functions. As well as being a more inclusive system, it supports a paperless approach with payroll and forms such as performance appraisals now completed and approved online. A series of roadshows toured more than 100 Gammon sites to showcase the new platform.

Training and development

During the year, a total of 470 virtual or classroom training and e-learning sessions were carried out, amounting to a notable 67,161 hours when staff were improving their competencies and skill sets. We also introduced a new course to our Gammon Academy curriculum – the Production Managers Development Programme – which focuses on strengthening technical and soft skills for front line leaders.

In addition to our Best Corporate Wellbeing Grand Award and Best Innovative HR Initiative Gold Award mentioned on page 15, we were presented with four trophies by CIC at its Employers Appreciation cum Outstanding Apprentice Award Presentation Ceremony. The awards were recognition of our active participation in CIC's talent development initiatives and our efforts in providing high-quality training for multiple programmes.

Two of our young talents were recognised as Outstanding Apprentices by CIC at its Outstanding Apprentice Awards 2021, while a third was declared an Outstanding Apprentice by the Vocational Training Council.

Outstanding apprentices: Cheng Ka Lok, Chan Chun Hei and Lin Yelong.

A shot in the arm

Our 94% Group staff and 92.1% subcontractor vaccination rate was achieved through a range of initiatives, which Wellness Leader Jo Ling explains. “One of the key things we did was an assessment of the vaccination needs and preferences of our staff via a survey, with our Wellness Team using the information to provide targeted and relevant evidence-based information via various communication channels such as Teams and our Beyond Wellness SharePoint page.

“Virtual live Q&A sessions were also organised with medical professionals and promotional materials including multilingual videos that featured colleagues sharing their vaccination experiences were created and circulated. On-site biometric screenings of blood pressure, cholesterol and blood sugar provided by Wellness leaders and site nurses helped to detect any potential health issues prior to vaccination.

“Special leave amounting to one day for each jab received was announced and lucky draws of vouchers and cash prizes for those who had received at least one shot were carried out in head office and on project sites, with subcontractor staff also eligible to win.”

In total, about HK$2.2 million in cash and coupons were distributed over a five-month period.

The vaccine drive took place in conjunction with other health initiatives run by our Wellness Team. During the year, we carried out 12,511 health screenings, while 197 health talks and workshops on subjects as varied as sleeping well, smoking cessation, heat stroke prevention and mindfulness attracted 7,182 attendees.

Director Sammy Lai takes a selfie during a school visit where we introduced students to some of the varying career opportunities in the construction industry.

Spreading the word

As a leading contractor in Hong Kong, we believe we have a responsibility and opportunity to promote STEM-related education and the construction industry as a viable career option to next generations. One of the ways we did this in 2021 was by partnering with the CLAP@JC - a project created and funded by the Hong Kong Jockey Club Charities Trust - that aims to smooth the transition from school to work for young people. Head of Learning & Wellness Carmen Chan explains more.

“We carried out promotional activities in three secondary schools in the CLAP@JC programme. As well as talks on the construction industry from senior management and male and female engineers, we organised break-out activities with some of the digital technology we use, like VR training and a hybrid reality platform. Members of our digital team also shared information on other digital initiatives and an HR representative explained how the students could get into the industry. We also hosted students at our Quayside head office where they were able to spend time in our BIM cave.

“Feedback from students included an increased interest in construction and they were pleased to learn about career path options, as this would help when planning future study. The digital and technology side also made the industry more attractive to them.”

In addition to talks carried out in conjunction with CLAP@JC, we organised our own presentations to teachers and students. Our overarching aim is that these sharing events will attract more students to join the construction industry. A career mini site accessible from the Gammon website was also launched during the year.

In addition to information on life at Gammon, professional development and work opportunities, visitors can read stories from colleagues about their career journeys and gain insights into different roles and responsibilities within the company.

Girls Go Tech participants visited our Lyric Theatre Complex project to learn about the many digital solutions we are adopting.

Girls Go Tech

We actively seek opportunities to encourage more women to choose a career in the construction sector in order that we can increase diversity and innovation. We therefore sponsored the Girls Go Tech programme, an initiative organised by The Women's Foundation (TWF) that aims to encourage underprivileged secondary school girls to pursue traditionally male-dominated STEM-related subjects. As part of our involvement, we organised a visit to our Lyric Theatre complex project where the students learned about BIM, augmented and virtual reality, 5G technologies, sensors and other digital solutions employed on the site. They also had the chance to discuss the career paths of some of the women in different roles on the project - building and environmental engineers, safety officer sand BIM modellers. They then had the opportunity to design their own buildings of the future, embedded with technology they had learned about throughout the day, with a prize to visit Gammon's Water World project! TWF programme director Connie Cheung said the students gave "very positive feedback. They enjoyed the visits enormously and found them eye-opening, informative and inspiring."

The changing face of construction

We know that diversity breeds innovation, creativity and high performance. We actively support and encourage more women to join Gammon. Lilian Ng, one of our most senior operational managers, shares her thoughts on being a female in the industry.

I've been in the construction industry for 20 years, and 15 of those have been with Gammon. I'm currently a construction manager on our Terminal 2 Expansion Works project, our largest solo contract to date at HK$12.9 billion. I think I always wanted to be an engineer. There's a lot of job satisfaction in construction… being able to manage a job to completion and see what you've achieved.

There definitely weren't many females in my stream at university; when I graduated, women made up only about 10% of the class. Twenty years later, I see this is finally starting to change. I actually believe female engineers enjoy their job more than men because when a woman chooses engineering, it's typically because she has a genuine liking for it. Whereas I've observed men entering the industry assuming it would suit them simply because it's traditionally viewed as a masculine field. But in reality, they may not enjoy the work, or it may not suit them.

Initiatives such as Gammon's WinG network are important to support women at work, though. It's great to have a platform where females can connect, share experiences and understand they have the same opportunities as men. Of course, it can be difficult for women who are also responsible for the lion's share of family life duties and WinG provides an opportunity for the more experienced among us to provide advice and share coping techniques for the alignment of these two worlds. I've been lucky, throughout my 20 years I haven't experienced any disadvantages or discrimination. I'd say to any woman or girl interested in construction that they should not view their gender as an obstacle.

Lilian speaking at WinG's International Women's Day virtual event held in our Quayside office.

Staff engagement survey

We are committed to making Gammon a better place to work and in November launched an employee engagement survey to collect insights and gain a deeper understanding of how our staff feel about working in the company, and where we may need to improve.

Open to all monthly paid employees, participants were asked to provide anonymous responses to a series of questions grouped into eight topics: wellbeing and safety; leadership; supervision; communication; learning and development; diversity and inclusion; team; and engagement. Overall, we scored 76% for our employee engagement index with a 46% response rate.

BIM skills development rewarded

Our Advanced Manufacturing Centre project was declared a winner at the 15th Autodesk BIM Awards, while our Tuen Mun – Chek Lap Kok Link Northern Connection Tunnel Building, Electrical and Mechanical Works contract was given an Honorable Mention. The awards recognise professionals and educators in the architecture, engineering, and construction industry who are driving the industry's transformation through the use of BIM, and shaping it towards a more efficient and sustainable era.

We committed to the Equal Opportunities Commission's Racial Diversity and Inclusion Charter for Employers and released introductory diversity and inclusion training

Progress on Responsible Growth - 25 by 25: Caring targets

	Objectivies	Target by 2025	Status	Progress in 2021
1	Increase staff retention, particularly for new joiners by enhancing work experiences GRI 401-1	25% reduction in staff turnover rate within the1st year of joining the group		Behind target but a very competitive job market this year due to a thriving industry. Also difficult to improve staff experiences during pandemic conditions.
2	Attract, retain and support life-long careers for workers and apprentices	25% increase in the % of workers who have been upskilled from unskilled to semi-skilled and semi-skilled to skilled 25% increase in the % of workers who are multi-skilled (HK only)		Upskilling and multi-skilling behind target. Continue to join CIC job fairs but difficult to provide more training without specific types of projects.
3	Monitor and improve staff satisfaction / happiness and wellbeing	75% of staff satisfied / happy based on overall mean		Staff survey was conducted. Outcome of over 75% staff satisfied.
4	Develop a culture of fairness, inclusion and respect	5% of monthly paid staff in apprenticeships or training (yearly). Establish at least two employee led networks		Achieved with over 5% of monthly-paid staff in apprenticeships and training. First network, WinG launched.

On track to meet target

Further improvement needed

10

Green and Caring

Now in its 11th year, our Green and Caring Site Commitment (G&CSC) scheme is designed to promote sustainability on our construction sites. Bronze, Silver or Green Flag awards are given to sites based on the level of implemented measures that demonstrate: care for the welfare of our workers; reduced environmental impacts; the highest level of safety; proactive engagement with the community; and innovation for better performance

In 2021, over 90% of our sites held Silver or Green Flag status, with Green Flag projects representing a model site that has achieved a standard beyond what the client normally requires or the Government mandates.

The G&CSC programme is a long-term commitment to continual improvement rather than a one-time award and as standards increase and become the norm across projects, sites are challenged to ever higher levels of performance.

Check out our some of the project initiatives that led to the award of Green Flags in 2021.

Team lunch using reusable cutlery on our Intermodal Transfer Terminal – Bonded Vehicular Bridges and Associated Roads project.

Innovative approaches

The use of several alternative design and construction methods on our Intermodal Transfer Terminal – Bonded Vehicular Bridges and Associated Roads project contributed to improved productivity, safety and quality of work, as well as a significant saving of 3,712 tonnes of carbon emissions and minimised disturbance to the marine environment. The team also impressed with its vaccination rate of over 95% and good practices in terms of office greening, reusable cutlery for staff, welfare facilities and hygiene measures.

High standards

On our Central Kowloon Route – Buildings, Electrical and Mechanical Works project, implementation of design by safety has removed risks of working at height, reduced dust impact from repetitive tunnel drilling, and facilitated safe lifting operations. The team also worked with the client and industry bodies to transform the site office into a vaccination centre and administered 944 COVID-19 doses to staff and workers including those from other projects in the area. Caring community initiatives include a library-on-wheels pilot project.

Good practices

Working in a subcontracting role, our steel fabrication team improved productivity and reduced material use substantially by adopting a DfMA approach for standardised trusses/steel member fabrication and modular temporary towers. The team also made use of in-house and industry digital solutions to improve design and site work coordination and supervision, logistics arrangements and visualisation of work execution and progress.

Energy conscious

Excellent facilities for workers and staff, housekeeping, access provisions and COVID precautions, as well as effective dust control and recycling of waste, were some of the reasons our Kai Tak 6563 residential project earned a Green Flag.

The project also utilises two Enertainers (battery energy storage devices) to supply electricity to two tower cranes and two material hoists rather than using diesel generators. Motion sensor lighting along the office staircase is also powered by solar panels.

Client collaboration

Our Green Flag examiners were impressed with how well the team at our Black Point Power Station D2 Project – Early Works contract (in the foreground) collaborated with the client to implement green and caring initiatives. These included setting up an on-site precast yard to produce wall panels, allowing them to greatly reduce steel fixing and formwork, flame welding and cutting, wastage and working at height, as well as better control concrete quality with the aid of maturity sensors.

11

People - Community

Caring for the community

The care giver

Michelle Tang places great importance on CSR activities.

Corporate Communications Assistant Michelle Tang is an active volunteer at Gammon and in 2021 her good works were publicly recognised when CIC presented her with the Excellence in Construction Industry Volunteering Collaboration Bronze Award. She explains how caring for others benefits more than just those in need.

Corporate social responsibility (CSR) activities continued to be affected by the COVID-19 pandemic in 2021 but I was still able to help organise and take part in some meaningful events like mask distribution, a beach clean-up, storytelling to kindergarten kids, and a local tour for assisted families in conjunction with the Construction Charity Fund Integrated Service Centre.

As vice chair of Gammon's Young Professionals Group I also encouraged our members to get involved in CSR events and help others. I think it's important Gammon takes part in volunteering activities because we are a big company and should be a role model for our industry; hopefully our behaviour encourages other companies to get involved or to increase their involvement in community work. It's also good we show our caring side and demonstrate we are not simply about profit, as these are some of the traits young people look for in a company these days and it helps attract new joiners to Gammon.

Volunteering also provides a great opportunity for team building. People from different divisions and departments come together and we get to learn more about each other and make connections, and then as a group we share our positive power to those in need to help them face their troubles.

As well as raising HK$800,000 for the Lighthouse Club Hong Kong Benevolent Fund and Hong Kong Breast Cancer Association, our Lap Dog Challenge running team of Anthony Lin, Amy Sun, Simon Lok, Esther Yeung and Christy Leung completed the most laps (476 over a five-hour period) of the Stanley Ho athletics track. Christy and Simon's respective 97 and 117 laps also made them champions in the women's and men's categories.

Highlights of the year

Despite continuing COVID-19 restrictions we managed to support our communities by taking part in a variety of activities ranging from beach clean-ups and computer donations through to distribution of food and supermarket vouchers. In total, we supported or organised a total of 81 community events throughout Hong Kong, Singapore and China, and donated HK$1.9 million dollars.

We also trialled and subsequently adopted a digital platform that promotes employee volunteering and engagement for positive benefit to communities. The trial was carried out as part of our shareholder Jardine Matheson's Group-wide Colleague Volunteering Programme (CVP) which aims to unite and mobilise more than 400,000 colleagues in the shared purpose of making a positive impact in the communities where we operate.

During the pilot period we introduced a number of initiatives including matching each employee's hour of participation in legitimate volunteering activities with a $100 donation. The employee with the greatest volunteering hours received HK$5,000 to donate to a charity of their choice, and flexibility was provided to participate in events during the work day.

"The platform has enabled colleagues to come together and share their passion for volunteering," says Andy Wong, Gammon's CVP representative. "It gives them visibility of volunteering activities happening across different project sites."

About 80 volunteers joined the coastal clean-up with Registered Specialist Trade Contractors Federation at Siu Lam Beach in September.

In conjunction with the Construction Charity Fund Integrated Service Centre, we organised a one-day Hong Kong tour for 39 assisted families.

Gammon's Young Professional Group joined the Construction Industry Lo Pan Rice Campaign, preparing and distributing meal boxes and gifts to the elderly.

Progress on Responsible Growth - 25 by 25: Caring targets

	Objectivies	Target by 2025	Status	Progress in 2021
1	Promote employee volunteering and engagement to provide a positive benefit to communities	25% increase in volunteer hours / person (during work hours) compared with 2018 baseline		Volunteering improved but opportunities continued to be affected by pandemic. 'Dollars to Doers' matching money donated for every hour of employee volunteering.
		By 2021 establish matching fund to encourage employee donations. 2025 target to be confirmed		
2	Improve value and impact of charity / community activities	By 2021 establish corporate community impact objectives for corporate social investment 2025 target to be confirmed		Aligning Gammon's activities with the Jardines Colleague Volunteering Programme, objectives, and online volunteering platform.
3	Create shared value (using skills and expertise to address a social need while enhancing competitiveness)	25% increase in newly recruited workers from districts with the highest levels of poverty		While we continue to join CIC hiring events, we were unfortunately behind our target for newly hired workers.

On track to meet target

Further improvement needed

12 The new guard

The Gammon IDP aligns with Hong Kong Smart City Blueprint 2.0, CIC Construction Digitalisation Roadmap for Hong Kong, and Construction 2.0. The technology associated with the platform is developed, sourced and integrated into the business with the help of our expanding Innovation, Digital G and Integrated Data Technologies teams. Meet some of our international young talent helping to drive this change in Gammon.

Adrian

Streamlining engineering operations and use of visualisation tools.

Andy

IoT implementation engineering.

Kathryn

Information management, BIM implementation and standardisation.

Leslie

Development and implementation of our digital twin.

April

Integrating our project plans and digital twin.

Desmond

Spearheading design automation.

Steven

Supporting our R&D initiatives including the Gammon metaverse.

Lucy

Sharing her expertise in 4D BIM.

Olivier

Supporting our digital twin ambitions.

Put

An expert in the world of 5D.

Frederick

Helping PICs and management capitalise on data insights.

13

Sustainability month

In October, we held our biennial sustainability month, an internal awareness and engagement campaign on environment, social and governance (ESG) practices that was carried out through a variety of webinars and activities aligned with the four focus areas of our sustainability strategy: safety, environment, value chain and people.

The campaign provided the opportunity to enhance our staff's knowledge and introduce tools to assist their projects and teams raise standards of environmental performance, better understand what motivates our clients, see the latest technology in action, and improve wellbeing and inclusion. Internal and external experts presented and answered questions on subjects ranging from decarbonisation, green building ratings and green finance, through to embodied carbon, mass engineered timber and the concept of circular economy.

We also ran events relating to wellbeing and safety and launched Gammon's tailored Introduction to *Diversity and Inclusion* e-learning, as well as fun activities with challenges and prizes. Sites were encouraged to organise their own 'low carbon Monday' activities, with meat-free meals and zero waste lunches proving most popular. To enhance our understanding of the Scope 3 carbon emissions related to staff commuting, the month included a survey with every submission entered into a lucky draw for public transport travel in Singapore, Shenzhen and Hong Kong!

Additionally, outings were organised and included a coastline recovery experience with a guided walk, litter survey and coastal clean-up, a visit to a Gammon concrete batching plant to learn about the development of low-carbon mixes, and a guided tour at the Construction Innovation and Technology Application Centre. The events were well-supported by staff and we believe the learning opportunities will help us achieve our wider ESG aspirations and support the long-term resilience of our company.

Meatless and plastic container-free lunch organised on our Central Kowloon Route Kai Tak West – Buildings, Electrical and Mechanical Works project.

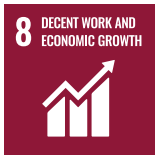
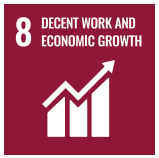
Staff and their family members during the coastline recovery experience at WWF's Island House

14

Sustainable Development Goals

Progress towards targets

During the development of our Responsible Growth – 25 by 25 sustainability strategy in 2018, we mapped the United Nation's Sustainable Development Goals (the Global Goals or SDGs) against our operations to determine which areas we could influence. With the support of both internal and external stakeholders, we selected six SDGs to contribute towards in the coming years and, given the nature of Gammon's business, seven specific targets under those SDGs. The table below highlights some of the progress achieved so far.

Priority SDG	SDG Target	Gammon objectives	Gammon actions and progress
	**3.9 Reduce harmful impacts from air pollution emissions**	Pursue zero wasted energy to reduce air quality impacts and carbon emissions	Our focus has been to reduce or avoid the use of diesel generators through early site electrification and battery energy storage systems on our projects. We have also supported the Power Up Coalition, a joint initiative with the Business Environment Council (see the Environment section). Finally, we are studying alternatives for other diesel plant and promoting off-site construction as much as possible to reduce the use of plant and equipment on site.
	**7.2 Increase substantially the share of renewable energy in the global energy mix**	Increase renewable energy generation to reduce fossil fuel reliance and carbon emissions	We have implemented a large solar photovoltaic installation at our Gammon Technology Park (see previous page) and two smaller systems on project sites (Sai Sha Road and Kai Tak West). Further expansion is being studied. Small scale use of standalone solar lighting is used extensively on project sites. We are also supporting clients' installations with our DfMA steelwork approach.
	**8.6 Substantially reduce the proportion of youth not in employment, education or training**	Create shared value (using skills and expertise to address a social need while enhancing competitiveness)	Gammon continues to provide learn and earn opportunities in the form of apprentices and graduate training programmes. In 2021, we engaged with high school students through the CLAP@JC programme and The Women's Foundation's Girls Go Tech programme.
	**8.8 Protect labour rights and promote safe and secure working environments for all workers**	Zero Harm objectives - achieve zero fatalities, zero permanently disabling injuries, zero injuries to our workers and the public	We have been promoting improvement in design for safety, off-site construction, automation and safe practices on sites. Digital tools are being more widely employed such as 4D BIM to enable the development of safe sequence of works. We continue to see increases in some, but unfortunately not all, of our safety metrics.
	**9.5 Enhance technological capabilities and encourage innovation & R+D**	Improve management and project delivery efficiency through integrated digital project delivery	Wider-scale adoption of BIM and increasing digital collaboration with all members of project teams including subcontractors. Supporting digital technology introduction and adoption from our innovation incubator, Digital G. Continue to enhance technology capabilities for staff with training in various digital tools and applications.
	**12.5 Reduce waste generation through prevention, reduction, recycling and reuse**	Pursue zero waste to landfill to minimise resource wastage	Using 4D BIM to ensure full co-ordination of services and digital construction rehearsal to avoid waste from rework. Continuing to promote off-site construction, reuse of materials (eg, structural steel struts), timber avoidance for formwork and recycling where possible.
	**17.17 Encourage public-private and civil society partnerships**	Collaborate with the value chain to support SDGs	As mentioned above, the Power Up Coalition was co-launched to work with the value chain (especially clients and design teams) and the Business Environment Council to contribute to SDG 3 (Target 3.9 Reduce harmful impacts from air pollution emissions). The launch was also supported by the Hong Kong Government's Development Bureau and CIC.

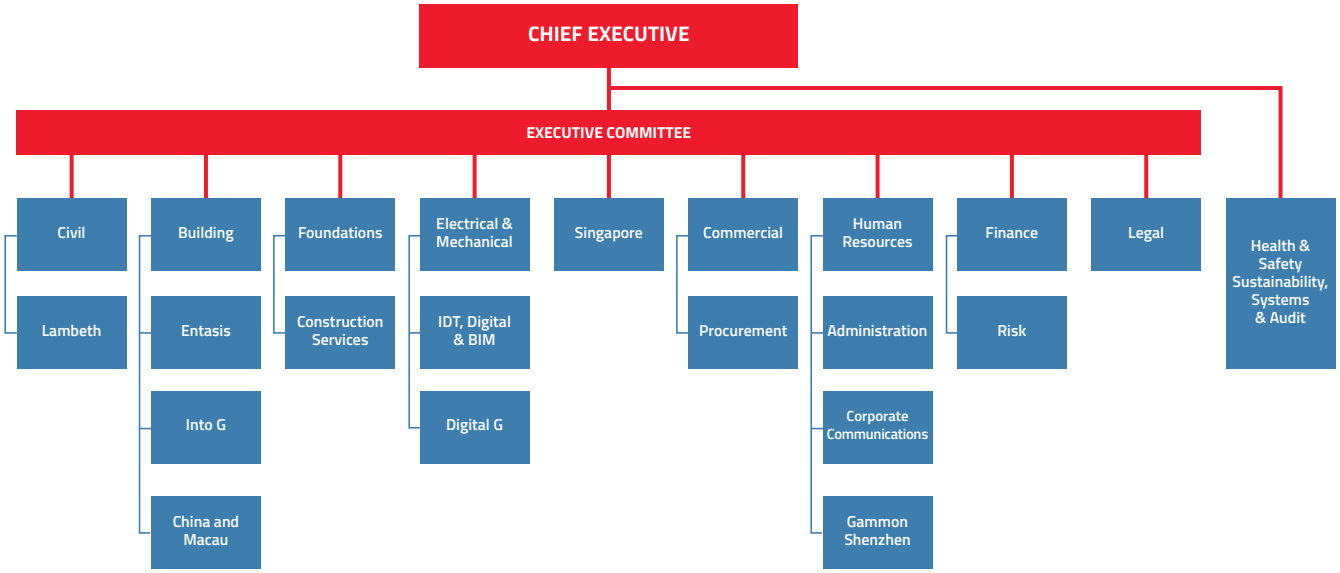
15 How we manage

Governance

Governance structure

GRI 102-18

The overall management of the company's business is vested in the Board of Executive Directors (also referred to as the Executive Committee or ExCo), which is composed of all Executive Directors and certain Directors and is chaired by the Chief Executive. All ExCo members are full- time employees of Gammon and have specific defined responsibilities and authority within the Company's operations. The organisation chart showing these responsibilities is presented below. The ExCo is responsible for the strategy, policies, risk management and financial performance of the business, and is directly accountable to our shareholders Balfour Beatty and Jardine Matheson (the Shareholders).



Notes

Lambeth provides engineering design services

Entasis provides external facades and general construction works

Into G provides interior fit-out and contracting

Digital G provides technology innovations

Construction Services includes plant and equipment, steel fabrication and concrete technology

IDT, Digital & BIM includes Integrated Data Technologies, Digital / CDE / BIM and digital innovations

Coverage of the report

GRI 102-45

All active entities within the Gammon Group have been included in the coverage of this report. They include the following:

Hong Kong

- Gammon Construction Limited (GCL)
- Gammon Building Construction Limited (GBCL)
- Gammon Engineering & Construction Company Limited (GECCL)
- Gammon E&M Limited (GEM)
- Digital G Limited (Digital G)
- Entasis Limited (Entasis)
- Into G Limited (Into G)
- Lambeth Associates Limited (Lambeth)

Macau

- Gammon Building Construction (Macau) Limited (GBCML)
- BBE&M (Macau) Limited BBE&M (BBEMML)

PRC

- 金门建筑信息顾问(深圳)有限公 (Gammon Construction Consultants (Shenzhen) Limited) (Gammon Shenzhen)
- 东莞原创金属结构有限公司 (Dongguan Pristine Metal Works) (Pristine)

Note: The name in brackets is an English translation only and not an official company name.

Singapore

- Gammon Pte. Limited (GPL)
- Gammon Construction Limited Singapore Branch (GCLSB)
- Gammon Construction and Engineering Pte. Ltd. (GCE)

The ExCo has overall authority for Gammon's corporate governance by compilation and implementation of required standards and controls set out within our Business Management System (BMS). This document mandatory controls across all aspects of our business, covering all projects and head/regional offices in Hong Kong, Macau, Singapore, and mainland China. The main principles of corporate governance are set out within the group wide section of the BMS and include mandatory requirements such as Gammon's code of conduct, delegation and limits of authority, control of documented information, information risk and security policy, corporate communications, etc.

Other areas of our BMS cover mandatory controls for project-based activities, head and regional office functions, and pre-contract activities.

The BMS is continually reviewed and updated for improvement and to incorporate latest developments from both internal and external influences. Compliance with all areas of the BMS are subject to regular audits from our internal assurance teams, as well as external audits undertaken directly by our shareholders or specialist companies.

The ExCo reports to the board of Gammon China Limited (the 'Gammon Board'), which is the joint venture holding company set up by the Shareholders to hold the Gammon construction business, including the company. Executive Directors also sit on the Gammon Board, together with the Shareholders' representatives. In addition, the Shareholders are engaged in the Gammon China Limited's Risk Management and Compliance Committee (RMCC) which meets four times a year to review the business from a risk and compliance perspective. Other members of the RMCC are select members of ExCo, our General Counsel, risk assurance managers and relevant staff as required.

Sustainability management

The ExCo is responsible for decision-making on sustainability issues that are addressed at weekly Safety and Environmental Action Committee (SEAC) meetings which are led by the Director for Health & Safety, Sustainability, Systems & Audit. At operations level, actions are mainly driven and supported by the Group Sustainability Manager, the Environment & Sustainability Team, the Operations Environmental Committee, and the Sustainability Action Group, as shown below.

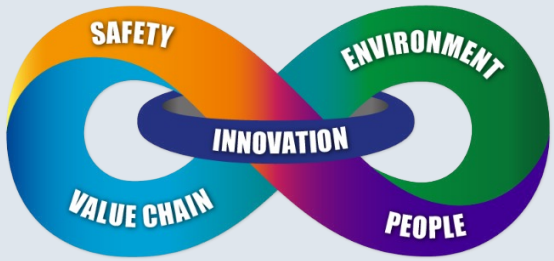
ExCo is responsible for agreeing targets and reviewing performance every year. Day-to-day operational activities aimed at achieving the actions occur across the business units, encouraged, and supported by the Environment and Sustainability Team and other supporting functions, as required.

Sustainability aspects are included in reports to the Gammon Board and are also presented and discussed during the RMCC meetings. Both our shareholders, Balfour Beatty and Jardines review our sustainability progress every six months across key metrics. As part of that review, a third-party assessment is undertaken to audit our greenhouse gas emissions and other parameters. Balfour Beatty includes Gammon's data in its submission to CDP (formerly the Carbon Disclosure Project).

Sustainability strategy

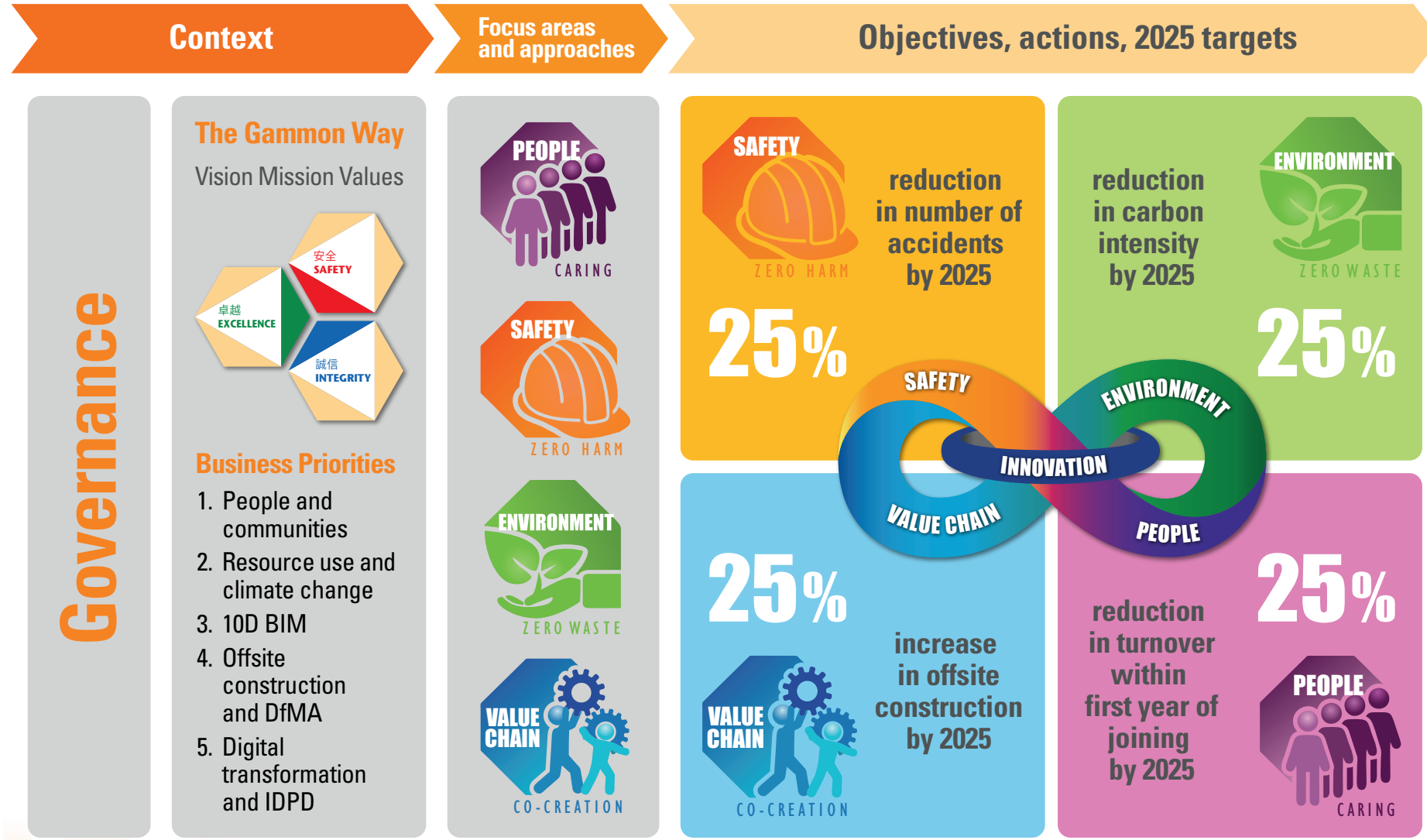
Guided by the vision, mission and values of The Gammon Way and our business priorities, our sustainability strategy, Responsible Growth – 25 by 25, outlines objectives, actions and targets for improvements under our four focus areas up to the year 2025, for which the ExCo has overall responsibility. The selection of the targets includes some chosen from our six priority United Nations Sustainable Development Goals (SDGs) that we hope to support. These are shown on page 52.

The achievement of the targets under our four focus areas along with their corresponding approaches are intrinsically linked to innovative solutions and digital transformation which inspire new ways of thinking, as well as better construction methods and materials. Nurturing and encouraging creativity, innovation and digital transformation therefore forms an essential and integral part of the strategy. As a result, we have brought together the four focus areas and innovation into a representation of the strategy based on an infinity symbol that signifies the essence of sustainability. The strategy is publicly available online[1] on our website and is summarised on the following page.



[1] www.gammonconstruction.com/uploaded_files/files/en/ Sustainability_Strategy.pdf

Responsible Growth - 25 by 25 sustainability strategy



Values and norms of behaviour

GRI 102-16

Embodied within our BMS, Gammon has a set of core values that define our work ethic and guide our workforce in today's rapidly changing and challenging world. The core values – Safety, Integrity and Excellence – have been incorporated into a philosophy called The Gammon Way, which also outlines Gammon's Mission and Vision. Our Mission is 'to build for a better quality of life and living environment in a safe and sustainable manner' and our vision is 'to be the smart and digital contractor of choice in Hong Kong, China and Southeast Asia'.

At Gammon, our ultimate goal is to deliver a high level of quality to our customers. This means not only the quality of our built products and service outcomes, but also in the way they are delivered: reliably, safely, and responsibly. We believe we can best deliver the level of quality to which we aspire by concentrating on our three core values.

Our Code of Conduct lays out the following principles for our business operations to which all employees must adhere:

- To instil a high standard of integrity, ethics and environmental responsibility in all aspects of our business dealings and operations;
- To abide by the legal and regulatory requirements in the countries where we operate;
- To observe the rights of our employees and the communities in which we work; and
- To create the means to make the Code of Conduct an integral part of daily practice.

The Gammon Way, our core values and our Code of Conduct are clearly communicated to all staff at induction, as mentioned in the section on Training below. The Group General Counsel is responsible for overseeing governance and the Code of Conduct. The Code is publicly available on our website in both English and Traditional Chinese.

At Gammon, our ultimate goal is to deliver a high level of quality to our customers. This means not only the quality of our built products and service outcomes but also in the way they are delivered.

[2] https://www.gammonconstruction.com/uploaded_files/files/en/Code_of_Conduct_EN.pdf

Managing risk

GRI 102-11

Our risk management approach covers all elements of our operations including tenders and projects, supporting functions, and corporate board level (e.g. through our Risk Management and Compliance Committee (RMCC)). The process forms an integral part of our BMS and is formalised in our Risk and Opportunity Management procedure. We use KPIs at operational level and key risk indicators at corporate level to provide an early warning system and target performance. This is reflected on both project and corporate risk and opportunity registers, which have a rating system (red, amber, yellow and green) reflecting our appetite and attitude, such as critical, concerned, cautious and comfortable.

At Risk Committee Meetings, we review risk trends, top risks and company risk profile to allow us to report and respond to rapid changes. Project KPIs allow for quick reviews and actions of project performance. Additionally, project risk control compliance, effectiveness and efficiency are audited through our assurance department review of the Project Delivery System using a traffic light system (red, amber and green).

In addition to business, health and safety-related risks, we pay particular attention to environmental risks and this is addressed in our Code of Conduct as follows: "We shall adopt a precautionary approach in our operations and conduct an environmental review for every new undertaking to identify the significance of impacts associated with the activities under our control. A risk management process will also be applied whereby actions will be taken to identify those potential threats of serious or irreversible environmental damage and to deal with them using best available technology taking into account what is technically feasible and economically viable within our influence and customer requirements." We also have plans and procedures in place for extreme weather events, business continuity planning and crisis management.

Anti-corruption

GRI 103-2 GRI 103-3

'Integrity' is one of Gammon's three core values and anticorruption is taken very seriously by the business and is a fundamental part of our Code of Conduct, to which all employees must subscribe. It is also recognised by our stakeholders as a material issue. Our Group General Counsel along with our Executive Directors and shareholders are responsible for setting, approving and evaluating our anti-corruption policies, procedures and grievance mechanisms.

Charitable donations and sponsorships

Our Code of Conduct describes how we ensure that charitable donations and sponsorships are not used as a disguise for bribery, as follows: "The Company ensures that charitable contributions and sponsorships are not used as a subterfuge for bribery. All charitable contributions and sponsorships shall be subject to Chief Executive approval (or in accordance with the Group Delegation and Limits of Authority) with clear expressions of intent, shall be transparent to interested parties including all employees, shall be fully accounted for and made in accordance with applicable law. The Company, its employees or intermediaries shall not make direct or indirect contributions to political parties, party officials, candidates or organisations or individuals engaged in politics, as a subterfuge for bribery." Further guidance on charitable donations and sponsorships is provided in our Corporate Communications procedures within the business management system. Guidance is provided on the focus areas that Gammon wishes to support, the funding criteria, organisations that Gammon will not support, submissions of proposals for funding, and the assessment and approval process. The issue of gifts and hospitality is also included in our corruption risk assessment.

Corruption risk assessment

GRI 205-1

Our business risk management programme covers corruption risk with a separate corruption risk assessment covering aspects such as bribery, fraud, fair competition, gifts, and conflicts of interest. The corruption risk assessment is undertaken for 100% of our operations in all locations. The assessment is based on various activities undertaken during the course of our business (e.g. bidding for work, selecting subcontractors and suppliers, seeking payment or approvals, etc.) and includes potential variation of risks outside Hong Kong. It is also a requirement of our shareholders that we follow their Ethics and Compliance Programmes which includes corruption risk. The significant risks related to corruption identified through the risk assessments and addressed in the company procedures are:

- Two or more parties including staff, supply chain, other clients and /or competitors collude for fraud, business misconduct or release of sensitive information e.g. tender prices or ideas, financial data, innovation or other client's information to gain an advantage.
- Employees soliciting or accepting any advantages from clients, consultants, contractors, subcontractors, suppliers or any person in connection with Company business.
- Employees having a conflict of interest where their judgement is affected by a vested interest.
- Failure of the Company or employees to follow fair competition or anti-trust laws (e.g. bid rigging, price fixing, market sharing, abuse of a strong market position or other anti-competitive arrangements).

Conflict of interest

Conflicts of interest are to be declared and form part of our Code of Conduct and are an identified risk in the corruption risk assessment for review and management.

Training on anti-corruption and Code of Conduct

As stated in our Code of Conduct (the Code), "Employees shall receive specific training on the Code tailored to relevant needs and circumstances. Where appropriate, subcontractors and suppliers shall also receive instruction or briefings on the Code. Training activities shall be assessed periodically for effectiveness." Integrity (including anti-corruption) and our Code of Conduct are included in induction training, during orientation and/ or in e-learning for all new staff members. Refresher training is provided through e-learning every 1-2 years to monthly paid staff. Training materials are updated every 2-3 years or whenever changes occur in the Code of Conduct, anti-corruption or associated practices. We also have additional briefings with key staff associated with approvals, commercial aspects, procurement and estimating. We have Code of Conduct requirements for subcontractors and suppliers and provide specific briefings as necessary.

Our Group General Counsel along with our Executive Directors and shareholders are responsible for setting, approving and evaluating our anti-corruption policies, procedures and grievance mechanisms.

Climate change-related risk management

Background

As we know, climate change is bringing a range of new risks, as well as opportunities for all businesses. We have therefore further integrated and formalised the management of climate change-related risks and opportunities into our risk management process. We have set up a Taskforce on Climate-Related Financial Disclosures (TCFD) working group consisting of representatives from sustainability, finance and risk management disciplines, which is led by the Finance Director, with an overview by the Gammon ExCo. This working group is providing input to our shareholders for their reporting, as well as for Gammon's own ESG reporting.

Referencing the TCFD recommendations from the international Financial Stability Board (FSB), we are in the process of developing actions and mitigation measures to better position ourselves to manage climate-related risks and capture opportunities for sustainable development and carbon reduction.

Governance

The Gammon Board, including ExCo, meets quarterly through the RMCC where all risk management, compliance, assurance and effectiveness of controls are discussed, and oversight provided. We communicate the climate-related risks and opportunities through the Key Risks and Corporate Risk heat map with further details and updates provided in the TCFD & Shareholder Sustainability paper.

Preceding the RMCC meeting, we have a quarterly Risk Committee Meeting (RCM) where ExCo and other directors assess and discuss corporate risks and review emerging risks. This is fed back into the RMCC meetings. Climate change-related updates are provided by the TCFD working group which cover topics such as clients' specifications; new or changing policies and regulations; emerging sustainability trends; potential future carbon pricing and the PRC Emissions Trading Scheme (ETS). From this meeting, directors then integrate the guidance and recommendations into their own business and operations strategies.

Management integration

Based on the register prepared during the risk identification and assessment process and updates from the TCFD working group at the RCM, mitigation measures and action plans are being developed by the divisions and departments through their business strategies and budget plans. Risks are being included in the corporate and project level risk registers for ongoing review and management. Where relevant, additional targets will be set, including energy and carbon (already included in the Responsible Growth – 25 by 25 strategy which will be intensified towards a net zero carbon target).

Feedback on climate change related risk management has been included in the risk management and sustainability reports for the RMCC and updates are presented to the RCM meetings and through the corporate, divisional/departmental and project level risk management reporting. The Finance Director and Risk Manager are responsible for convening the TCFD working group to review the climate change related risk register annually.

Climate change-related risk management approach

Identification and assessment

We used the TCFD recommendations as the framework for identifying risk and opportunities. Several workshops were held with the TCFD working group to identify and assess the detailed risk and opportunities. Consequences were considered on the basis of Gammon's corporate impact categories: safety, compliance, reputation, quality, environment, delays and profit.

Two different carbon emission scenarios were selected to identify physical risks distinctly from transition risks and opportunities. The emissions scenario forecasts were taken from the United Nations Intergovernmental Panel on Climate Change assessment. A high emissions and warming scenario forecast, namely "RCP[3] 8.5" was selected as the most appropriate scenario for identifying physical risks. This assumes a pathway resulting in a 4°C average global temperature rise by 2100, with resultant catastrophic climate impacts. A lower emissions warming scenario aiming to limit the increase in global mean temperature to 2°C called "RCP2.6" was selected as

the most appropriate scenario for identifying transition risks and opportunities. The climate change impacts from these scenarios were reviewed against Gammon's assets, projects and the business in the short, medium and long term that is 2030, 2040 and 2050. The findings were recorded in a climate-change risk and opportunities register which will be reviewed annually by the TCFD working group.

Directors and / or senior representatives from the different functions were also engaged in an externally facilitated risk management workshop to review, validate and prioritise the risks and opportunities identified by the TCFD working group.

In parallel with the above, the TCFD working group has held discussions with both shareholders to collaborate and provide input for their TCFD reporting. This collaboration will continue regularly.

Strategy

Although a wide range of risks were identified, this section summarises only the priority risks. Other likely impacts, mitigation actions and opportunities were identified. We also outline some of the approaches that Gammon will adopt in the business strategy, site operations and financial planning in the coming years to reduce our exposure, as well as to capitalise on opportunities.

[3] Representative Concentration Pathway (RCP)

Physical risks

Climate-related physical risks were identified at a regional level at locations where Gammon has key assets and projects, including Hong Kong, Singapore and Guangdong. Each region was assessed qualitatively, based on climate projections for risk exposure to extreme heat, sea level rise, wildfires, water scarcity, extreme rainfall/flooding, and typhoons. Looking at the more severe medium- to long-term impacts, we identified the following priority risk:

Risk #	Risk and Impacts	Mitigation Actions
1	Increased severity and frequency of extreme weather events could lead to project delays as a result of power outages, damage to roads and infrastructure; damage to completed works and damage to plant and equipment. Also, regional transport routes may become impassable for the delivery of materials.	a) Pre-checks and mitigating actions, including plant, equipment and temporary works before T8+ typhoons arrive. b) Temporary drainage plans, water storage and infrastructure Mitigation Actions to manage potential floods. c) Contingency plan for emergency teams and equipment. d) Design temporary works for extreme weather, waves and windspeed conditions. e) On-going enhancement of high-risk assets against extreme weather.

We recognise there will be higher temperatures in Southern China which place additional risks on operatives on site e.g. heat stroke risk and heat exhaustion. However, we are already actively working towards mitigating this prolonged (chronic) risk through more modern methods of construction (e.g. offsite fabrication and MiC). Since we can also manage work arrangements during periods of persistently extreme temperatures to reduce risks, we do not consider the residual risk to be high.

Transition risks

In accordance with the transition risk categories presented in the TCFD recommendations, policy and legal changes, market and technology shifts, and reputational damage, we have identified the following priority which is likely to occur over the short- to medium-term impacts.

Risk #	Risk & Impacts & Benefits	Mitigation Actions
2	Failure of technology / adopting wrong technology / technology not being available to meet our net zero carbon targets.	a) Co-founded the 'Power Up Coalition', to ensure there is sufficient electricity on site before construction starts and to work longer term towards zero-emission construction sites. Exploration of other lower carbon energy alternatives. b) Adoption of cost-effective and proven energy-saving initiatives on projects such as insulated site offices, LED and solar LED lights, and other smart controls for electric equipment. c) Use of battery energy storage systems.
3	Potential increase of material costs resulting from mainland China's Emission Trading Scheme (ETS) new plant, equipment, energy, supply chain, change of policy/ regulation to meet net zero carbon demands	a) Work with the supply chain to support and promote the transition to lower carbon materials and energy sources. b) Reduce procurement of new structural steel temporary works elements and reuse as much as possible (e.g. strutting, modular steel towers etc.) c) Source other low carbon materials (e.g. low carbon certified rebar) d) Promote and adopt offsite construction methods, BIM, digital twins and collaborative working to improve construction efficiency, reduce abortive work, and minimise wasted energy. e) Explore methods to reduce the carbon footprint in our concrete mixes (e.g. GGBS and CarbonCure). f) Explore alternative energy sources for diesel plant and equipment. Plan electric vehicle transition.

Opportunities

We identified the following priority opportunities for the short to medium term:

Opp #	Opportunity	Actions
1	Expanding our existing revenue streams to green / sustainable / low carbon infrastructure and buildings.	a) Installation of new solar PV systems at Gammon facilities and supply and installation of PV solar systems for clients. b) For clients, we have also developed lower carbon high-performance concrete mixes with CIC Green Product Certifications.

Resilience

Gammon already has business continuity plans to manage acute physical risks and ensure rapid and continued operation. Based on the experience of Typhoon Manghkut (T10 typhoon), we were able to recover most business operations within a matter of days. As we continue to increase offsite construction, the business' resilience will continue to improve. The experience gained from the restriction on river sand supply and, later, the availability of materials early in the COVID pandemic has also taught us to adapt quickly and diversify supply chains and material sources. In 2021, we also saw rolling closures of factories in southern China to meet energy efficiency / carbon reduction targets. However, we were able to quickly arrange alternative sources of supply in many cases. We have also started to investigate alternative energy sources for heavy plant and equipment.

Metrics and targets

Reducing our carbon emissions and energy consumption are key to our climate-related transition and long-term resilience. We have strong commitments to the continual improvement of our environmental performance through carefully considered metrics and targets. We have been reporting on these for a number of years with our greenhouse gas inventory being independently verified annually. Under our *Responsible Growth - 25 by 25* strategy we have targets to reduce carbon emissions intensity (scope 1 and 2) and energy intensity by 25% by 2025 compared to a 2016 baseline. We will be reviewing and refreshing these targets in 2022, and including targets for scope 3 emissions in line with science-based targets reduction ambitions.

With reference to the 'Implementing the Recommendations of the Taskforce on Climate-related Financial Disclosures' report, our industry best fits in the 'Materials and Buildings' non-financial group. We have selected the most relevant performance metrics to report in Appendix A of this report, as follows:

- Total energy consumed, broken down by source (non-renewable and renewable) (see data under GRI 302-1)
- Energy consumed outside the organisation (see GRI 302-2)
- Total energy intensity by revenue (see GRI 302-3)
- Scope 1, 2 and 3 greenhouse gas emissions (see GRI 305-3)
- Greenhouse gas emissions intensity based on revenue (see GRI 305-4).

In the pursuit of excellence

Influencing the industry was identified as one of our material issues during stakeholder engagement and given the continued need for modernisation within the sector, we view engagement with clients, Government, industry associations, consultants, academia and other contractors as being an essential part of the development of our business. We also advocate for change through speaking engagements externally and through our own events and webinars. We aim to inspire our teams, our subcontractors and suppliers through participation in reputable award schemes to continue to raise the bar (see Appendix E) as well as celebrate achievements. We also make sure we have the in-house expertise and capabilities to help our clients achieve their sustainability aspirations for their projects. For example, we are proud to have been involved in some of the greenest and healthiest buildings in Hong Kong (see Appendix F for an updated list). Through forums and active roles in industry associations and societies, we have taken a leadership role not just for the promotion of Gammon's interests but also for the betterment of the industry as a whole. Appendix G contains the list of memberships of associations and relevant industry bodies that form part of our interaction with key industry players to help shape the future of the industry.

Safety - Zero Harm

Management approach

Commitment to safety

GRI 103-2 GRI 103-3

From our stakeholder engagement process, not unsurprisingly, the topics of 'safety management' and 'working environment' were viewed as our most important material issues by both internal and external stakeholders who participated in the stakeholder engagement process in early 2020. We present below our approach to managing safety and providing an appropriate working environment in accordance with GRI 403: Occupational Health and Safety 2018. Key performance indicators are provided in Appendix A.

Gammon is committed to providing a working environment that is as safe as possible for its staff and others working on our sites (e.g. subcontractors workers, suppliers, client teams and other business partners), and will ensure safety is always a priority over all else. As a minimum, we will comply with all applicable regulations, codes of practice and other guidelines issued by government authorities in the locations where we work.

Occupational health and safety management system

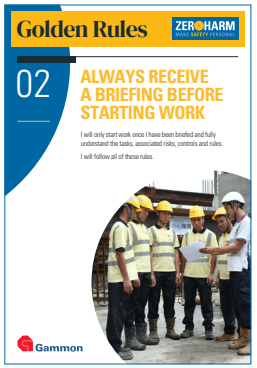
GRI 403-1

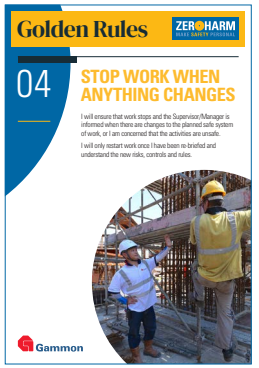
To project our people and those working for us, we abide by all the legal and regulatory requirements in the countries where we operate. However, for Gammon, this is considered to be the bare minimum. As stated in our Code of Conduct, our vision is to have a workplace without injury or accident and our business adopts a 'Zero Harm' approach in the planning and implementation of all projects and operations. No exception is allowed.

The Zero Harm philosophy is supported by senior management's 'Bold Commitments', our HSEQ Policy and a comprehensive integrated BMS. The BMS incorporates the requirements of an Occupational Health and Safety Management System (OHSMS) which covers 100% of our operations. Most (over 90%) of the OHSMS is third-party certified under ISO 45001:2018 Occupational health and safety management systems – Requirements with guidance for use for over 90% of our operations (based on workforce). Digital G and Macau projects operate in accordance with our HSEQ policy and OHSMS procedures but are not yet certified and the scope of certification excludes joint venture projects.

We implemented the original OHSMS several years ago, voluntarily. The scope of the OHSMS covers all our works, activities and workplaces and both our own employees and those in workplaces controlled by Gammon. It also covers any potential health and safety impacts associated with our products and services. While there is an expectation that safety is a shared responsibility for all employees, Gammon also directly employs qualified occupational health and safety professionals to support the management of occupational health and safety for our operations.

In addition to the OHSMS, we have in-house rules, standards and guidelines – such as our four Golden Rules (see below), Bold Commitments mentioned above and safety standards – which often exceed the mandated requirements. Strict wearing of personal protective equipment (PPE) when on site and adherence to the policies, manuals, procedures and safe working rules are expected of all employees and subcontractor workers. The Company does not tolerate any unsafe work practices, serious infringements, the consumption of alcohol or taking of drugs during working hours.





Hazard identification, risk assessment and incident investigation

GRI 403-2

We operate a process of risk and opportunity management at all levels and in all divisions to address risk. A key part of this process is obviously hazard identification and planning for safety to mitigate potential risks related to health and safety.

Planning for safety usually starts during the tendering stage and potential occupational health and safety risks are addressed through temporary works design, construction methods, or controlled by procedures for all major activities on site during operation. We use the 'Swiss cheese' model (hierarchy of controls) for safety management to provide four layers of protection, covering: design and engineering; materials, plant and equipment; process; and people. Our focus is always on designing out and avoiding risks completely rather than relying on the other three layers of protection. Therefore, we always try to adopt a 'safety-by-design' approach to reduce safety and health risks throughout the project life cycle. This often includes digitalisation and standardisation where possible so that DfMA can be used and work can be taken offsite into more easily controlled factory working environments.

At the very beginning of a project, HSE hazards that present significant risk in routine and non-routine work activities will be identified at outset and review workshops – the risk is quantified by considering its probability and impact severity and mitigation is examined. The risk is logged in an active register held at project level but should proposed mitigation measures prove to be unsatisfactory, it will be raised to a divisional or ultimately corporate level register. The register is reviewed monthly at subsequent review workshops with a view to removing or lowering the impact of existing risks and to include new risk entries.

Project leaders will hold a bi-weekly 'Real Risk Meeting' on projects to look ahead and identify issues related to programme, method, resources and changes to work plans that will impact safety. At the operational working level a Dynamic Risk Assessment (DRA) process is implemented to identify what might go wrong on a daily basis at the frontline and to ensure risks are eliminated or properly managed in accordance with method statements. Our in-house developed app, Gambot, provides prompts to assist the works supervisor with the digital version of this process, known as iDRA.

Training and continual process improvement is an integrated part of Gammon's approach. Prevention and risk control measures are promoted, including, among others:

- Training and awareness raising on how to reduce injury, prevent disease, avoid heatstroke, manage stress and promote health and wellbeing;
- Providing safe plant, equipment and tools for worker use; and
- Changing engineering design, programme and methods to reduce or eliminate risk during construction.

A safety and quality KPIs assessment has been introduced to benchmark managers and ensure they drive the correct leadership behaviours. The assessment is carried out on a monthly basis and action areas will be identified for individuals, as well as divisions and the company. The results are presented to ExCo monthly to review, identify trends, and provide feedback or direction for improvement.

The risk management and KPI assessment systems, as well as the formal internal and external audits, and our in-house system assurance validation process, project assurance programme, and management review process, all contribute to the evaluation of our health and safety management system, its effectiveness and how to improve our practices.

Through our four Golden Rules, particularly "Report all unsafe events and conditions", our staff and all workers are empowered to report work-related hazards and for workers to remove themselves from situations they believe could cause injury or ill health.

They can inform their supervisors or use our Gambot app to report a 'safety observation'. We have a formal whistleblowing procedure to protect employees and workers against reprisals. This includes Speak Out which is a confidential service managed by an independent third party to help foster an inclusive, safe and caring workplace and allow reporting in situations where it is inappropriate or not possible to disclose a matter of concern to a direct supervisor, HR or our Legal team.

Should an incident occur on one of our project sites or other premises, we have in place a procedure on 'Reporting and Investigation of Incidents and Complaints'. The procedure details the roles and responsibilities of key staff members and outlines the process of notifications / reporting depending on the severity of the incident. It also describes the incident investigation process including the actual and potential severity rating, detailed observations, and the use of a Human Factors Analysis Classification System. Finally, the investigation would identify any requirement for a review of the risk assessment and method statement and any recommendations to prevent reoccurrence and improve the safety management system, with follow-up responsibilities and target completion dates identified. The investigation is submitted to Directors and is normally reviewed by ExCo at the SEAC meeting and improvement measures are presented in Divisional Meetings. Any significant incidents (related to Gammon or other contractors) are also shared at a weekly safety core brief for all managers so that lessons can be learned.

> **Our focus is always on designing out and avoiding risks completely before works begin.**

Worker training on occupational health and safety

GRI 403-5

All employees and workers from our supply chain go through Zero Harm Induction training and this is refreshed every five years. The Four Golden Rules are a key part of this training, as well as addressing the major hazards on construction sites. Every site has its own induction training when employees or workers come to the site for the first time. During that induction, the particular hazards of the site and mitigation approaches are explained. There are statutory training and certification requirements for workers established in the jurisdictions where we work, so that higher risk operations are only conducted by properly trained staff. However, on-the-job training is also delivered by our experienced operatives who provide mentoring and ensure competency. We provide further bespoke training on selected roles e.g. traffic controllers, riggers, scaffolding, temporary works etc. Workers who are employees are encouraged to join further skills training and achieve trade certificates to ensure they understand the occupational and safety hazards and prevention methods associated with their particular trades.

Prevention and risk control measures are promoted to our staff and workers in day-to-day operations through morning assemblies, tool box talks and pre-work briefings at the frontline in accordance with DRAs. There are also regular safety promotion campaigns on sites with safety briefings provided by safety personnel.

Occupational health services and worker health promotion

GRI 403-3 GRI 403-6

We allocate sufficient resources to maintain occupational health services at our workplaces, which include registered HSE officers, enrolled site nurses, qualified first aiders and healthcare leaders to ensure both the statutory requirements and Gammon's voluntary commitments are being met. Gammon's site nurses and our healthcare leaders provide a range of health and wellbeing services for employees and subcontractor workers. These include:

- Proactively reaching out to staff and workers via regular health visits
- Voluntary health checks for both employees and subcontractor workers
- Free, on-site and during working hours
- Includes blood pressure, blood sugar and cholesterol to help prevent and provide early treatment of non-communicable diseases
- Follow-up recommendations for health issues identified
- Health data collected is kept confidential and used for planning of health promotion events
- Referring or providing information about access to health services provided by the Government or Gammon
- Medical and dental plans subsidised (or offered at a discounted price) by the company
- Health and wellbeing promotional talks which include prevention of diseases and healthy lifestyle guidance, examples include:
- Heat stroke prevention
  - Disease prevention
  - Avoidance of musculoskeletal disorders
  - Stress management and mental health
  - Resilience exercise
  - Financial wellness
- Health talks and promotion on smoking cessation and alcohol consumption
- Incentive programme of smoking cessation
- Provision of free flu vaccination to staff and workers annually
- Providing advice and updated information on disease outbreaks, epidemic or pandemic

Some workers for specific roles such as plant operators and drivers are also required to carry out formal health checks but most health and wellbeing activities are voluntary, with promotion through morning assemblies and Site Safety Committees and sometimes with small incentives offered such as souvenirs or provision of lunches.

Employee assistance programme

All Gammon staff, as well as their spouses and children up to the age of 23, have access to a professional, independent and confidential employee assistance programme we call 'Care Line'. This 24-hour hotline service has professional counsellors who can help callers manage stress and emotional disturbances with work, family, social and other possible challenges encountered in daily life. Careline provides services in English, Cantonese or Mandarin. The service includes face-to-face counselling and referral to a clinical psychologist. Critical incident support and management is also provided to develop interventions to help with emotional reactions and negative consequences of involvement in or exposure to a critical incident.

Worker welfare

We try to go beyond compliance and the local industry norms in terms of worker facilities on site including good rest areas, lockers, cooled welfare facilities, phone charging, toilets, showers, refrigerators, microwaves, ice machines, snacks, meals and drink vending machines, canteens (where possible), and in some cases laundry services and recreational facilities on our projects. This is encouraged and incentivised through our in-house Green and Caring Site Commitment Scheme where sites try to set a leading example to achieve our highest 'Green Flag' status.

Worker participation, consultation and communication on occupational health and safety

GRI 403-4

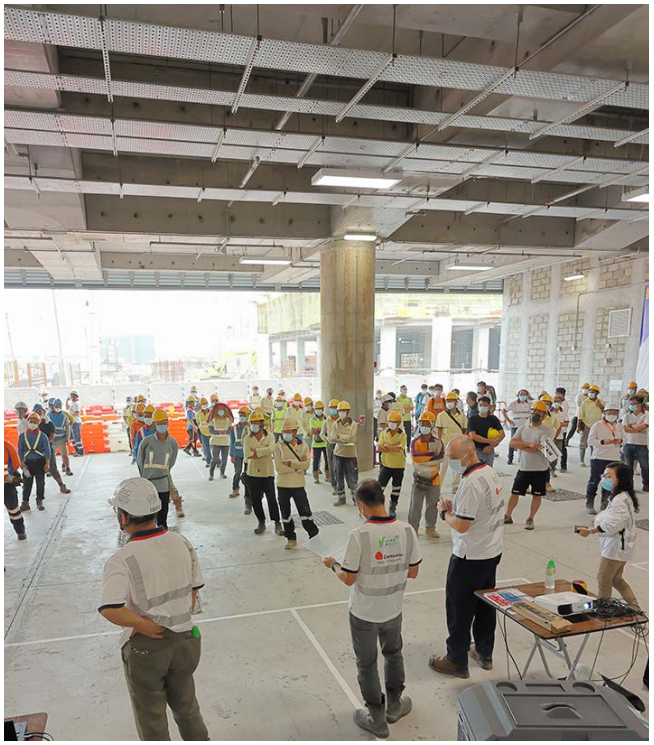
Our leaders are mindful of risks and maintain a fair and just culture that allows all our stakeholders, including employees and workers, to engage in the delivery of the HSEQ Policy and promote a mindset and culture for implementation and continual improvement of health, safety, environmental and quality performance. To improve the standards of safety at work, full cooperation and commitment of workers and foremen are absolutely essential. Hence, these employees must be able to participate in the implementation and monitoring of arrangements for safety at their place of work.

The establishment of Site Safety Committees (SSC) in which these employees and management of the contractor and sub-contractors are represented can increase the involvement and commitment of these employees and workers and ensure the practicability of any new measures proposed. Gammon therefore sets up an SSC in each project and holds meetings at least once a month to drive improvement of occupational health and safety in the workplace and to listen to concerns raised. We ensure all the subcontractors' representatives attend the monthly SSC meeting in our projects.
This means 100% of workers are represented by formal joint management-worker health and safety committees.

We engage all workers in Stand Downs which are held periodically on all sites. At the Stand Downs we engage with workers, review and discuss issues, incidents, risks and prevention. Subcontractors are also invited to our annual Safety Conference, as well as stakeholder engagement exercises. Regular toolbox talks and field control briefings (pre-work briefing) are delivered by frontline supervisors and engineers. Pictorial method statements are used to illustrate how to undertake tasks safely and to discuss with all workers at the actual work location.

Close communication is maintained between our site management and subcontractors' managers and supervisors (the 'real guys') and various measures are taken to promote safe working and to eliminate risks (e.g. awards and prizes).

Discussion is encouraged at Stand Downs



Stand Down at Terminal 2 Expansion Works

Prevention and mitigation of occupational health and safety impacts directly linked by business relationships

GRI 403-7

The process of prevention of occupational health and safety impacts starts at the vendor assessment stage. All suppliers and/or subcontractors are required to declare their broad practices on safety management and adherence to Gammon's Code of Conduct as part of the vendor assessment process. For major new vendors, desk-top vetting may be undertaken to check for any historic violations or health and safety concerns. Where possible, for selected suppliers our staff will do an on-site check of factory facilities and conditions.

During production processes, our quality control team will be in the supplier's premises and will raise any further concerns and identify opportunities to mitigate risks. Commercial terms will be used where necessary to drive better health and safety performance by our suppliers. Where we have formed a strategic relationship with a factory that is operated by a supplier, but production is planned and supervised by Gammon, there is also oversight of occupational health and safety and our staff will work with the factory manager to proactively prevent and mitigate health and safety impacts.

Customer health and safety and compliance of products and services

GRI 103-2 GRI 103-3 GRI 416-2 GRI 419-1

The two areas of 'compliance of our products and services' and 'customer health and safety' were raised as material issues for our business by our stakeholders. These issues are covered by our Code of Conduct and our BMS. One of our core business principles is to abide by the legal and regulatory requirements in the countries where we operate. We have established policies and procedures to guide the proper management of operational compliance issues, as well as systems dealing with financial, taxation and human resources management which enable employees to learn how to comply with all accountability standards, laws, rules and regulations. We maintain and continually improve these systems of management and ensure all employees have the information available or are given instruction on the standards, laws and regulations applicable to them.

As also reiterated in our Code of Conduct, we treat compliance with health, safety and environmental protection regulatory requirements applicable to our business as a minimum standard to which all employees are expected to adhere. BMS processes ensure all applicable legal requirements are identified and actions put in place to ensure compliance, as well as to check for updates. Our staff are required to obey the law and follow all applicable regulations. We also require all employees to adhere to guidance, codes of practice and technical circulars issued directly by government departments that are not legally binding.

Our BMS includes all applicable regulations, guidance and codes of practice in relation to our products and services for the locations where we operate. Construction products and projects often have very stringent general and particular specifications in terms of design, material selection and quality so it is essential we comply with our customers' specifications as a minimum. In order to ensure we deliver what is required and that we operate in compliance with all laws and regulations, our BMS includes production controls for all work including rigorous checking, quality control and assurance, inspection and testing as well as internal and external audits. These controls extend to subcontractors and materials where relevant.

Procurement is a key area where we must be meticulous in ensuring the health and safety of the materials and products we use and avoid any products with harmful substances. Our Sustainable Procurement Policy and practices extend the Zero Harm approach to product and service sourcing to ensure the safety of our customers and the wider public. We are constantly looking for improvement in the products and projects we deliver across many areas, including worker safety, productivity, product quality and durability, cost, resource use, waste generation, carbon footprint, programme, etc. We also strive to improve the health and safety aspects of the projects we construct for our customers, but this must be within the constraints of the customers' contract specifications. We will always propose alternative designs and materials where we believe customer health and safety can be improved. These opportunities for improvement are often identified through our risk and opportunity management process and we raise these with our clients as and when they are identified.

Operating with recognised management systems

Our BMS also includes our Quality Management System and Environmental Management System and is independently certified against ISO9001:2015 and ISO14001:2015. It also includes our Energy Management System which has been certified for selected project types against ISO 50001:2018. Our soil laboratory at the Gammon Technology Park in Tseung Kwan O is also certified to ISO/IEC 17025:2017 and is a certified HOKLAS laboratory for construction materials and calibration tests, as listed in the HOKLAS Directory.

Our steel fabrication department at our plant in Dongguan combined with Lambeth Associates engineering design consultancy was awarded a CE Mark in 2017, certified against Execution Class 4 under the EN1090-1: 2009 + A1:2011. Our concrete batching facilities are also certified against QSPSC:2014. We are one of the first companies globally to have had our information management using BIM certified against PAS 1192-2:2013 and have been awarded the BSI Kitemark.

We also verify our greenhouse gas emissions inventory against the ISO 14064-1: 2018 guideline annually.

These standards, systems and the associated audits, as well as our in-house system assurance validation process and project assurance programmes, allow us to evaluate our BMS and management approaches, their effectiveness and how to improve our practices. The performance of the business, successes and shortcomings are normally communicated directly from senior management to the management teams through regular meetings and briefings where dialogue is encouraged. Management teams are then asked to cascade these findings to every level of staff and these are supplemented by other messages from the corporate communications team and staff circular emails. Every year, we have a formal 'Lessons to Learn' workshop where managers share insights and propose improvements through a yearly Lessons to Learn Action Plan. Our Sustainability Report notification is sent out to key subcontractors and other announcements are made through regular communication channels. Each year there is also a sustainability briefing provided by senior managers from the sustainability team to all main project sites and offices or online.

HOKLAS 055 TEST CAL

bsi. BIM Design and Construction KITEMARK

bsi. ISO 9001 Quality Management | ISO 14001 Environmental Management | OHSAS 18001 Occupational Health & Safety Management

Environment - Zero Waste

Management approach

GRI 103-2

Environmental management

Approach

As mentioned earlier, environmental management is an integral part of our BMS and our environmental management system has been independently certified against ISO14001:2015. Environmental aspects, risks and impacts are considered for each project and mitigation and improvement measures are applied to avoid or ameliorate potential issues. More importantly, we strive for proactive improvements that go beyond basic compliance whether it is to reduce water consumption, avoid waste, save energy or cut material use on site, or by alternative modern methods of construction (MMC) and reusable temporary works. This is encouraged and incentivised as part of our in-house Green and Caring Site Commitment (G&CSC) scheme. In 2018, we also started requiring new projects to develop a Zero Waste Plan to dive into the biggest sources of waste, energy and water consumption, identify the carbon reduction potential and cut waste in all its forms (refer to Sustainability Report 2018, page 12). There was a further update in 2021 to incorporate a Zero Waste Champion from the production team responsible for supporting the waste reduction proposals.

We are active Council members of the Business Environment Council (BEC) and remain a Patron member of the Hong Kong Green Building Council (HKGBC). We have representatives on BEC Advisory Groups and HKGBC Standing Committees. Gammon has been recognised as a Hong Kong Green Organisation for our commitment to proactive environmental management and has won several Hong Kong Awards for Environmental Excellence over the years.

Monitoring

We believe in the philosophy that 'you can't manage what you don't measure' so monitoring our data, which we have been collecting for around 15 years, is an important part of our environmental management process. We have a bespoke data system that uses both site inputs as well as automated links to other business systems such as Finance and Procurement and a Smart Waste Accounting system that retrieves construction waste data from the HKSAR Government's system. There is a significant amount of data collected each month and this is available across the business – where projects can respond and have the biggest impact through a dashboard system called MyAce. In particular, there is a sustainability dashboard (S-Dash) that combines all sustainability-related data (environment, social, costs, safety) into an easy-to-understand single summary which is available through MyAce. This allows the opportunity to interrogate the data and compare project and divisional performance, as well as view 'league tables' of the best performing projects to encourage improvement.

Material issues

Our stakeholders have identified construction materials, waste and energy as the issues of most concern related to our business. In this section, we therefore describe the approaches we use to manage these issues.

Materials

GRI 103-2 GRI 103-3

Our approach

During our stakeholder engagement process, the issue of construction materials was identified as being material for Gammon and of most interest under the topic of the Environment, with particular interest from stakeholders, academic institutions, and industry associations. We try to deliver products and services according to their designs using resources wisely and minimising negative social and ecological impacts. We are committed to the efficient use of resources and minimising impacts on environments affected by our operations.

We adopt the widely accepted '3Rs' philosophy of 'reduce, reuse, recycle' and focus very strongly on reducing material use to avoid waste generation in the first instance by rethinking designs and construction methods and avoiding rework or abortive work where possible. Often, when we are awarded a contract, design and material specification decisions have already been made and many times it is too late to change within the tight construction programme. However, we are trying to work with private clients more during the tender stage (and earlier through ongoing engagement) in order to find opportunities to achieve reduced impacts in resource use without affecting the client's programme or budget. Unless we are awarded a design element in a project, it is challenging to make a significant difference to projects where we are engaged later in the process or where direct communication during tendering is not permitted. We must continue to influence the industry through institutional involvement and promotion of best practice to get deeper and more significant change across what is a very traditional industry.

Stakeholders pointed out that while Gammon is making progress when it comes to the sourcing and use of sustainable construction materials in Hong Kong, they recommended we try to increase our influence with our business partners along the supply chain, especially subcontractors, so that we create positive wider impact.

We believe we can better work with and influence our whole value chain to maximise opportunities for materials savings and sustainable procurement with a less traditional contract procurement method.

Earlier contractor involvement or design-and-build contracts can facilitate early use of BIM with a high level of detail, a collaborative design approach using a common data environment, sufficient lead time for offsite construction and a leaner design overall using an integrated digital project delivery approach.

Material use increases significantly when changes are made to the design, especially in the built construction, creating waste and requiring additional materials. Using a detailed BIM model and 4D work sequencing can avoid clashes and mistakes, allow visualisation (with virtual reality) and fix designs earlier to reduce total material use and wastage. BIM can also facilitate off-site construction and data can be taken from the model directly into factory processes. Stakeholders also mentioned they would like us to encourage more use of green building materials (e.g. with high recycled content) and low carbon design, so early involvement in projects would also facilitate this.

However, until early contractor involvement is more widely adopted we also make proposals to clients and subcontractors for alternative materials when we have enough time in the programme, for example, the use of gypsum blocks (using gypsum waste products from coal-fired power stations' desulphurisation treatment) to replace concrete blockwork.

Steel and concrete

GRI 301-1

As concrete and steel are the two most widely used materials in construction in Hong Kong (with the highest embodied carbon), one of our main priorities is to optimise designs and construction methods for leaner construction, less material use, and increased re-use (for example in edge protection, reusable struts, and temporary works needed for the construction process). This makes good business sense as well, as it minimises natural resources, energy use and costs. Detailed data on the construction of these materials in recent years is included in Appendix A.

Through different initiatives, we have encouraged alternative designs using mechanisation, modularisation (e.g. re-use of modular struts), standardisation, automation and offsite prefabrication solutions (e.g. E&M modularisation, precast concrete, MiC and MiMEP for plant rooms) which result in more efficient use of resources or energy and waste during installation. Tools such as our MyACE dashboard and the Concrete Management System combined with the use of BIM help us achieve greater efficiencies in material use and wastage reduction. We continue to increase our use of the offsite cut-and-bend factories established in Hong Kong in the past few years with good success. Recently we have been looking for lower carbon steel options with supplies often coming from electric arc furnaces which use higher recycled steel percentages. We also look for opportunities to reduce waste to public fill with a focus on minimising earth works and finding a direct beneficial use of excavated material.

Low carbon ready-mix concrete

Our Concrete Technology Services (CTS) continues to investigate new alternatives for more sustainable concrete mixes. The raw material types, sources (e.g. recycled content for cement replacements, such as use of pulverised fuel ash (PFA) or silica fume, see Appendix A), mix design and the plant production and management systems are all considered in the mix to try to reduce the carbon footprint of the concretes we produce in Hong Kong. We have assessed the 'cradle to site' life cycle carbon footprint for concrete mixes using the ISO14067:2013 approach. We were the first concrete producer to have Construction Industry Council (CIC) Carbon Labels for our ready-mix concretes which have since been changed to CIC Green Product Certification Scheme labels as the scheme has developed. We have over 380 mixes with CIC Green Product Certification with most performing at Platinum or Gold level. In 2021, CTS investigated further embodied carbon reduction options including the use of ground granulated blast-furnace slag (GGBS) which can be used to replace up to 50% of cement and a carbon curing technology which injects waste carbon dioxide into the mixing process.

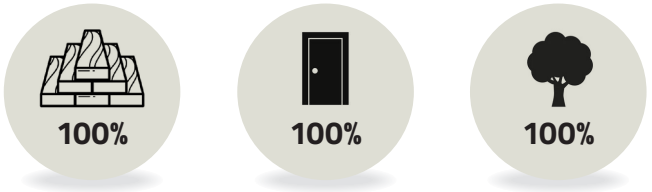
PLATINUM
CIC GREEN
PRODUCT CERTIFICATION

Other materials

GRI 301-2

In addition, we try to reduce material impacts through the procurement of more sustainable materials, for example, with higher recycled content, lower embodied carbon, sustainable sources, and the use of design alternatives to reduce material quantities. One example is our use of certified sustainable timber (normally FSC or PEFC certified) for all our formwork and timber door purchases under our Sustainable Timber Procurement Policy and Implementation Guideline (please see data in our KPIs in Appendix A). We also use sustainably certified A4 and A3 paper in all our permanent and site offices but are trying to convert to paperless approaches and systems where possible and work with clients to reduce the amount of paper-based submissions. More recently, we have also been sourcing certified sustainable timber in cabinetry and furniture.

In addition to ongoing ad hoc communication with suppliers and subcontractors, we often conduct sustainable procurement workshops in Hong Kong and Shenzhen or online to increase their capability in green procurement.



Formwork **Timber Doors** **Office paper**

Our sustainable timber purchases for 2021 (HK)

Waste

Our approach

GRI 103-2 | GRI 103-3 | GRI 306-1 | GRI 306-2

Gammon has developed a set of production procedures including waste management to guide our teams on managing these aspects. It is the responsibility of the project site environmental representative, site depot or workshop manager or environmental officer to ensure these procedures are implemented. The project team must ensure waste management risks are identified and assessed and appropriate mitigation measures implemented and maintained to achieve compliance with the law, contract, commitments of the Health, Safety and Environmental Policy, Sustainable Procurement Policy[1], objectives and targets. Most sites prepare a project-specific Waste Management Plan to define responsibilities and mitigation clearly from the beginning of the project. The mitigation measures and controls also extends to suppliers, subcontractors, and materials where relevant.

Waste was identified as a material issue by our stakeholders with clients, academic institutions and industry associations all recognising this as particularly important. Aside from construction materials, stakeholders also brought up the topic of increasing site and planning efficiencies to reduce unintended waste. One example was to leverage the large number of construction sites to better plan overall logistics and materials allocation to decrease waste. The large numbers of suppliers and subcontractors (some of which are client-specified) makes it difficult to centralise logistics but through digital approaches, we are improving the timing of deliveries to reduce waste from damage or losses. A second example was to centralise and strengthen Gammon's procurement and inventory database to reduce redundant purchasing. Our DiMart centralised procurement app has been enhanced further and also reduces the risk of over-ordering through our electronic procurement process.

We believe waste is probably our greatest environmental challenge (particularly in Hong Kong where there is limited support for the recycling sector) and also an area for opportunity. We need to think of waste as a resource and find ways to work up the supply chain to reduce it and look for chances to close material loops (circular economy thinking). We believe off-site construction and using a design for manufacturing and assembly (DfMA) approach present the best opportunities for improvement both on material use (as mentioned above) and waste avoidance and we continue to promote these both internally and externally. Offsite approaches (and improved onsite works) are facilitated through detailed BIM application, full co-ordination of all design disciplines, and construction sequencing using 4D rehearsals in a digital twin environment with early design freeze. This approach further reduces the risk of abortive works or rework and improves the accuracy of material quantities ordering and timing for deliveries.

We have a Waste Management Handbook for the Buildings Division that aims to provide project teams with practical and achievable guidelines for achieving our waste reduction targets. The Handbook includes guidance on roles and responsibilities, timing of waste generation, monitoring, and suggested waste reduction measures.

Every new project in all divisions must also complete a Zero Waste Plan to identify major potential upstream and downstream waste streams and opportunities to improve in terms of solid waste, energy, water and carbon. Each project is asked to forecast the major types / sources of solid waste (for landfill or incinerator) that will be generated and to select some key wastes on which to focus initiatives, monitor and set targets for reduction.

Hazardous waste is avoided where possible through the procurement system and any residual hazardous or chemical waste (e.g. lubricant oil and paint related wastes) are handled in accordance with the local regulations and requirements.

We advocate waste management improvement and policy support in Hong Kong through our role as a Steering Committee Member of the Circular Economy Advisory Group at the BEC and work with our supply chain to try to reduce waste through direct dialogue, workshops or online engagement.

Reuse, recycling and disposal of construction waste

In Hong Kong, we continue to be challenged by waste reduction, both upstream and downstream, as is the rest of the construction industry. All construction waste disposal in Hong Kong is tracked through a Government trip ticket system for inert and non-inert materials. All our inert excavated materials (which make up the majority of the waste) are directly re-used for backfilling on site, transferred to other sites (e.g. ongoing reclamation sites) or re-used through the Government or public fill sites. Limited opportunities and high costs for recycling are combined with heavily constrained sites making non-inert waste separation difficult. Currently, the only widely recycled materials on sites in Hong Kong are waste metals, and this is largely due to the market for scrap metal. However, we also recycle other hard, inert material (e.g. demolition waste) where possible for use as aggregate for paving or concrete blocks or for drainage/ compaction layers at landfills. We also recycle electrical wastes, plastic bottles, safety helmets and some wooden pallets and timber where possible, and use the new facility, Y-Park for yard waste such as felled trees. Wastes sent for reuse or recycling are tracked through a tailored trip ticket / receipt approach with third parties e.g. reuse as backfill on alternative site. A list of recommended recyclers is maintained for typical materials. While we continue to look for cost-efficient recycling opportunities, more important is waste avoidance. Examples include:

- The use of metal system formwork instead of timber;
- The use of modular steel struts which are designed for reuse on multiple projects.;
- Off-site factory construction where accurate ordering, bulk production and easier recycling can reduce waste generation;
- The use of BIM with visualisation and early design freeze to avoid abortive and repeat work;
- Re-usable packaging methods (e.g. curtain wall unit frames / stillages) and packaging 'takeback' by suppliers (e.g. cable drums);
- Redesign, material substitution and supplier engagement for easier recycling (e.g. closing the loop on our HDPE safety and water barriers which was started in 2015).

In Singapore, more of our waste is recycled due to the improved availability of sorting/recycling sites, and mandatory requirements for construction waste separation, recycling and disposal (e.g. waste to energy incineration). Each recycler provides evidence of waste managed through invoices. Data on our waste generation and disposal is shown in Appendix A.

[1] https://www.gammonconstruction.com/uploaded_files/files/en/Procurement_Policy_EN.pdf

Reducing and recycling office waste

For general (non-construction) waste, we already recycle all our office waste paper (on sites and in offices) and in 2017 we:

- Stopped providing paper cups in our head office and switched to reusable tableware;
- Stopped providing site visitors with individual single-use plastic bottles on almost all sites and switched to reusable cups and glasses;
- Worked with vending machine suppliers to avoid plastic bottles in machines where possible;
- Upgraded our IT in meeting rooms in head office to make it easier to hold paperless meetings; and
- Redesigned our annual Gammon diaries with a reusable cover and a replaceable diary insert using FSC certified paper.

In 2018, we rolled out our Zero Waste Office programme for permanent offices starting with the Hong Kong head office, Gammon Technology Park and then the Shenzhen office. We continue to promote this across the business. Several of our longer-term project sites and permanent offices also participate in the HK Green Organisation Certification Wastewi$e programme. The distribution of refillable drinking bottles and reusable tableware is quite common on our sites for staff and in some cases we have also worked with local restaurants to provide reusable lunchboxes for staff lunch meetings / lunch and learn sessions which are then returned to the restaurant.

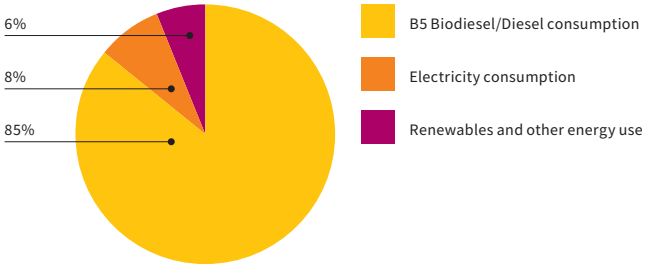
Energy

Energy mix

GRI 103-1	GRI 103-2	GRI 103-3	GRI 302-2	GRI 302-3

Energy was identified as a material issue during our stakeholder engagement process. Over 80% of the energy we consume is in the form of B5 biodiesel (HK), marine vessel (ultra-low sulphur) diesel (HK) and diesel (Singapore) in plant and equipment used during construction operations. particularly foundations projects and heavy civil engineering works. The next largest significant energy type is electricity used in both our temporary projects and permanent operations, with a lower proportion of energy used for transport (e.g. concrete mixer trucks, site vehicles).

2021 Group energy mix



Responding to climate change

While the issue of climate change was not identified specifically as a standalone material issue in our stakeholder engagement, it is of course very closely related to energy consumption. We aim to mitigate our contribution to global warming by reducing the carbon emissions associated with our energy consumption and improve our energy efficiency. Reducing our carbon intensity and using cleaner, lower carbon energy is part of that challenging journey.

100% B5 Biodiesel
use in our plant and equipment (HK)

Having started using B5 biodiesel in 2013, by 2015 we had already successfully converted 100% of our own site plant and equipment to its use. We prefer to use B5 sourced in HK from the re-processing of waste cooking oils if at all possible. For our concrete mixer trucks, we also used some B5 biodiesel from 2015 but we believe a hybrid mixer truck will provide more carbon and health-related benefits so we are following their development closely and will be focussing more on reducing the embodied carbon in concrete in the interim. More information on our other efforts to transition to lower carbon energy sources is presented in the section below.

Every year we do a detailed inventory of our greenhouse gas emissions according to ISO 14064:2018 (Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals) which is externally verified (see Appendix B). As many of the sources of information for this data are based on energy consumption, this provides us with good confidence the systems we have in place provide us with a reasonable level of data accuracy.

Energy and carbon reduction on site

Our preference on site is to use mains-connected electricity from local power companies rather than diesel generators wherever possible. This generally improves our energy efficiency, reduces noise and air quality impacts to both people working on the site and surrounding neighbours, and reduces costs. It also helps us to decarbonise, as the HKSARG Government has set a commitment of carbon neutrality by 2050 in its Climate Action Plan 2050 and is targeting net zero carbon electricity supply.

However, in many cases the amount of electricity that can be supplied at the beginning of the project is often insufficient or cannot be connected quickly enough in the construction programme. It often takes several months or up to a year to supply sufficient power to the site, and / or get approval for and build a temporary transformer room (if a large supply is needed), particularly if in a more remote or new development area. We therefore advocate for early application of sufficient electricity supply by our clients, particularly through the Power Up Coalition (as mentioned in the chapter on Environment) to avoid the need to use diesel generators and to allow for the use of more electric plant and vehicles in the future. In the interim, or where there is insufficient electricity supply, we also adopt battery energy storage systems called Enertainers, especially for applications where large intermittent power supplies are needed. These typically involve tower cranes, passenger and material hoists. Further details can be found on page 10 of the 2019 Sustainability Report and on our website[4] and YouTube channel[5].

[4] https://www.gammonconstruction.com/en/sustainability-case-studies-details.php?sustainability_highlights_id=9
[5] https://youtu.be/yQZMA365tDg

Using a battery energy storage system – the Enertainer.

Where the use of electricity or Enertainers is not feasible, temporary power is carefully planned on our sites, sizing generators and other equipment accurately with regular reviews and ensuring preventative maintenance is carried out to ensure plant is running efficiently. Operationally, we ensure equipment is being used efficiently with plant switched off instead of idling and planning work to avoid double handling and additional lifts. We are hoping to more widely adopt MMC in order to minimise energy use on building projects.

Our aim of electrification for construction sites is still very difficult to achieve for foundations and heavy civil works where alternatives to the use of diesel power for drilling, piling, heavy cranes, etc, are not yet commercially available for the type of ground conditions and high-rise construction forms we usually encounter. We are keeping a close eye on technological developments and alternative energy sources internationally with the aim of transitioning to cleaner sources of energy in the future.

Our vision of an emission-free site of the future (see right) is likely to have a blend of solutions relying mainly on electricity but with the introduction of alternative, lower carbon energy sources for the hard-to-abate heavy machinery. Changes in construction methods and lighter weight structures are also likely to have benefits for energy use in the future.

Key

1. Low carbon power supply
2. Grid connection, possibly with temporary transformer
3. Battery energy storage system
4. Electric powered machinery and equipment
5. Charging for electric vehicles and plant
6. Renewable energy for Feed-in Tariff or to power site offices
7. Mobile electric plant on charge while stationary
8. Electric / non-fossil fuel foundations equipment
9. Hydrogen / other fuel cell technology
10. Non-fossil fuel heavy vehicles
11. Offsite construction to reduce onsite energy use

Energy efficiency

We use LED lighting widely both on site for works lighting and in offices, with timer switches, smart metering, occupancy sensor controls, and smart controls being implemented widely across projects. We also make use of renewable energy (solar photovoltaics, solar heating and some wind turbines) where possible, especially for lighting, fans and hot water for showers. New electrical appliances are purchased with Grade 1 or 2 energy efficiency labels and many new container offices are insulated to reduce solar gain and thermal transfer. These measures are promoted and rewarded through our internal G&CSC scheme, Eco office programme (Singapore) and when projects participate in the Environmental Campaign Committee's Energywi$e programme. We have energy efficiency targets for both our concrete batching facilities and our steel fabrication plant, Pristine, as well as an electricity intensity target for offices as part of our G&CSC scheme. For public housing and other selected projects, we operate an ISO 50001 certified Energy Management System, with energy policy and associated energy purchasing standard procedures. We carefully track and monitor our energy consumption through our MyACE dashboard and S-Dash.

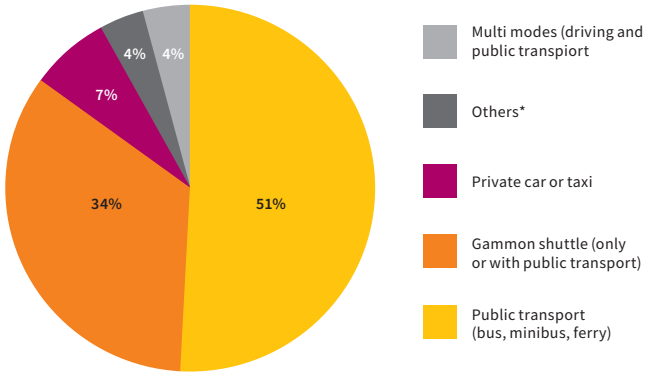
For the most part, we do not have the opportunity to directly control or influence the design and equipment choice on our clients' completed projects. Where possible, however, we will recommend alternative designs for permanent facilities, plant, equipment and control system specifications where we believe improvements could easily be made. Opportunities for change, however, are often limited due to programme pressure. Where we are able to be engaged earlier during the project or for design-and-build contracts, we always look for opportunities to reduce consumption in the operation of the completed project.

We advocate energy efficiency improvement and policy support in Hong Kong through our membership of the Climate Change Business Forum Advisory Group at the BEC and the British Chamber of Commerce's Environment and Energy Committee.

Staff commuting

Although not directly under our control, we can influence the energy used by our employees during their commute to work in various ways. While we have introduced digital ways of working to minimise the need to travel, commuting to construction sites is still inevitable for most employees. To improve convenience and reduce fuel use, we provide shuttle bus services to projects from various locations. We also provide fuel subsidies for some staff members (but will be looking at ways to promote the use of EVs instead). To improve our understanding of the ways that staff reach their daily place of work in 2021, we also undertook the first comprehensive staff commuting survey for the whole Group during Sustainability Month.

Breakdown of staff commuting modes



* Others: on foot / bicycle / EV / e-bike / car pool

The results showed that of the nearly 1,300 who responded, over 80% take some form of public or shuttle bus transport. We will be using the data collected to further study and identify opportunities to support and influence employees on their daily commute to reduce energy usage and will further refine the survey methodology to provide fully representative results that we can track on a regular basis.

Renewable energy

200 kW capacity solar installation at Gammon Technology Park in Tseung Kwan O.

As mentioned in our 2018 and 2019 Sustainability Reports, we have installed several solar photovoltaic (PV) arrays that are connected to the grid and receive the feed-in tariff (FiT) in Hong Kong. The largest is on the roof of the Gammon Technology Park in Tseung Kwan O and we have smaller installations on the Sai Sha Road and Kai Tak West project sites. We continue to look for opportunities for more solar PV projects where projects last several years and grid connection has already been or can be established. These installations contribute to the HKSAR Government's ambition to increase the proportion of renewable energy in the energy mix.

Value Chain - Co-Creation

Management approach

GRI 102-13

Influencing the industry and committing to change

Association memberships

In order to support the industry, advocate for change, and drive improvement, Gammon's staff have memberships of various external industry, professional and business organisations and government bodies. Our staff provide governance support, advisory or participation in committees or other initiatives, etc. Memberships of these organisations and committees is particularly important as it provides an opportunity for the business to learn and share knowledge, promote best practices, and influence the industry for good. Our stakeholders view our role as influencers within the industry as a material issue and we take the same view that we must be proactive, challenge industry norms and strive for greater, more sustainable progress. The list of the external organisation and association memberships is shown in Appendix G. We also regularly provide feedback and insight for academic research projects and consultancy studies, as well as support non-government organisations with their research and engagement.

Other engagement activities where Gammon aims to influence both direct stakeholders and the broader industry include, among others:

- Safety, sustainability and innovation/digital construction conferences or briefings;
- Partnering lunches; and
- Various workshops and presentations.

External commitments and initiatives

Gammon has also subscribed to and endorsed a range of externally developed economic, environmental and social charters, principles and other initiatives. These are all voluntary initiatives, applied in Hong Kong, and those from the past 10 years are listed.

GRI 102-12

Date	Principles/Chartered	Organisation	
2012	WBCSD Manifesto for Energy Efficiency in Building	WBCSD / Business Environment Council	https://www.wbcsd.org/Programs/Cities-and-Mobility/Resources/Manifesto-for-EEB
2014	Hong Kong Green Purchasing Charter	Hong Kong Green Council	https://www.greencouncil.org/
2016	No Car Day 2016	Friends of the Earth (HK)	https://www.foe.org.hk/default.aspx
2017	Code of Practice against Discrimination in Employment on the Grounds of Sexual Orientation	Constitutional and Mainland Affairs Bureau	www.cmab.gov.hk/en/issues/code_of_practice.htm
2017	Pledge to Support the Development of Qualified Environmental Professionals	Hong Kong Institute of Qualified Environmental Professionals Limited	https://hkiqep.org/pledge-to-support-the-hkiqep-qualification/
2018	STEM Alliance	Hong Kong Institute of Construction	www.hkic.edu.hk/eng/stem
2019	BEC Low Carbon Charter	Business Environment Council, Climate Change Business Forum	https://bec.org.hk/en/bec-low-carbon-charter
2021	Power Up Coalition	Business Environment Council, Climate Change Business Forum	https://bec.org.hk/en/bec-low-carbon-charter
2021	Racial Diversity and Inclusion Charter for Employers	Equal Opportunities Commission	https://www.eoc.org.hk/en/news-and-events/events-and-programmes/eoc-events/inclusion-charter
Annually	Biz Green Dress Day	Hong Kong Green Building Council & Construction Industrial Council	https://www.hkgbc.org.hk/eng/engagement/public-initiatives/hkgbw/index.jsp
Annually	Earth Hour	World Wildlife Fund for Nature	https://earthhour.wwf.org.hk/en/home/

Our supply chain

Supply chain management and procurement approach

GRI 102-9 GRI 103-2 GRI 103-3

As one of the largest contractors in Hong Kong, Gammon has an extensive supplier base providing a variety of products and services for our business operations. We believe suppliers are valuable stakeholders within our business supply chain and we are committed to engaging with them to build a better and more responsible future together. Indeed, supply chain engagement was identified as one of our material issues in our stakeholder engagement exercise. We believe developing and maintaining good relationships with our suppliers and subcontractors is an integral part of being a sustainable business. In addition to ongoing regular dialogue, we hold workshops with our supply chain to communicate our expectations in a number of key areas, as well as provide an opportunity for the suppliers to discuss any issues they may have or propose alternative solutions or products. We also invite both material or equipment suppliers and subcontractors to our safety, sustainability and other conferences and engagement sessions.

Gammon's supply chain is predominantly made up of material suppliers, material manufacturers, subcontractors and service providers. The total number of suppliers, their region of origin and types of suppliers are provided in the KPI table in Appendix A. Below we describe the management of our supply chain and the procurement process.

Our procurement process is guided by our Sustainability Procurement Policy and our process, practices and procedures are included within our BMS. Our subcontract procurement, management and administration procedures are also defined in our BMS. A comprehensive supply chain management mechanism has been established to monitor a wide range of aspects for the suppliers and subcontractors, from product and service quality to ethical standards. It is our policy to act fairly in business dealings with vendors and subcontractors and at the same time to purchase responsibly and obtain the best possible value for money in procuring materials, services, plant and equipment.

Our expectation of suppliers and subcontractors are incorporated in our tender invitations and supplier contracts. All suppliers and subcontractors should operate in accordance with local laws and regulations and are encouraged to conduct business with integrity and in accordance with our Codes of Conduct, Health, Safety, Environmental and Quality Policy, as well as strict standards for corporate governance. Our suppliers and subcontractors are given regular training to help them meet our standards. Risks in our supply chain, similar to our other operation risks, are subject to regular assessment through the Risk and Opportunity Management Procedure. Please refer to Managing Risk in the Governance section for details.

Local supply chain spending

Gammon is proud of delivering premium products and services to our clients. A key factor for our success is having the support from a diverse pool of suppliers and subcontractors. The proportion of spending on local suppliers (as identified under GRI 204-1) was not considered to be a material issue by our stakeholders. Whenever possible, however, our procurement approach includes local suppliers to reduce carbon emissions arising from the transportation of materials and products, as well as targeting the creation of economic value in the local community. Appendix A provides details of our total number of suppliers and subcontractors for the year. Of our total supplier spend, 94% is typically on those from Hong Kong, 4% on those based in mainland China, and 2% on those overseas. Almost all subcontractors are based in the locality where we are operating, with the exception of only extremely specialised skills such as heritage brickwork restoration. Further information on our supply chain can be found in Appendix A.

Supply chain assessment

Gammon has a structured process and database for managing its supply chain. Our Supply Chain Management System includes approvals of subcontractors and suppliers onto our Approved Subcontractors and Suppliers List, conducting performance appraisals half yearly for active subcontractors and suppliers, monitoring trade performance Key Performance Indicators with access for our subcontractors and suppliers on the Gammon supply chain extranet, and selection and evaluation of preferred/strategic subcontractors and suppliers. We ask and expect that our supply chain abides by our Code of Conduct at all times. For major material suppliers, we undertake on-site assessments of factories' health and safety and worker facilities and amenities including staff quarters, washroom hygiene condition, canteen facilities, resting area, recreation area, drinking water, personal protection equipment, etc.

People - Caring

Management approach

Our people

GRI 103-2 GRI 103-3

Attraction, retention and the development of our people and providing the right, inclusive working environment for staff to thrive is critical to the success of our business and were identified as such in our stakeholder engagement exercise. How we responsibly manage and support our people also affects our ability to influence the industry, engage with our supply chain, and make a positive impact on industry-wide issues such as the labour shortage.

Employment

GRI 401-1

We offer employment conditions that meet or exceed the minimum legislative requirements and accepted conventions and do not use forced labour or restrict free movement of our employees. We do not allow discrimination or harassment and provide equal opportunities, with recruitment and career progression based on objective criteria, individual performance and merit. As mentioned in the Zero Harm section, we observe the rights of employees and subcontractors to a safe and healthy work place.

In order to attract, motivate and retain employees, we ensure our remuneration packages, pay levels and fringe benefits match or even exceed our principal competitors for talented employees. For new employees, competitive packages are offered that recognise their individual academic and professional qualifications, relevant years of experience, job scope and responsibilities, and the appropriate grades for which they are appointed.

Depending on the specific employment terms and conditions, we offer different benefits including statutory holidays, five-day week plus two Saturday mornings a month, or a five-day working week, annual leave, sick leave, maternity leave, paternity leave, jury service leave, study leave, marriage leave, compassionate leave, medical benefits, optional dental scheme, group life insurance, accident insurance, retirement scheme, reimbursement of professional bodies membership fee, club membership and long service awards. In late 2018, we increased our maternity and paternity leave for Hong Kong and Macau in line with HKSAR Government recommendations and ahead of any mandatory requirement to do so. The normal retirement age of all employees is 60. However, Gammon may consider offering post-retirement employment where the employee has acquired specialised knowledge and skills, and is willing and capable of making a continued contribution to the Company.

Our employment practices and procedures are governed by our BMS and are reviewed as part of our management system review process. Our policies are outlined in employee handbooks for different locations and are available for both workers and staff. Details of our employee hires and turnover by age group, gender and region are shown in Appendix A.

Members of the YPG packing masks for donation.

Training and education

GRI 404-1

Gammon believes investing in training is an important factor in retaining and developing high-quality human capital. Therefore, since 2003, Gammon Academy has provided a diverse range of training programmes to develop our employees and assist them along their career path.

Each year, we generally run over 150 sessions in our training programmes. Subjects include health, safety and environmental management, quality management, engineering capabilities development, BIM, DfMA, commercial awareness, contract management, strategy for tendering, project planning and controlling, procurement and legal requirements, D&I, and soft / managerial skills development. In addition to classroom training, we offer e-learning, virtual classes, seminars, webinars, sharing sessions and site visits. With the revamp of our Gammon Academy programme in 2017, training curricula have been further refined to provide greater relevance to each business division.

Training is backed up through our annual performance appraisal process which includes objectives and a learning and development plan / goals to guide each individual employee. Our comprehensive ('scheme') training programme has been identified as one of the key reasons new graduates select Gammon and construction as a career.

In addition, we have developed the Technician Apprentices (TA) and Craft Apprentices (CA) programmes which provide comprehensive training in various disciplines including civil, building, building services, electrical and mechanical and quantity surveying. We provide on-the-job training, skills-based training, mentorship and further education sponsorship for frontline workers and staff.

Our employees can also apply for and are financially supported to attend external training courses to meet training needs that have been identified or are mandatory to their current jobs in preparation for future roles.

We have an active Young Professionals Group which provides opportunities for additional knowledge-based and social activities. Further information on training and education, including hours of training per year per employee can be found in the KPI Appendix A.

Skilling workers

Gammon has adopted a three-pronged approach to meet labour shortage challenges in Hong Kong and at Pristine: self-performing, upskilling / multiskilling, and new blood training. Having a permanent workforce ensures we have the necessary skilled manpower to take on new projects. Through multiskilling, we have a more productive and flexible workforce suited to the mix of works being performed. It reduces the risk of labour shortage in key skills, while empowering workers with a broader set of skills that can be used throughout their careers to assist with continued employability and life-long careers. We collaborate with HK's Construction Industry Council to hold formal training programmes and provide training to both our own and subcontractor workers when possible.

Development and support

GRI 404-3

Gammon supports staff in the pursuit of technical and professional qualifications. Engineering and quantity surveying employees are encouraged to pursue professional memberships with the Institution of Civil Engineers, the Hong Kong Institution of Engineers and the Hong Kong Institute of Surveyors. Fresh graduates are encouraged to enrol in the approved training schemes provided by Gammon, in preparation for the professional examinations. Experienced employees can apply for professional and institutes' membership via the mature routes. Fresh graduates may be required to sign an undertaking with Gammon upon enrolment to the approved training scheme. They should understand the commitment they have undertaken to satisfactorily complete the training as Gammon assists with necessary fees. The obligation to complete the institutions' requirements is linked to career progression within Gammon.

Other professional qualifications are also supported by the business in construction-related and support disciplines such as BIM, procurement, finance, safety, occupational health, quality, legal, HR and the environment. For example, environmental staff are encouraged and financially supported to qualify as members of the Chartered Institute of Waste and Environmental Management, the Hong Kong Institute of Qualified Environmental Professionals, and other institutes.

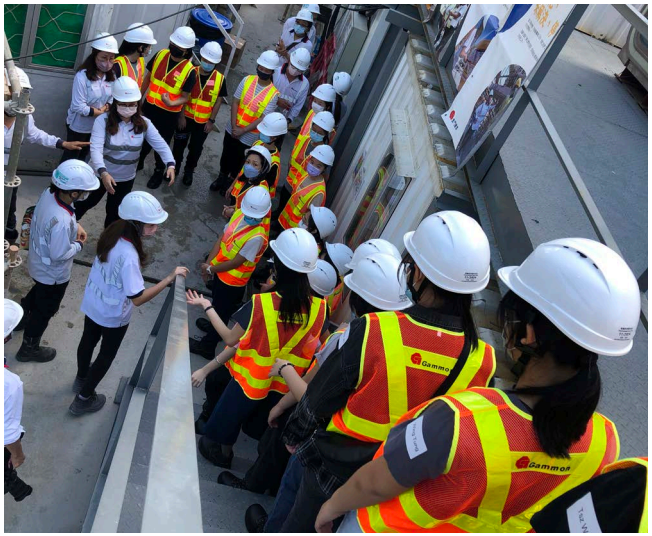
CAs and TAs are hired for training programmes and are supported by the company financially to cover their education costs while they work full time for Gammon. They attend relevant courses during part-time day release or during evenings. Gammon monitors their performance at work and their academic achievements, and they will be promoted within the company subject to satisfactory performance and job requirements. Upon completion of their apprenticeships, CAs are normally transferred to monthly or daily paid workers such as mechanics, electricians and levellers, and TAs would be promoted to permanent employees as construction supervisors or technicians.

We have regular performance and career development reviews, normally held annually and targeting all employees and the data relating to these reviews is shown in Appendix A.

Diversity and inclusion

Gammon wishes to be an employer that is recognised for its strong culture of fairness, inclusion and respect. We believe actively promoting diversity and inclusion (D&I) is important for a forward-looking business that wishes to retain, support and nurture its best talent, whoever they may be. D&I has therefore been included as one of the action areas in our Responsible Growth - 25 by 25 sustainability strategy.

In late 2018, we started to formalise our approach with a group of D&I Champions who began looking into D&I and how an inclusive culture could be supported. In 2019, we did some research focusing initially on gender equality and also engaged an expert to provide an introductory briefing to all Directors. The Champions provided recommendations to ExCo regarding the establishment of a D&I Council and this was set up in 2020, along with the inception of our first employee-led network, Women in Gammon and Allies (WinG). At the end of the year, the Council Chair and our Chief Executive endorsed Gammon's 'Building Belonging' statement. The statement provides our position, governance and targets on D&I and the targets have been integrated into our overall sustainability strategy. In early 2021, the 'Building Belonging' statement was promoted widely within the organisation in multiple languages as a statement of intent and commitment.



Gammon women briefing high school girls during the Girls Go Tech site visit.

In 2021, in addition to the official launch event for WinG, we collaborated with organisations, such as The Women's Foundation and CLAP, to promote and encourage STEM and construction to girls and underprivileged high school students (see section on People). Internally, D&I and unconscious bias training was given to senior managers by external professionals, and we created our own e-learning video on diversity and inclusion to target and reach a bigger audience. All employees are encouraged to complete this e-learning which includes an introduction to unconscious bias, and the behaviours we want to encourage in Gammon.

Each D&I Council member worked towards their own individual target, such as celebrating a minority group's festive day, obtaining funding for D&I events, mentoring female colleagues, giving talks to high-school girls, adopting trials for flexible working and many more. We also had some fun with a whisky tasting event combined with diversity discussion and workshop for members of WinG and the YPG. Towards the end of the year, we signed up to the Equal Opportunities Commission's Racial Diversity and Inclusion Charter for Employers and the D&I Champions will support the company to work towards achievement of the charter goals.

Left to right: Associate Legal Counsel and D&I Champion Yun Xiao Hu, Executive Director and D&I Council Chair Ashley Howlett, Director and D&I Council member Jenny Pong, Chief Executive Kevin O'Brien, Group Sustainability Manager and D&I Champion Emma Harvey.

Employee rights – collective bargaining

GRI 102-41

The majority of Gammon's employees are based in Hong Kong, Macau, Mainland China and Singapore. There is no statutory recognition of collective bargaining agreements in Hong Kong or Macau. In respect of Mainland China and Singapore, there is statutory recognition of collective bargaining agreements and, if applicable to the construction industry, any collective bargaining agreements would be complied with. To the best of our knowledge, there are no Gammon employees covered by collective bargaining agreements in Mainland China and Singapore.

Our Code of Conduct details our commitments to ensure the rights of our employees and provide an avenue to raise grievances. Our Code of Conduct is publicly available and can be viewed on our website[6]. Employees are allowed the freedom to join any union of their choice and the Company will not interfere in this regard. Due to reasons of privacy, we do not take records of who in our company are members of unions.

[6] https://www.gammonconstruction.com/uploaded_files/files/en/Code_of_Conduct_EN.pdf

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Appendix A

Key performance indicators

All GRI Standards used are 2016 versions, except GRI 303 - Water and Effluents (2018 version), GRI 403 - Occupational Health and Safety (2018 version) and GRI 306 - Waste (2020 version). GRI numbers in paranthesis '(GRI XXX)' indicate that this has not been identified as a material issue in the stakeholder engagement exercise but data is available, has historically been disclosed, and is therefore provided. While this data is generally reported according to GRI Standards it may not fully comply with disclosure requirements.

Gammon-only projects follow an operational control approach to data reporting. Joint Venture (JV) projects are included and follow an equity share approach.

The greenhouse gas emission inventory (GRI 305) follows an equity share approach and has been verified based on ISO 14064-1:2018.

For all data, subcontractors' is excluded where data is not available. All data is the total for the year or data extracted from various systems as at December 2021.

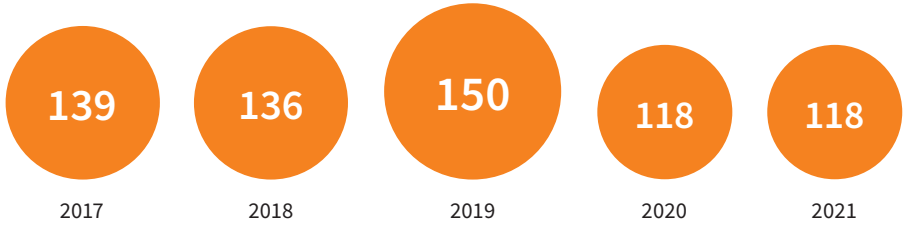
On 12 November 2021, the doors to the eagerly awaited M+ Museum project opened to the public. The design included a Found Space over the existing live railway which meant no vibration or pressure could be transferred to the tunnels. The solution was to erect mega-sized trusses on the lower level of the building to support its weight over the tunnels.

ORGANISATION

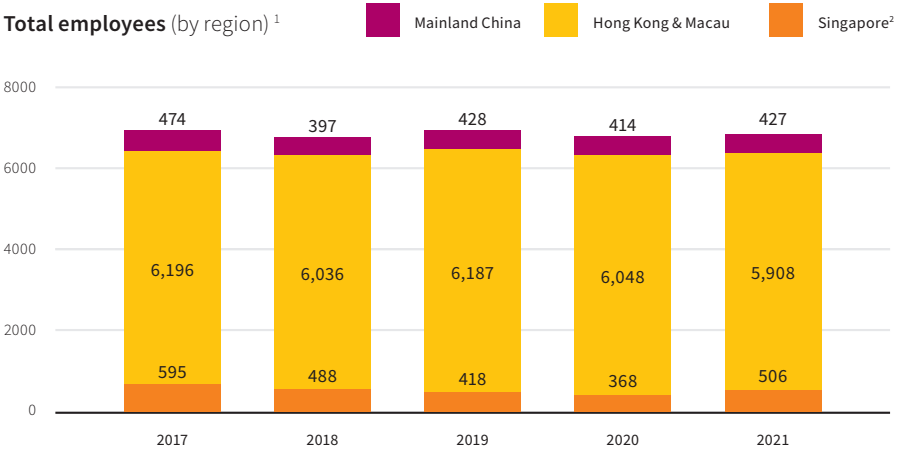
GRI 102 General Disclosures

GRI 102-7 Scale of the organisation, product labelling

Active projects (including subcontracts and pre-construction projects)



Total employees (by region) [1]

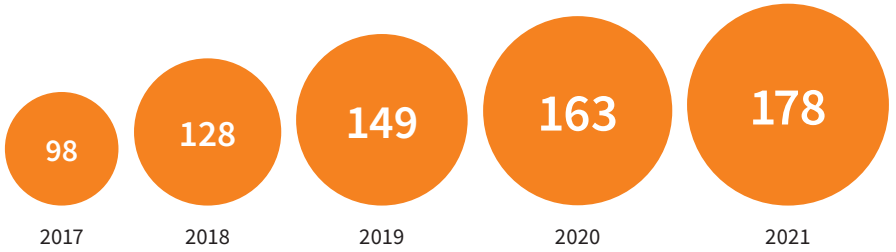


1. Includes monthly and daily paid employees

2. A new contract for an underground railway station and tunnels was awarded in 2021

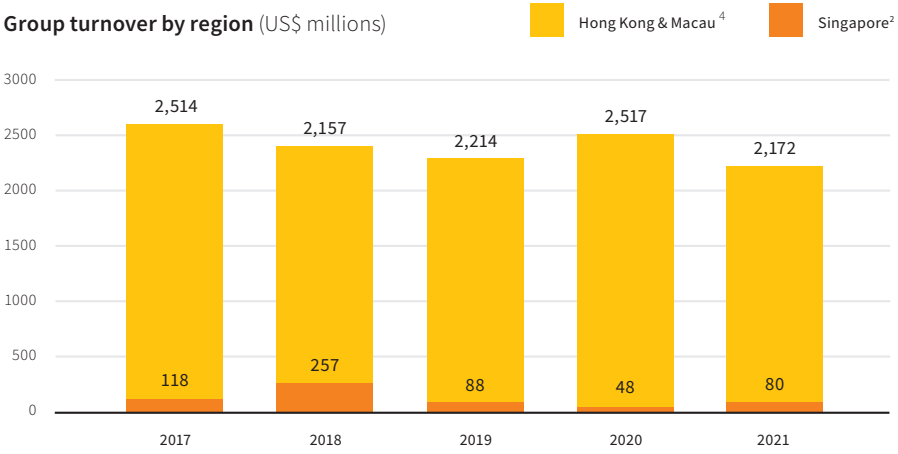
G4-CRE8 Product and service labelling

Sustainability certification, rating and labelling schemes for new construction
(HKBEAM, BEAM Plus, LEED and Green Mark) [3]



3. Cumulative count of projects, based on number of contracts awarded and certification/ registration under the certifications.

Group turnover by region (US$ millions)



4. Mainland China revenue included under Hong Kong and Macau

SAFETY - ZERO HARM GRI 403-8, (GRI 403-9)

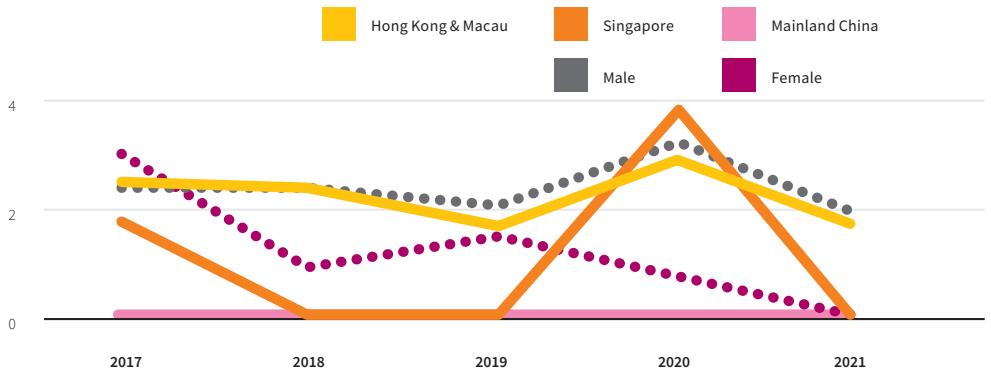
GRI 403 Occupational Health and Safety

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 403-8	Workers covered by an occupational health and safety management (OH&SM) system (OHSAS 18001 or ISO 45001)						
GRI 403-8a i	**Employees and workers covered by OH&SM system**	number	-	-	-	20,245	16,685
		%	-	-	-	100	100
GRI 403-8a ii	**Employees and workers covered by OH&SM system that has been internally audited**[1]	number	-	-	-	17,799	15,736
		%	-	-	-	87.9	94.3
GRI 403-8a iii	**Employees and workers covered by OH&SM system that has been audited or certified by external party**[2]	number	-	-	-	17,799	15,736
		%	98.4	91.9	95.6	87.9	94.3
GRI 403-8 b & c	**All workers and employees are covered by our OH&SM system certified under ISO 45001, excluding those mentioned above. No workers have been excluded from the system.**						

1. ISO 45001 does not include JV projects (Sai Sha Road Widening Works and Yuen Long U-bridge Project), Macau operations and Digital G to date

2. From 2016-2019 projects reported based on G4-CRE6. Since 2020, percentage is calculated based on number of workforce on sites. ISO 45001 does not include JV projects (Sai Sha Road Widening Works and Yuen Long U-bridge Project), Macau operations (due to COVID travel restrictions) and Digital G to date

Accident Incident Rate [3] - Employees (per 1,000 workers)



Group operations - all workforce

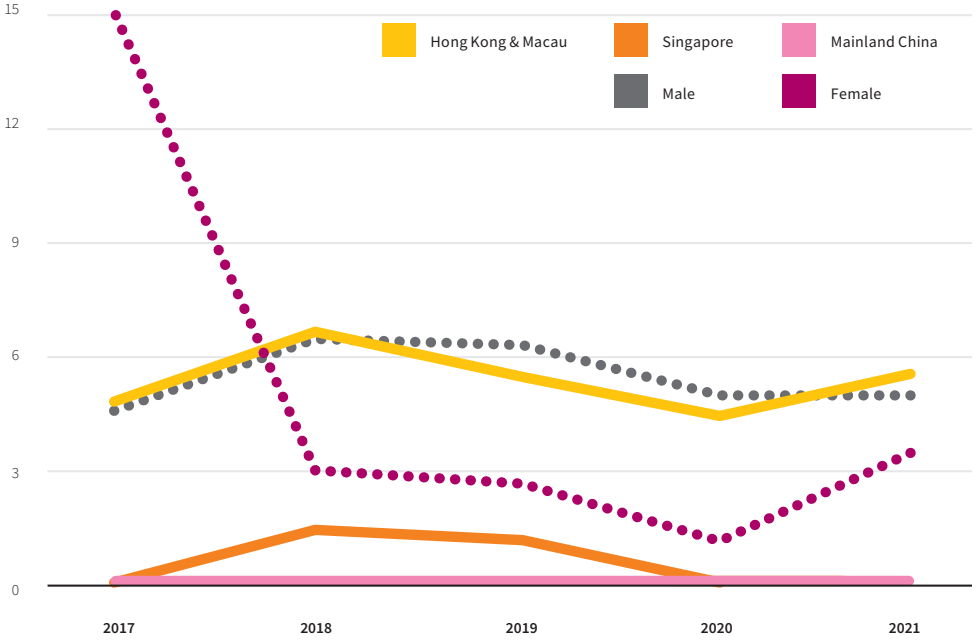
2017	2018	2019	2020	2021
3.7	4.7	4.2	3.4	3.4

3. AIR is total number of reportable accidents / average workforce * 1000 (excluding first aid cases). Reportable accident is defined as an incident resulting in 3 days or more of sick leave

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
(GRI 403-9)	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities, which will be reported following GRI 403: 2016 version						
	Fatalities (employees) (location) (Gender: M/F)	number	0	0	1(HK) (M)	1(HK) (M)	0
	Fatalities (subcontractor workers) (location) (Gender: M/F)	number	1(HK) (M)	0	1(HK) (M)	2(HK) (M)	1(HK) (F)
	Occupational disease rate[4]	rate	0	0	0	0	0

4. The definition of occupational disease is stated in the Employees' Compensation Ordinance Cap. 282. The number of reportable occupational disease cases is stated in the OSH Statistics 2020 (labour.gov.hk). No data is available for the construction industry in 2021 and no cases have been attributed to Gammon in recent years

Accident Incident Rate - Workers (excludes employees) (per 1,000 workers)

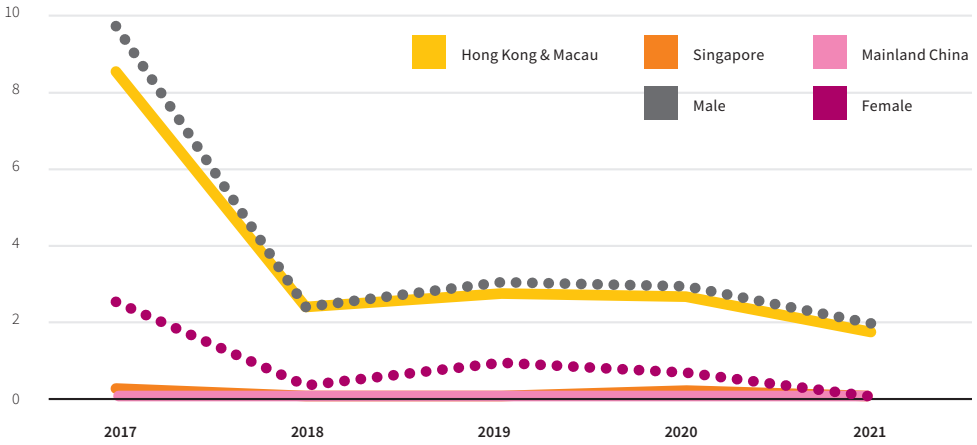


SAFETY - ZERO HARM

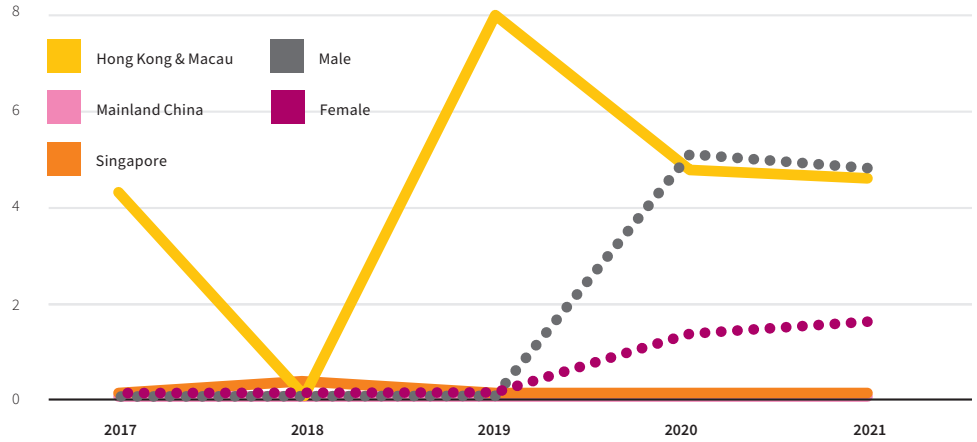
GRI 403 Occupational Health and Safety

Lost day rate (Total labour days lost / Total hours worked in the period) x 10,000

Employees



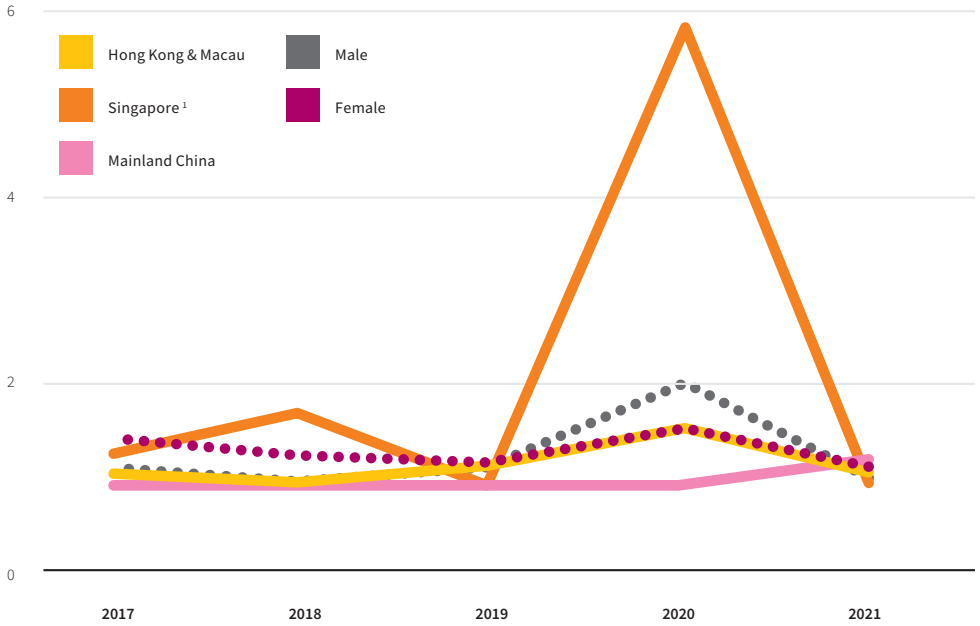
Workers (subcontractors only)



Group operations - all workforce

2017	2018	2019	2020	2021
4.7	4.6	4.8	3.7	3.1

Absentee rate (Days absent / Total normal working days) x 100%



Absentee rate - all employees

2017	2018	2019	2020	2021
1.06	1.07	1.11	1.91	0.97

1. Monthly paid workers only until 2020 when daily paid workers were added

ENVIRONMENT - ZERO WASTE

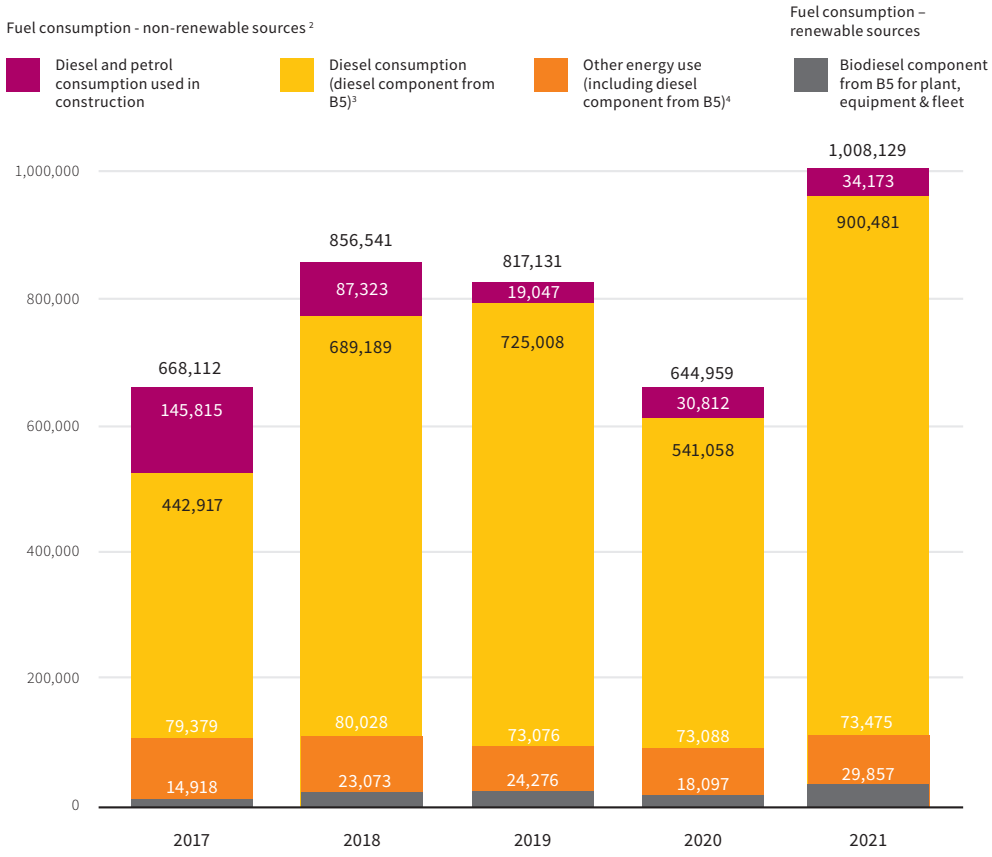
GRI 301 Materials

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 301-1	Materials used - non renewable materials						
	Major materials used (rebar)	**tonnes**	111,376	120,956	113,156	107,326	98,410
	Major materials used (structutal steel)[1]	**tonnes**	-	-	-	-	60,640
	Major materials used (concrete)	**m^3**	682,040	582,398	550,020	687,648	501,426
	Materials used - renewable materials						
	Major materials purchased (timber formwork for temporary works)	**m^3**	1,484	2,814	1,641	969	2,373
	% of timber originated from sustainable forestry (certified by the Forest Stewardship Council (FSC) or equivalent)	**% of spend**	100	100	100	100	100
GRI 301-2	Recycled input materials used						
	Cement replacement - the % decreased in 2020 and 2021 due to: extension of seasonal PFA shortage period and reduced demand for PFA content in concrete mixes (from internal and external clients)	**% of cement replaced**	26.8	24.2	23.6	18.6	17.0

1. Structural steel reported since 2021.

GRI 302 Energy

GRI 302-1a & b Total fuel consumption (gigajoules)



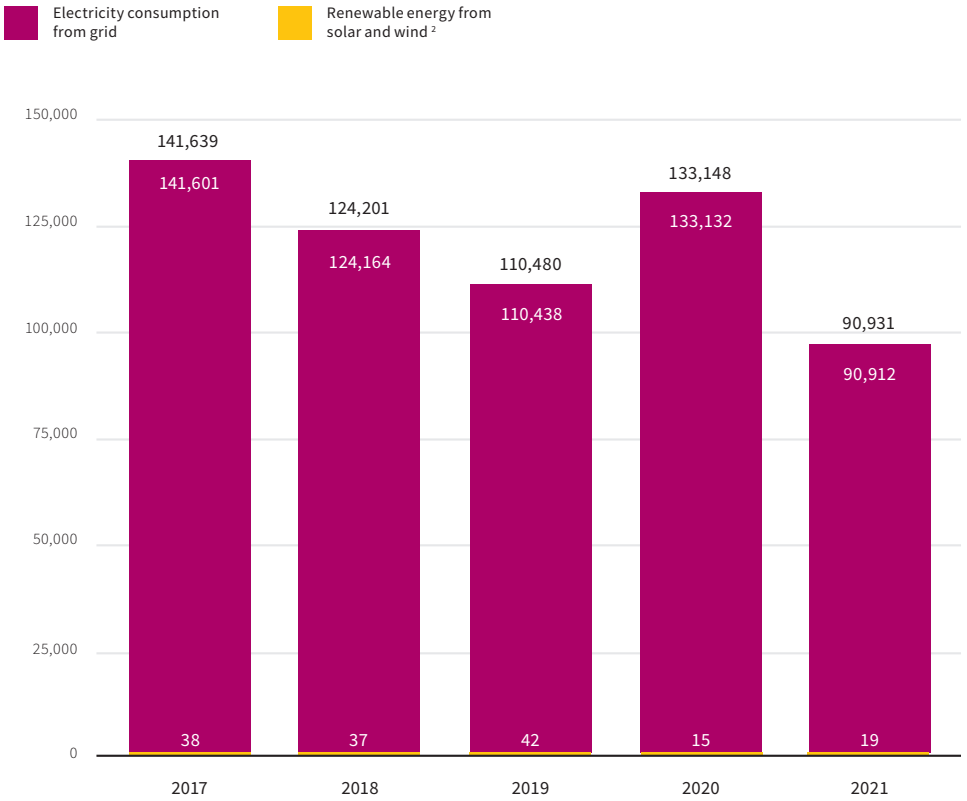
2. 1 Gigajoule = 1000 Megajoule, MJ. Conversion fuel to energy unit: Diesel oil 1 kg = 43 MJ, Petrol 1 kg = 44.3 MJ, B100 Biodiesel oil 1 kg = 27 MJ. Source: '2006 IPCC Guidelines for National Greenhouse Gas Inventories' Density of fuel: Diesel: 0.84 kg/litre, Petrol: 0.74 kg/litre. Source: 'GHG Protocol Emission Factors from Cross-Sector Tools March 2017'
3. Used in HK only. Increased due to major airport and heavy foundation jobs
4. Reported since 2019. Mainly includes propane, butane, acetylene, fleet fuel use and Towngas

ENVIRONMENT - ZERO WASTE

GRI 302 Energy

GRI 302-1 c Total electricity / other energy consumption (gigajoules)

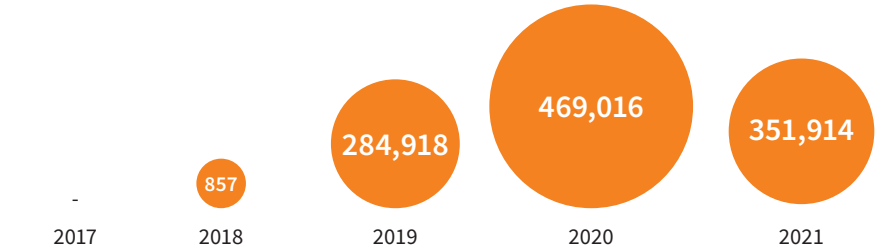
Total electricity / other energy consumption [1]



1. Data updated due to equity share approach adopted for all years, detailed information can be found in Appendix B
2. Excludes grid connected renewables making use of the HK Feed-in Tariff. Solar power includes PV panel and solar water heater. Estimated based on equipment specification and local conditions

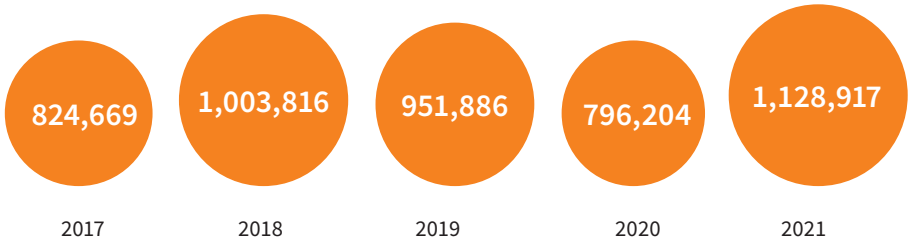
GRI 302 Energy

GRI 302-1 d Total electricity sold (under FiT) (kWh)[3]



3. 2 project sites (Kai Tak West and Sai Sha Road) + Gammon Technology Park. FiT = Feed in Tariff offered by electricity utilities in Hong Kong

GRI 302-1 e Total energy consumption within the organisation (gigajoules)



Energy productivity (revenue/gigajoules) [4]

2017	2018	2019	2020	2021
0.249	0.188	0.189	0.251	0.156

4. Revenue unit = HK$100k

GRI 302-2 Energy consumption outside the organisation

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 302-2	**Business air travel - aircraft fuel** [1]	**litres**	49,940	67,680	63,684	6,358	513
	Staff cars - petrol consumption	**litres**	595,896	534,081	459,947	327,960	348,148
	Staff cars - diesel consumption	**litres**	9,970	5,379	838	4,375	3,458
	Staff cars - B5 biodiesel consumption	**litres**	155	0	0	0	0

1. Fuel conversion factor related to type of aircraft. Emission factor from WBCSD Greenhouse gas protocol Mobile Combustion GHG Emission Calculation Tool version 2.6

(GRI 303) Water and effluents

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
(GRI 303-3)	**Water withdrawal** [1]						
	Total volume of recycled water [2]	m^3	1,788,216	2,989,052	1,534,787	597,717	6,219,670
	% of water recycled based on total demand [3]	%	56	68	62	39	84
	% of water recycled of total water withdrawal	%	129	212	163	65	524
(GRI 303-5)	**Water consumption**						
	Municipal water consumption [4]	m^3	1,390,953	1,412,616	938,867	918,847	1,187,651
	Municipal water intensity	m^3/ HK$1m turnover	68	75	52	46	68

1. Significant increase in recycled water mainly due to some major piling works using seawater and recycling
2. Increase in 2021 due to re-use of large amount of sea water for piling works
3. % of recycled water used based on total demand (municipal water consumption + recycled water used)
4. Caused by heavy civil and foundation works and new concrete batching plant operation

GRI 302-3 Energy intensity (reported since 2021)

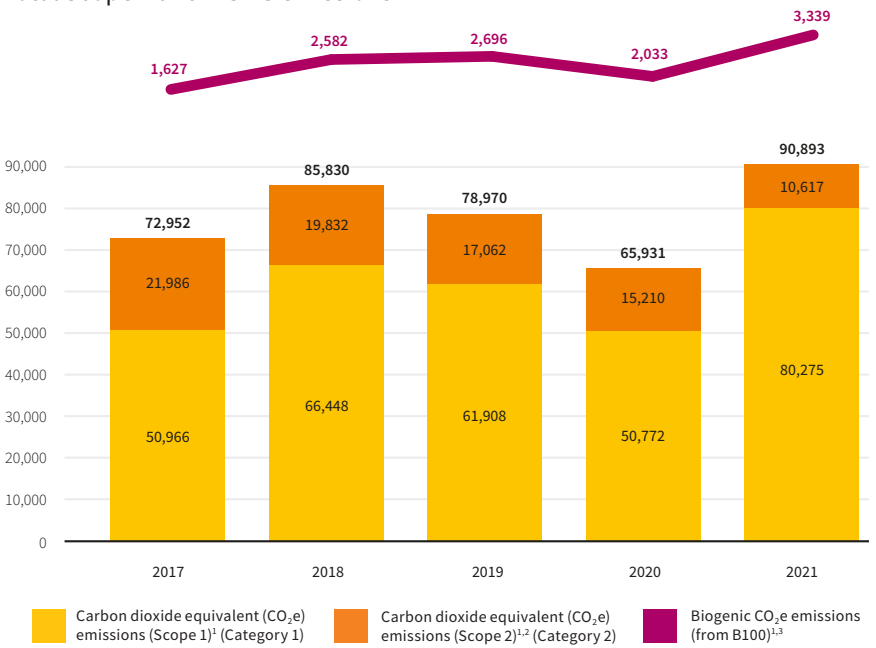
GJ / HK$ 1M turnover

(GRI 305) Emissions

The 2021 greenhouse gas emission inventory (indicated with Category numbers) has been verified as meeting the requirements of ISO 14064-1:2018 by an independent verifier (SGS Hong Kong Limited) based on an equity share approach. See Appendix B for statement. Calculation methodology follows ISO 14064 standard, IPCC AR6 report for Global Warming Potential and the latest emission factors available in the industries, including greenhouse gas type (CO_2, CH_4, N_2O, HFCs). Data revised to align methodology for all years for Scope 1 and 2 emissions. Equity share approach used.

(GRI 305-1 & 305-2) Direct (Scope 1) and Indirect (Scope 2) GHG emissions

Total Scope 1 and 2 GHG emissions



1. Data for Scope 1 and 2 emissions reported based on equity share approach since 2019.
2. Emission factors from 生态环境部企业温室气体排放核算方法与报告指南 发电设施 (2022 年修订版), Macau CEM Sustainability Report, Singapore Energy Market Authority, CLP and HKE Sustainability Reports based on the most recent relevant year.
3. Emissions from B100 biodiesel (contained in B5 used)

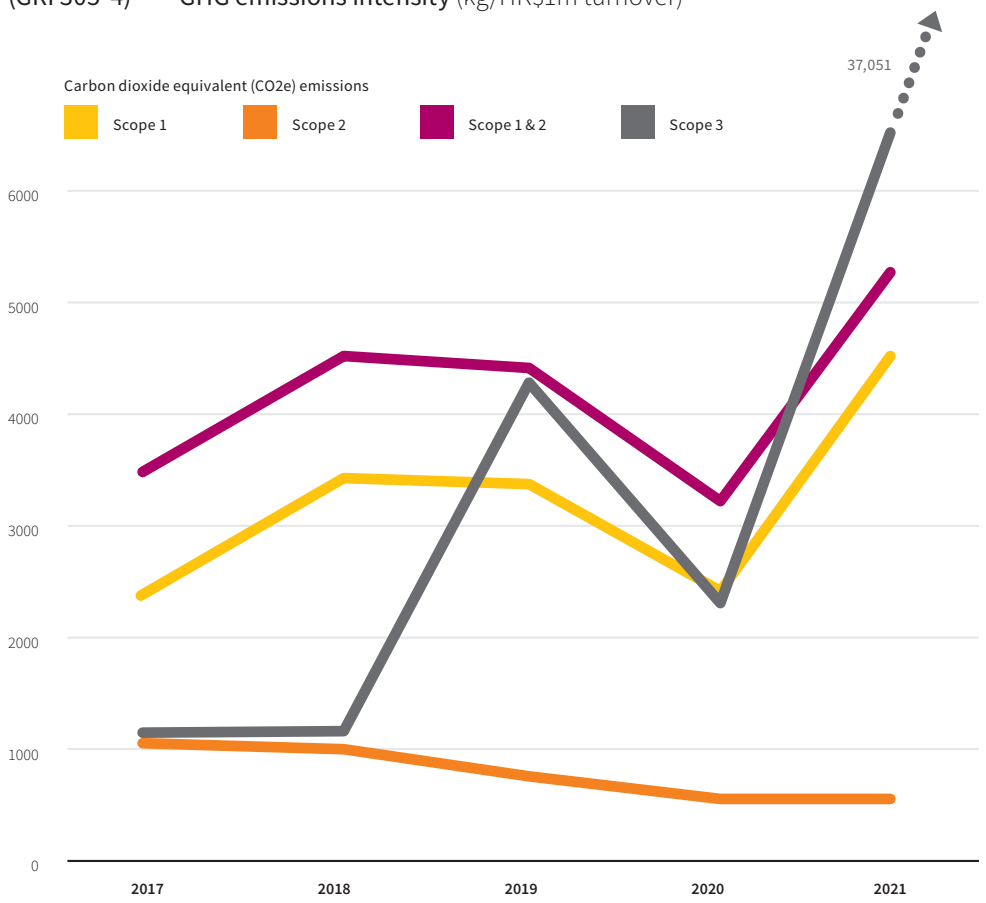
ENVIRONMENT - ZERO WASTE

(GRI 305) Emissions

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
(GRI 305-3)	Other indirect (Scope 3) GHG emissions Excludes emissions produced when Gammon is in a subcontracting role or where energy, water or materials are provided by others.						
	Total verified carbon dioxide equivalent (CO_2e) emissions (Scope 3)[1]	tonnes	-	-	-	-	651,035
	Total reported carbon dioxide equivalent (CO_2e) emissions (Scope 3)[2,3] Including estimates for water use in Macau, Singapore and Mainland China	tonnes	24,118	22,420	77,935	46,585	651,045
	Staff cars use (Category 3)	tonnes	1,381	1,228	869	856	817
	CO_2e from business air travel[4] (Category 3)	tonnes	268	354	325	31	2
	Landfill disposal (Hong Kong) (Category 4)	tonnes	22,017	20,264	28,474	20,218	14,620
	Waste incineration (Singapore)[5] (Category 4)	tonnes	8.40	3.24	1.27	0.14	0.63
	Water consumption (Hong Kong)[6] (Category 4)	tonnes	443	419	345	373	449
	Water consumption (Singapore)[7] (Category 4)	tonnes	-	150	26	5	8
	Water consumption (Mainland China)[7] (Category 4)	tonnes	-	2.4	2.1	2	2
	Water consumption (Macau)[8] (Category 4)	tonnes	-	-	1.3	0	0
	Fresh water and raw water processing from tanker (Hong Kong)[9] (Category 4)	tonnes	-	-	0.02	0.29	36
	Sewage from restaurants and catering services[10] (Category 4)	tonnes	-	0.7	0.4	0.7	0.5
	Temporary works material - Structural Steel (Hong Kong)[9] (Category 4)	tonnes	-	-	47,309	21,257	56,088
	Temporary works material - Timber Formwork (Hong Kong)[9] (Category 4)	tonnes	-	-	581	350	1,338
	Temporary works material - Concrete (Hong Kong)[11] (Category 4)	tonnes	-	-	-	3,492	38,585
	Permanent works material - Structural steel (Hong Kong)[12] (Category 4)	tonnes	-	-	-	-	99,579
	Permanent works material - Reinforcement bar (Hong Kong)[12] (Category 4)	tonnes	-	-	-	-	205,682
	Permanent works material - Concrete (Hong Kong)[12] (Category 4)	tonnes	-	-	-	-	233,838

1. Starting from 2021. Verification opinion statement is presented in Appendix B.
2. Carbon emissions are estimated for water consumption in Macau and Singapore and are therefore excluded from total indirect GHG emissions from the products used in the ISO14064 verification.
3. Starting from 2019, more Scope 3 items added - selected temporary and permanent works material purchases only.
4. Emission factor from 'WBCSD Greenhouse Gas Protocol Mobile Combustion GHG Emission Calculation Tool' version 2.6.

(GRI 305-4) GHG emissions intensity (kg/HK$1m turnover)



5. Emission factor from: 'NEA Singapore's Fourth Biennial Update Report 2020' under UNFCCC, (emission factor derived from wet weight - 1A1 — Energy Industries). Excluded CO2 emission factor of Biomass and only includes CH4 and N2O after clarifying with Singapore NEA, because the incineration CO2 emission factor is not suitable for food waste incineration.
6. Emission factor source: 'Hong Kong Water Supplies Department Annual Report 2019/2020'.
7. Data reported from 2018. Based on Hong Kong emission factor for water processing.
8. Data reported since 2019. Based on Hong Kong emission factor for water processing. Zero for 2020 because water in 2020 was provided by client and is outside our reporting boundary.
9. Data reported for 2019 and 2020 starting from 2020.
10. Source: 'Drainage Services Department Annual Report 2019-20', electricity emission factor from 'Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong 2010 Edition'.
11. Data reported from 2020.
12. Data reported from 2021, heavily influencing the Scope 3 emissions intensity shown in graph.

ENVIRONMENT - ZERO WASTE

GRI 306 Waste

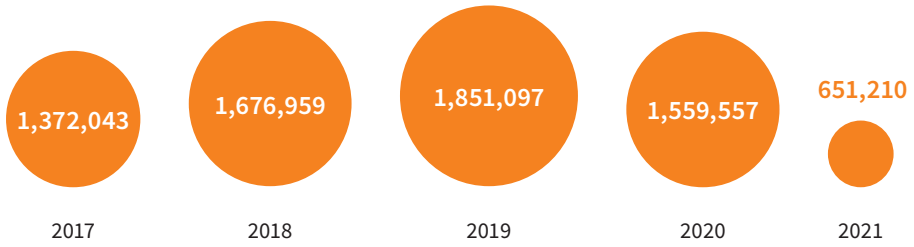
Quantities determined from EPD Construction Waste Disposal Charging Scheme, receipts from waste management service providers or recyclers. For hazardous waste, we send it to licensed collectors and we do not reuse, recycle, compost, recover, incinerate, deep-well inject or store on-site. For non-hazardous waste, we do not compost, recover, deep-well inject or store on-site.
Wastes generated from sites where Gammon is a subcontractor only are excluded as these are handled by the main contractor on site.
Disposal method is determined based on compliance with local government requirements.

GRI 306-3 Waste generated

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 306-3a	**Total weight of waste generated**	tonnes	1,451,351	1,738,268	1,922,536	1,613,624	695,451
	Total quantity of inert waste	tonnes	1,343,151	1,661,716	1,838,548	1,547,801	623,767
	Total quantity of non-inert waste	tonnes	84,810	57,176	69,837	60,188	42,331
	Total quantity of mixed waste	tonnes	57,784	30,488	25,098	23,512	29,353

GRI 306-4 Waste Diverted from Disposal

GRI 306-4a Total weight of Non-Hazardous Waste Diverted from Disposal



Waste diversion rate (% of waste diverted from disposal)

GRI 306-4c i. Non Hazardous Waste Reuse

(Inert wastes generated in Hong Kong and Singapore only)

Public fill banks are managed by local Governments and materials are reused for backfill / land formation etc.

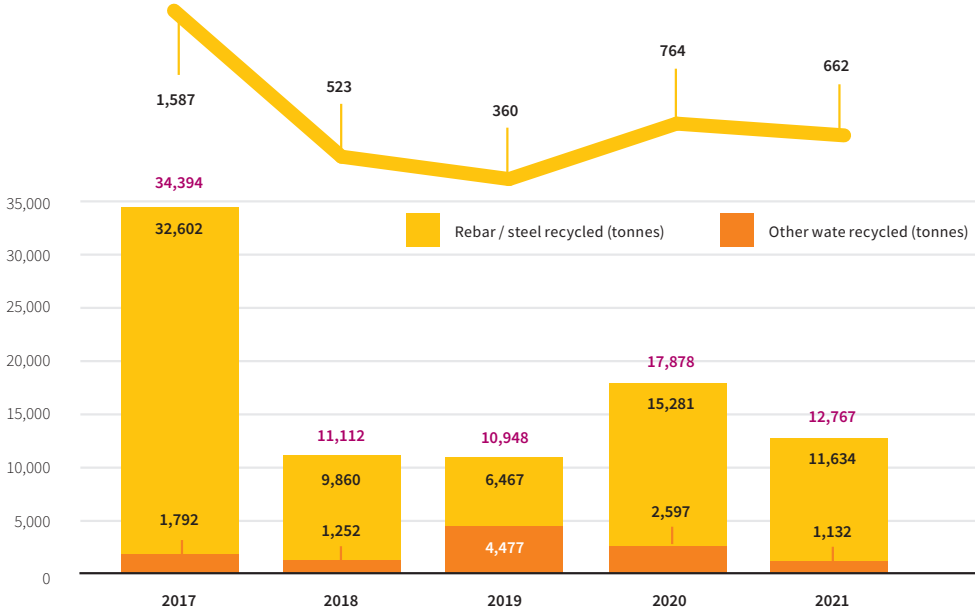
Performance Indicators		Units	2017	2018	2019	2020	2021
Total quantity of inert material to public fill (offsite)		**tonnes**	**961,210**	**952,314**	**841,643**	**1,049,576**	**513,485**
By region	Hong Kong (direct to public fill)	tonnes	765,896	937,071	829,094	1,030,466	496,240
	Hong Kong (sorting facilities portion)[1]	tonnes	28,892	15,244	12,549	11,756	14,677
	Singapore	tonnes	166,422	-	-	-	-
	Macau[2]	tonnes	-	-	-	7,355	2,568
Total quantity of direct inert material reused (onsite)		**tonnes**	**55,869**	**21,490**	**76,723**	**148,494**	**85,558**
By region	Hong Kong & Macau	tonnes	55,869	21,490	76,723	148,494	85,558
	Singapore	tonnes	0	0	0	0	0
Total quantity of direct inert material reused at other sites (offsite)		**tonnes**	**354,963**	**703,155**	**932,731**	**361,487**	**39,401**
By region	Hong Kong & Macau	tonnes	135,964	702,620	932,356	361,391	39,284
	Singapore	tonnes	219,000	535	375	96	117
Direct inert material reused percentage[3]		%	30	43	55	33	20

1. Assumed 50% of waste sent to sorting facilities is diverted to public fill
2. Macau projects were largely completed in 1st half of 2021
3. Direct reuse and reception site arrangement initiated by Gammon

ENVIRONMENT - ZERO WASTE

(GRI 306-4c ii.) Non Hazardous Waste Recycling - diverted from landfill (offsite)

Rebar / steel recycled (kg / HK$1m Turnover)



Recycling rate (including rebar / steel)[1]

2017	2018	2019	2020	2021
30%	15%	13%	26%	23%

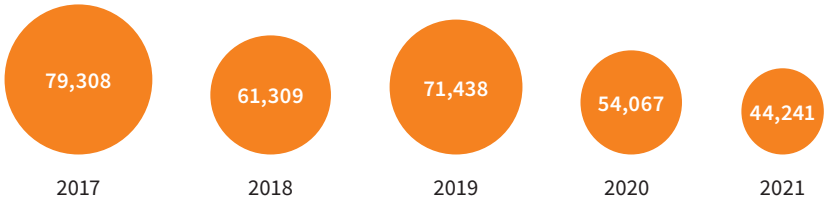
1. Recycling rate = (Total waste recycled/ (Total waste recycled + Total waste sent to landfills and sorting facilities)) x 100%. Starting from 2019, total waste to landfill includes 50% of the waste disposed of at Government sorting facilities.

(GRI 306-5) Waste Directed to Disposal

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
(GRI 306-5b)	**Hazardous Waste Disposal** (Disposal by licensed contractor. Disposal method determined based on compliance with local government requirements.)						
	Total weight of hazardous waste directed to disposal (offsite) - HK only						
	Chemical waste disposal - liquid[1]	litres	260,920	264,730	239,260	214,800	203,800
	Chemical waste disposal - liquid[2]	kg	250,483	254,141	229,690	206,208	195,648
	Chemical waste disposal - solid	kg	7,833	8,519	191,807	18,595	20,546

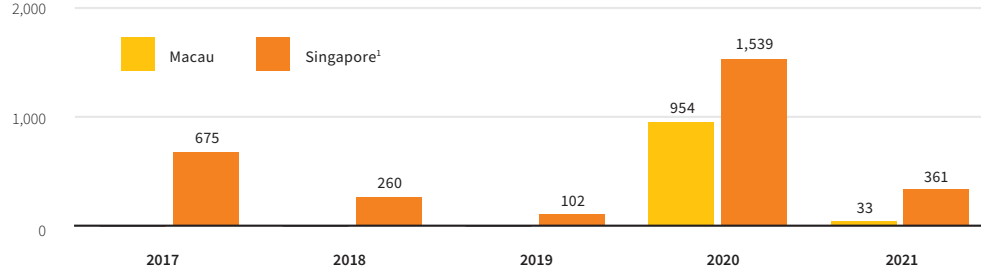
1. The majority is spent lubricant oil
2. Density of 0.96 kg/L is used, based on 'Used Motor Oil Treatment: Turning Waste Oil Into Valuable Products' by R. Abu-Elella et al

(GRI 306-5a) Total weight of Waste Directed to Disposal



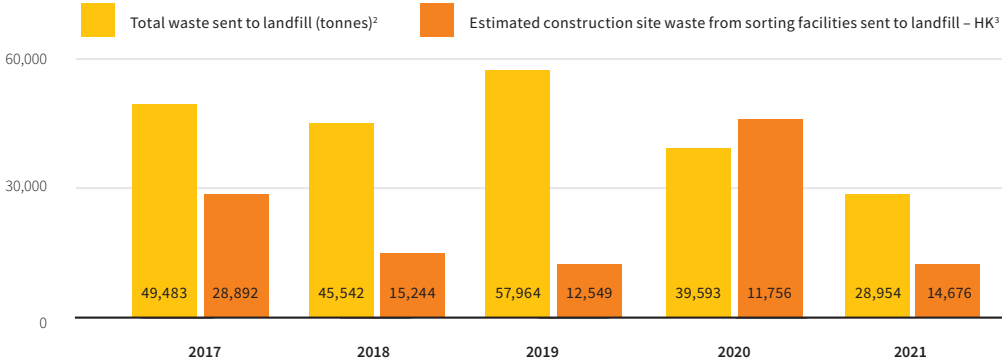
(GRI 306-5c) Total weight of Non-Hazardous waste directed to disposal

(GRI 306-5c i.) Non-Hazardous Waste Incineration (with energy recovery) (offsite)



1. Construction waste incineration reported in SGP in addition to food waste incineration since 2019. SGP headoffice waste reported since 2021.

(GRI 306-5c iii.) Non-Hazardous Residual Waste Disposal[1] (offsite)



1. Waste to landfill and sorting facilities reported separately since 2020
2. Includes an estimated 124 tonnes of office and facility waste sent to landfill (all locations) in 2021
3. Assumed 50% of waste sent to sorting facilities is residual waste sent to landfill

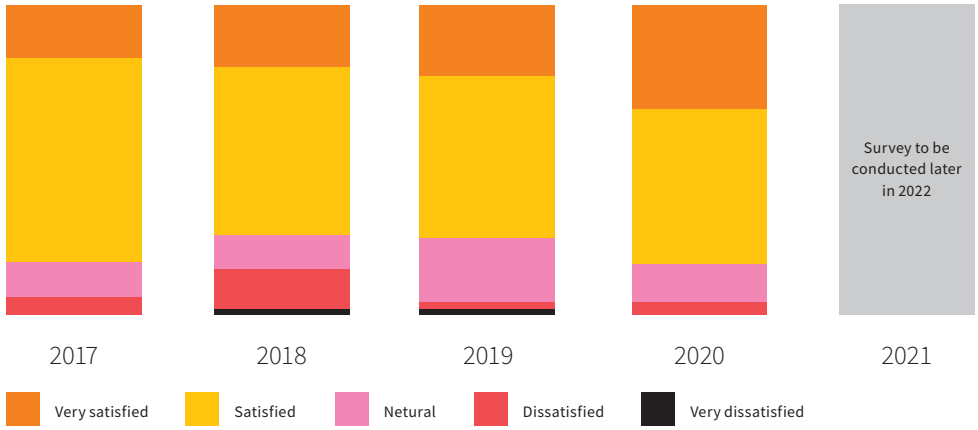
VALUE CHAIN - CO-CREATION

GRI 102 General dislosures

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 102-9 (GRI 204-1)	Supply chain / Procurement practice Subcontractors are taken to be external parties providing services and/or labour. Suppliers are taken to be external parties supplying equipment or materials.						
	Active subcontractors and suppliers	**number**	1,677	1,819	1,912	1,985	2,134
	Location of suppliers / subcontractors by country or region						
	Hong Kong & Mainland China (considered to be local)	**% by number**	95	97	96	94	98
	Overseas	**% by number**	5	3	4	6	2
	Payment to suppliers / subcontractors by country or region						
	Hong Kong & Mainland China (considered to be local)	**HK$1M**	2,634	3,171	3,262	3,252	4,109
	Overseas	**HK$1M**	75	105	214	218	87

GRI 102-44 Key topics and concerns raised

Yearly customer satisfaction survey (%)



Supply chain category (number)

PEOPLE - CARING

GRI 102-8 **Information on employees and other workers.** The level of detail of the data has gradually improved since 2017 with some data reporting started in 2019.

Total monthly-paid staff (by location, contract type and gender)

Mainland China

2017	
Toal Staff - 474	
Permanent	Contract
100%	0%
Male -	Male -
Female -	Female -

2018	
Total Staff - 397	
Permanent	Contract
100%	0%
Male -	Male -
Female -	Female -

2019	
Total Staff - 428	
Permanent	Contract
100%	0%
Male 269	Male -
Female 159	Female -

2020	
Total Staff - 414	
Permanent	Contract
100%	0%
Male 256	Male -
Female 158	Female -

2021	
Total Staff - 427	
Permanent	Contract
100%	0%
Male 264	Male -
Female 163	Female -

Singapore

2017	
Total Staff - 336	
Permanent	Contract
92%	8%
Male -	Male -
Female -	Female -

2018	
Total Staff - 297	
Permanent	Contract
93%	7%
Male -	Male -
Female -	Female -

2019	
Total Staff - 262	
Permanent	Contract
96%	4%
Male 204	Male 9
Female 48	Female 1

2020	
Total Staff - 241	
Permanent	Contract
97%	3%
Male 187	Male 7
Female 47	Female 0

2021	
Total Staff - 270	
Permanent	Contract
96%	4%
Male 204	Male 10
Female 55	Female 1

Hong Kong & Macau

2017	
Total Staff - 3,568	
Permanent	Contract
89%	11%
Male -	Male -
Female -	Female -

2018	
Total Staff - 3,748	
Permanent	Contract
87%	13%
Male -	Male -
Female -	Female -

2019	
Total Staff - 3,898	
Permanent	Contract
85%	15%
Male 2,714	Male 520
Female 617	Female 47

2020	
Total Staff - 3,827	
Permanent	Contract
87%	13%
Male 2,704	Male 448
Female 639	Female 36

2021	
Total Staff - 3,739	
Permanent	Contract
90%	10%
Male 2,729	Male 349
Female 632	Female 29

PEOPLE - CARING

GRI 102-8c Total part-time employees (monthly and daily paid, all locations)

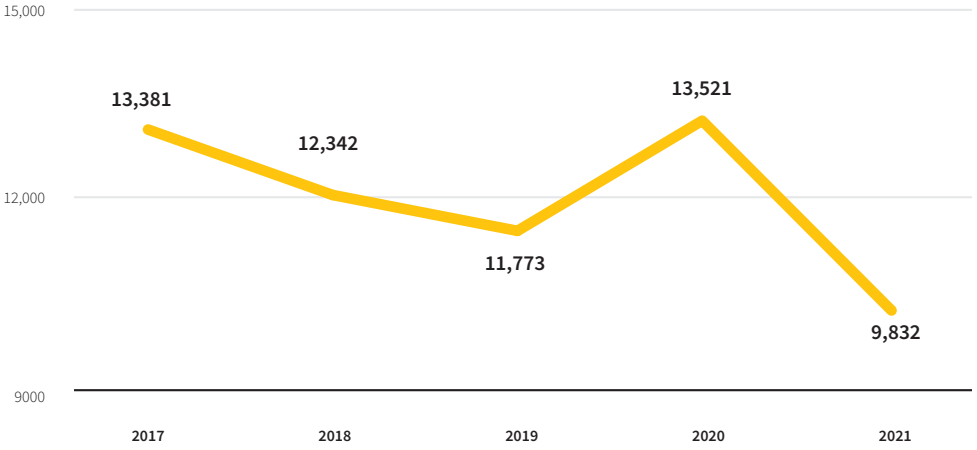
2017		2018		2019		2020		2021	
-		-		Total Staff - 13		Total Staff - 22		Total Staff - 12	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
-	-	-	-	5	8	17	5	6	6

GRI 102-8c Total daily paid workers (all locations)[1]

2017		2018		2019		2020		2021	
Total workers - 2,887		Total workers - 2,479		Total workers - 2,445		Total workers - 2,220		Total workers - 2,405	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
-	-	-	-	2,118	327	1,898	322	2,106	299

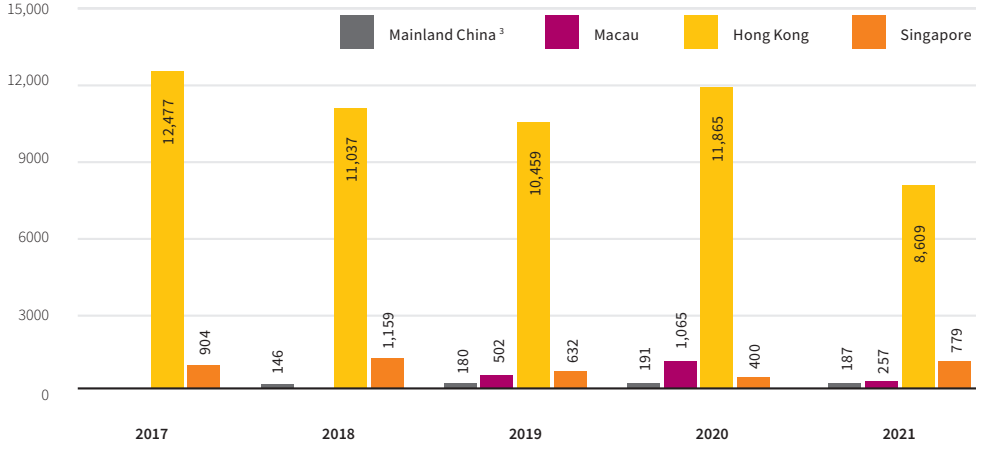
1. Daily paid workers may also work for other contractors.

GRI 102-8d Total subcontractor workers (all locations)[2]



2. Subcontractors are defined as workers providing services or labour to support construction works on site or at Pristine providing services and/or labour.

GRI 102-8d Total subcontractor workers (by location)



3. Started reporting subcontractors at Pristine in 2018.

GRI 102-8e & f No significant variations during the year (e.g. seasonal variations). Daily paid employees and subcontractor worker numbers vary in response to project numbers, types and project delivery cycles.Data compiled from Human Resources data management system. Employee numbers expressed as headcount. Other assumptions indicated in footnotes.

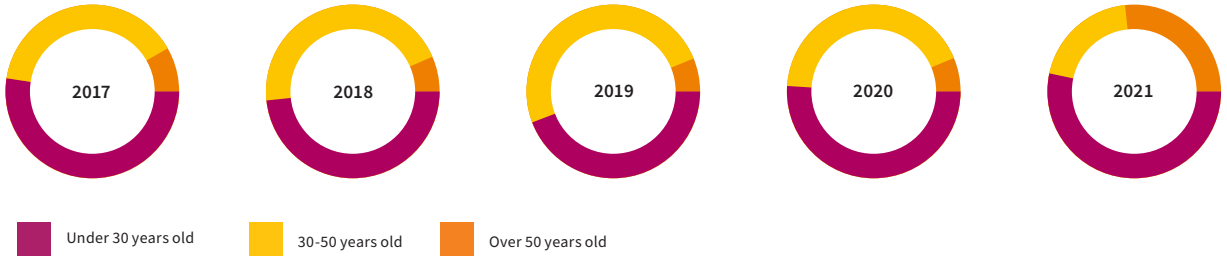
PEOPLE - CARING

GRI 401 Employment

GRI 401-1 New employee hires and staff turnover (monthly paid employees)

Data covers all regions and excludes daily-paid workers who have the option to choose their own schedules. Percentages are based on total monthly-paid employees at year's end. The level of detail of the data has gradually improved since 2016. Some previous years' data has been adjusted due to reallocation of groupings and record standardisation.

GRI 401-1a New employee hires (by age group)



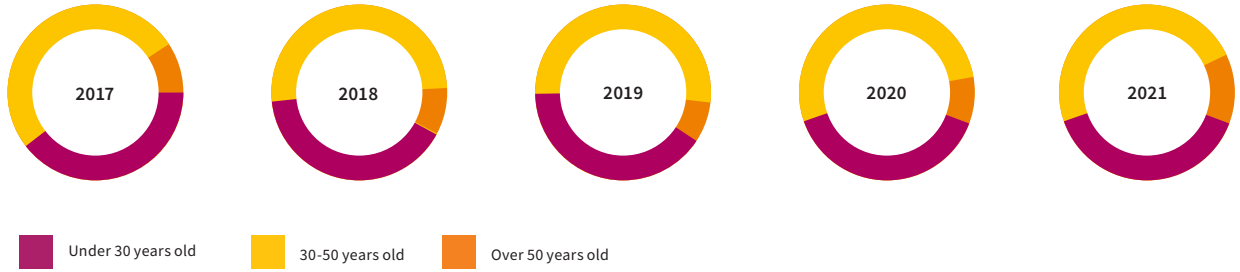
	% of total employees by age group (years old)		
	Under 30	30-50	Over 50
2019	9.4	8.8	2.6
2020	7.5	6.6	2.1
2021	11.5	16.4	6.8

	No. by gender		% of total employees by gender		Employee rate	
	Male	Female	Male	Female	Male (% of total males)	Female (% of total females)
2018	-	-	-	-	19	24
2019	758	200	16.5	4.4	20	23
2020	573	154	12.8	3.4	16	18
2021	1,266	275	28.5	6.2	36	31

	No. by region			% of total employees		
	Hong Kong & Macau	Singapore	Mainland China	Hong Kong & Macau	Singapore	Mainland China
2019	762	78	118	16.6	1.7	2.6
2020	624	49	54	13.9	1.1	1.2
2021	1,243	233	65	28.0	5.3	1.5

PEOPLE - CARING

GRI 401-b **Staff turnover** (by age group)



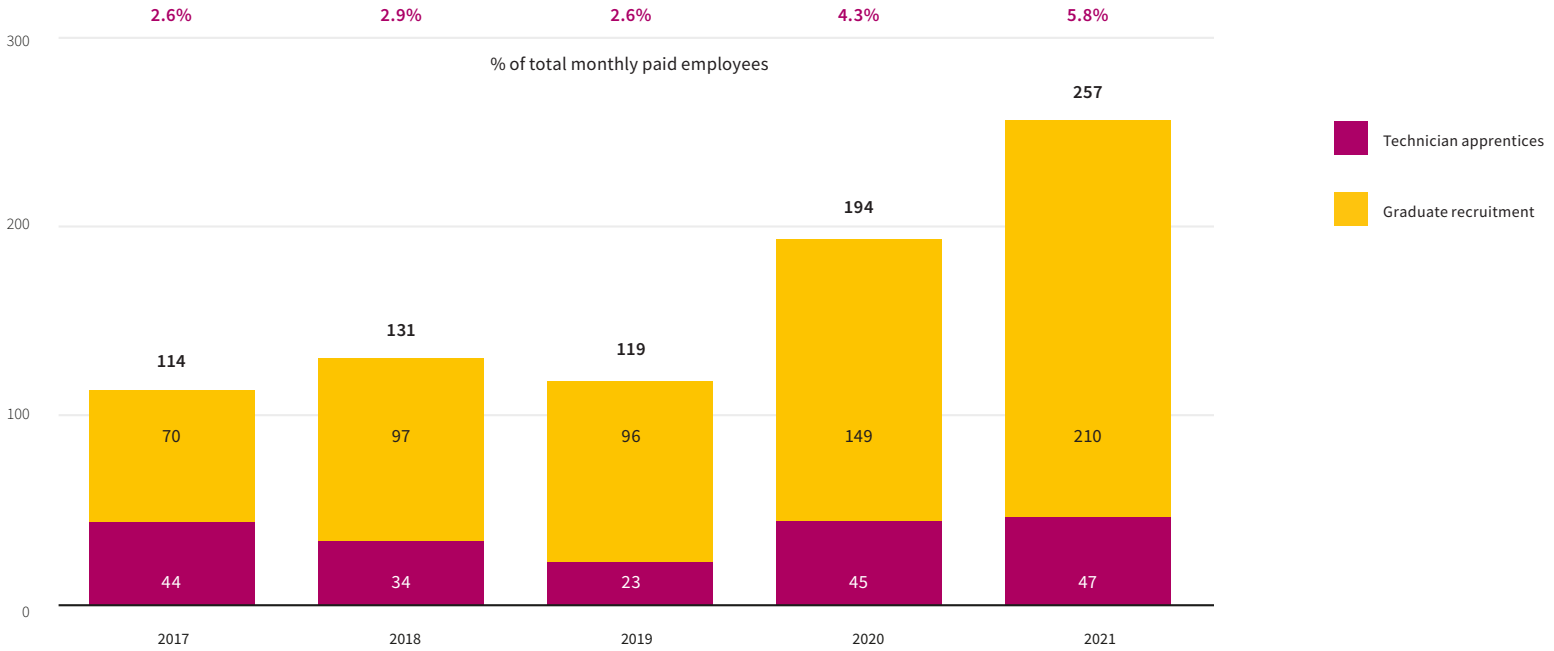
	% of total employees by age group (years old)		
	Under 30	30-50	Over 50
2019	4.9	6.6	1.2
2020	5	6.3	1.1
2021	7.7	11.2	1.9

	No. by gender		% of total employees by gender		Employee rate	
	Male	Female	Male	Female	Male (% of total males)	Female (% of total females)
2018	-	-	-	-	12	19
2019	449	135	9.8	2.9	12	15
2020	448	106	10	2.4	13	12
2021	731	193	16.5	4.4	21	22

	No. by region			% of total employees		
	Hong Kong & Macau	Singapore	Mainland China	Hong Kong & Macau	Singapore	Mainland China
2019	479	48	57	10.4	1	1.2
2020	462	49	43	10.3	1.1	1
2021	789	80	55	1.2	1.8	17.8

PEOPLE - CARING

GRI 401-1a Graduate and apprentice recruitment



GRI 404-4 Training and education

GRI 404-1 **Average training hours** (monthly paid employees) Since 2017 data excludes mainland China. From 2019 all regions are included.

GRI 404-1a i. **Training hours per employee** (by gender)

	2017		2018		2019		2020		2021	
Training hours per employee	12.8		14.3		16		10.1		16.2	
Training by gender	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
% of training hours [1]	83.8	16.2	88.9	11.1	86	14	84.4	15.6	85.6	14.4
Hours / employee [2]	12.8	12.3	13.9	7.4	16.5	11.7	10.6	8	17.2	11.8

1. Percentages reflect the male:female proportion in the company

2. More training is provided to operations-based roles where there is a higher % of males, hence the number of hours is higher for malesw

PEOPLE - CARING

GRI 404-1a ii. **Training hours per employee** (by management class)

	2017		2018		2019		2020		2021	
Training hours (by management class, %)	% of total training	Hrs / employee	% of total training	Hrs / employee	% of total training	Hrs / employee	% of total training	Hrs / employee	% of total training	Hrs / employee
Director	1.3	36	1.6	52.8	0.4	16.4	1	21.2	0.4	13.7
Managerial	14.3	14.3	15.1	15.7	19	24.2	19.1	14.8	24.2	28.7
Professional	29	14.6	26.3	12.3	31.6	18.3	34.5	11.9	37.5	20.3
Supervisory	15.9	8.8	13.5	8.8	15.3	13	15.6	8.3	12.4	10.2
Technical	35.2	15	41.5	17.7	28.6	17.2	25.2	9.4	18.2	11.7
Others	4.2	5	2.1	2.2	5.1	7.4	4.1	3.7	7.3	10.9

GRI 404-3 Career & performance review (monthly paid employees excluding Pristine)

	2017		2018		2019		2020		2021	
Performance review (by gender, %)	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	79	78	83	74	92	92	98.2	98.2	93.3	91.1
Performance review (by management class, %)										
Director	100		100		100		100		100	
Managerial	64.0		59.0		79.0		92.8		96.8	
Professional	80.0		77.0		93.0		98.5		91.8	
Supervisory	93.0		92.0		95.0		98.1		95.4	
Technical	70.0		86.0		96.0		99.2		93.7	
Others	82.0		78.0		91.0		99.8		92.0	

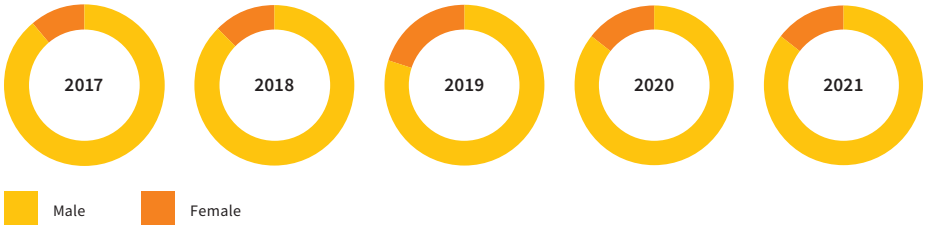
PEOPLE - CARING

(GRI 405-1) Diversity of governance bodies and employees

(GRI 405-1a) Diversity of governance bodies

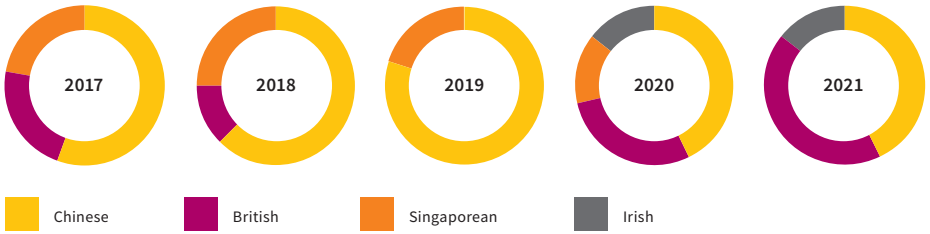
Includes Executive Directors only - excludes shareholder board members.

Employees in governance bodies by gender



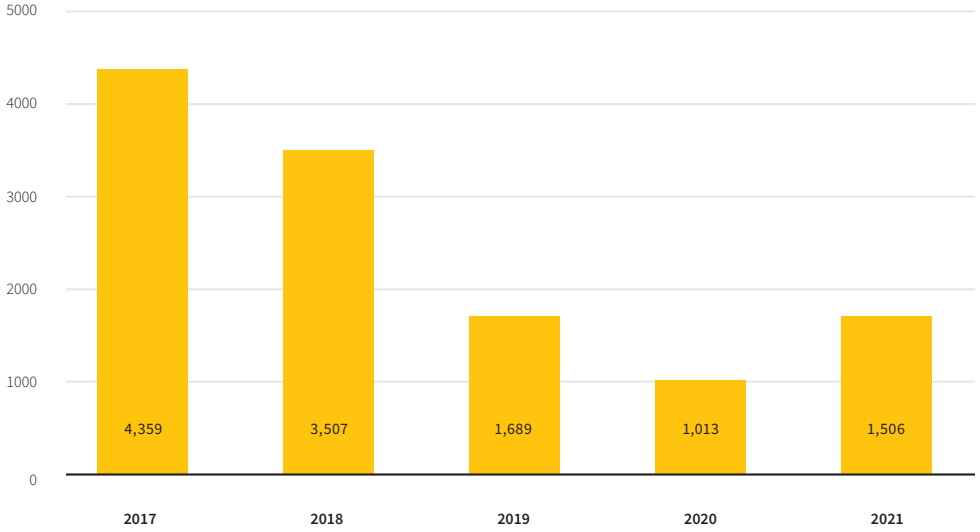
Employees in governance bodies by age

Employees in governance by nationality

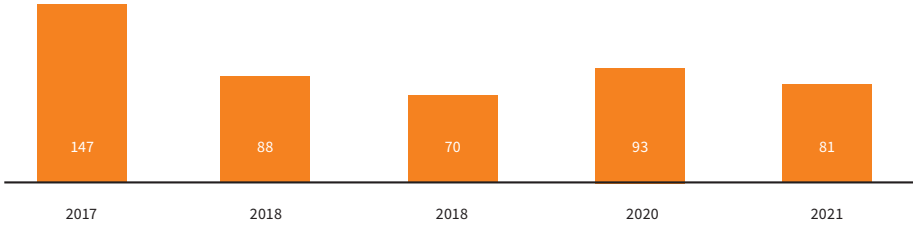


Corporate social initiatives

Volunteer hours (preparation and participation time)



Number of community activities



GOVERNANCE

(GRI 307) Environmental compliance

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
(GRI 307-1)	Non-compliance with environmental laws and regulations						
	Environmental convictions	**number**	0	0	0	0	0

GRI 416 Customer health and safety

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services						
	Product and services non-compliance in terms of health and safety[1]	**number**	0	0	0	0	0

1. Data updated to only report incidents of non-compliance where customers' health and safety could be affected.

GRI 419 Socioeconomic compliance

GRI	Performance Indicators	Units	2017	2018	2019	2020	2021
GRI 419-1	Non-compliance with laws and regulations in the social and economic area						
	Significant socioeconomic related fines (Significant fines are defined as over HKD100,000)	**number**	0	0	0	0	0
	Total number of non-monetary sanctions[2]	**number**	1	1	0	1	0

2. Data updated to include tendering suspension periods.

Summary of sustainability KPIs with year-on-year targets

				2021		2022	2023	2024	2025
Item	KPI Description	Units	Base Year (2016)	Annual Target	Actual Performance	Annual Target	Annual Target	Annual Target	Annual Target
1	25% reduction in Group carbon intensity by 2025 (carbon emissions based on Scope 1 (direct fuel use) and Scope 2 (indirect electricity) emissions)	kg CO2e / HK$ 1 million turnover	4,378	3,770	5,173	3,648	3,526	3,405	3,283
2	25% reduction in landfill waste intensity for Hong Kong by 2025	tonnes / HK$ 1 million turnover (HK & Macau only)	3.66	3.16	2.57	3.05	2.95	2.85	2.75
3	25% reduction in Group water intensity by 2025[1]	m^3 / HK$ 1 million turnover	54.96	47.33	67.59	45.80	44.27	42.75	41.22
4	25% reduction in Group energy intensity by 2025	MJ / HK$ 1 million turnover	51,215	44,102	64,247	42,679	41,257	39,834	38,411
5	Improving year-on-year Group safety performance	Reduction in AIR[2]	N/A	<3.8	3.4	<3.4	<2022 figure	<2023 figure	<2024 figure
6	25% of concrete quantity produced is certified or equivalent to the Platinum grade of the CIC Green Product Certification Scheme	Percentage (%)	N/A	25	29.5	25	25	25	25

1. Although water use is not a material issue, it has been included to reflect our precautionary approach and reduce environmental impact, drive efficiency (especially in Singapore where there is a high level of water stress), and to support our priority SDG Target 6.4

2. AIR in 2020 is 3.4 = (No. of reportable accident / average workforce) * 1,000

Appendix B

Greenhouse gas inventory verification

Based on the approach under ISO14064, estimates of GHG emissions cannot be included in the verification process. Therefore, when Gammon is in a subcontracting role or where energy or water is provided by others, the corresponding estimated emissions have been excluded.

Lyric Theatre Complex

Appendix B - Greenhouse gas inventory verification

SGS

Opinion HK22/00000076

Verification Opinion

To Gammon Construction Limited,

SGS has been contracted by Gammon Construction Limited (hereinafter referred to as "CLIENT"), 22/F, Tower 1 & 2, The Quayside, 77 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong, for the Greenhouse Gas (GHG) verification in accordance with

ISO 14064-3:2019

as provided by Gammon Construction Limited (hereinafter referred to as "RESPONSIBLE PARTY"), 22/F, Tower 1 & 2, The Quayside, 77 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong, in the GHG Statement in the form of *Greenhouse Gas (GHG) Report Year 2021* (Date: 6th June 2022, Revision no. 4) covering GHG emissions of the period 1st January 2021 to 31st December 2021.

Roles and Responsibilities

The management of Gammon Construction Limited was responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG information and the reported GHG emissions. This responsibility includes designing, implementing and maintaining a data management system relevant to the preparation and fair presentation of a GHG statement in accordance with ISO 14064-1:2018.

SGS's responsibility was to express an independent GHG verification opinion on *Greenhouse Gas (GHG) Report Year 2021* (Date: 6th June 2022, Revision no. 4) as provided by Gammon Construction Limited for the period 1st January 2021 to 31st December 2021 against the principles and requirement of ISO 14064-1:2018.

SGS conducted a third party verification of the provided GHG Statement in the period 14th March 2022 to 8th June 2022 in accordance with ISO 14064-3:2019.

Verification Objectives

The purposes of this verification exercise were, by review of objective evidence, to independently review:

- Conformance with agreed verification criteria, including the principles and requirements of relevant standards or GHG programmes, if applicable, within the scope of the verification;
- Whether the GHG emissions were as declared by the organization's GHG Statement.

Page 1 of 6

Verification Scope

This engagement covered verification of emissions from anthropogenic sources of GHGs included within the scope outlined below.

- The organization boundary was established following equity share approach
- Location/boundary of the activities:

  Offices

  - Gammon Head Office:

    22/F, Tower 1 & 2, The Quayside, 77 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong;
  - Airport Freight Forwarding Center (Rental Office):

    Unit 8, 12/F, Airport Freight Forwarding Centre, 2 Chun Wan Road, Chek Lap Kok, Lantau, New Territories, Hong Kong;
  - Zero Harm Induction Centre:

    4 Muk Long Street, CKR-BEM Office, Kai Tak, Hong Kong;
  - Gammon Macau Hac Sa Wan Office:

    Avenida do Almirante Magalhães Correia, No 105, Centro Industrial Furama, 12° Andar B, em Macau;
  - Gammon Shenzhen Office:

    8/F, Tower A, Sunhope E Metro 7018 Caitian Road, Futian District Shenzhen 518035 People's Republic of China;
  - Gammon Singapore Office:

    1 International Business Park #10-01, The Synergy, Singapore 609917;

  Construction Services Division (CSD) Facilities

  - Gammon Technology Park:

    21 Chun Wang Street, Tseung Kwan O, Hong Kong;
  - Tsing Yi Concrete Batching Plant:

    TYTL 108 RP, Sai Tso Wan Road, Tsing Yi, Hong Kong;
  - Tuen Mun Concrete Batching Plant (Rental Plant):

    Lam Tei Quarry, Tuen Mun, New Territories, Hong Kong;
  - Yau Tong Concrete Batching Plant (Rental Plant):

    20 Tung Yuen Street, Yau Tong, Kowloon, Hong Kong;
  - 3RS Batching Plant (Three Runway System Project):

    Concrete Batching Facility B1, Short Term Tenancy No. CX2600, Hong Kong International Airport, Chek Lap Kok, Hong Kong (Airport Authority Contract 3901B);
  - Dongguan Pristine Metal Works:

    Fu Lu Sha Region, Sha Tian Town, Dongguan, China (Postal code 523990);

Page 2 of 6

Warehouses

- Hang Tau Warehouse:

  DD100 Lot 789, Hang Tau Village, Sheung Shui, New Territories, Hong Kong;

- Sha Tau Kok Warehouse:

  DD38 Lot 120, Sha Tau Kok Road, Wo Hang North, New Territories, Hong Kong;

- Fung Ka Wai Warehouse:

  DD126 Lot 202RP, 203RP, 204PR, 205-207, 209, 217-221, 224, 226-231, 236-240, Ping Shan, Yuen Long, New Territories, Hong Kong;

- Ping Che Warehouse:

  Lot 925-928, 931, 1531, Portion of Lot 929, 930, 932 RP and 1530 all in DD 77, Ping Che, New Territories, Hong Kong

- Gammon Singapore Plant Yard:

  60 Tuas Crescent Open Space, Singapore 638470;

Hong Kong, Macau and Singapore Construction Sites

- 92 sites (address details to Appendix)

- Physical infrastructure, activities, technologies and processes of the organization:
  - The carrying out of design, construction and maintenance of civil engineering works (site formation, roads and drainage, tunnels, viaducts, port works and waterworks and box culverts);
  - The carrying out of design and construction of landslip preventive and remedial works to slopes and retaining walls;
  - The carrying out of ground investigation works;
  - The carrying out of design and construction of foundations including predrilling works, pile caps, substructure works, excavation and lateral support, grout curtain, pipe piles, permeation grouting, post construction core test, diaphragm wall, bored, driven and percussive piling (barrette pile, hand dug caisson, large diameter bored piles, large diameter bored piles with bell-out, minipiles, non-percussion cast-in-situ concrete pile, percussion cast-in-situ concrete pile, precast concrete piles, precast prestressed tubular piles (PPTP), rock-socketed steel H-pile in prebored hole, percussive driven steel H piles, percussive driven steel sheet piles, nondriven steel sheet piles and steel tubular piles);
  - The carrying out of design and construction of buildings;
  - The carrying out of building activities to keep, restore and improve the facilities of buildings and surroundings;
  - The carrying out of design, supply, installation and manage contracting of façade systems;

  - The carrying out of design, installation, maintenance and project management of heating, ventilation and air-conditioning, *high voltage electrical, *low voltage electrical, *extra low voltage electrical, fire services, plumbing and drainage systems.“*as defined in Electricity Ordinance Chapter 406”;
  - The carrying out of demolition of buildings and structures with demolition design;
  - The carrying out of design, fabrication and installation of structural steelwork;
  - The carrying out of mechanical plant equipment supply services for construction;
  - The carrying out of plant and equipment maintenance;
  - The carrying out of project and design management;
  - The carrying out of concrete supply services;
  - The carrying out of calibration services & testing services of construction materials;
  - The carrying out of design, supply, installation and manage contracting of interior fitting out, alternation and addition works.

- GHG sources, sinks and/or reservoirs included: GHG sources as presented in the *Greenhouse Gas (GHG) Report Year 2021* (Date: 6th June 2022, Revision no. 4) of the RESPONSIBLE PARTY, which comprises the following emission categories:
  - Direct GHG emissions
  - Indirect GHG emissions from imported energy
  - Indirect GHG emissions from transportation
  - Indirect GHG emissions from products used by the RESPONSIBLE PARTY
- Types of GHGs included: CO_2, CH_4, N_2O, NF_3, SF_6, HFCs, PFCs and HCFCs
- GWP adopted: IPCC Sixth Assessment Report
- GHG information for the following period was verified: 1st January 2021 to 31st December 2021
- Level of assurance: Reasonable assurance
- Materiality thresholds: without major non-conformance to the agreed criteria in GHG quantification and reporting, and less than 5% error in misclassified GHG emissions of misapplication of calculations

Criteria

Criteria against which the verification assessment undertaken were the requirements of:

ISO 14064-1:2018

References

- Guidelines to Account for and Report on Greenhouse Gas Emissions for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong, 2010 Edition

GHG Statement

The GHG emission results presented in 2021 GHG Statement in the form of *Greenhouse Gas (GHG) Report Year 2021* (Date: 6th June 2022, Revision no. 4) of the RESPONSIBLE PARTY were listed below.

- Direct GHG emissions: 80,275.31 tonnes of CO_2e
- Indirect GHG emissions from imported energy: 10,617.48 tonnes of CO_2e
- Indirect GHG emissions from transportation: 818.43 tonnes of CO_2e
- Indirect GHG emissions from products used by the RESPONSIBLE PARTY: 650,216.52 tonnes of CO_2e
- CO_2 Emissions from Combustion of Biomass: 3,339.11 tonnes of CO_2e

Conclusion

The RESPONSIBLE PARTY provided the GHG Statement based on the requirements of agreed criteria. The GHG information for the period 1st January 2021 to 31st December 2021 were verified by SGS to a reasonable level of assurance, consistent with the agreed verification scope, objectives and criteria.

SGS planned and performed works to obtain the information, explanations and evidence which SGS considered necessary to provide a reasonable level of assurance that the GHG emissions for the period 1st January 2021 to 31st December 2021 were fairly stated. The verification included review of the RESPONSIBLE PARTY's GHG information, assessment of the GHG information system and its controls, assessment of GHG data and information, assessment against verification criteria, as well as evaluation of the GHG Statement of the RESPONSIBLE PARTY through interview, document review and data verification in sampling. The data and information supporting the GHG Statement were historical and hypothetical in nature.

In SGS's opinion the presented GHG Statement

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with the agreed criteria on GHG quantification and reporting.

Authorised by

Date: 20th June 2022

SGS Hong Kong Limited Energy and Carbon Services
Unit 303 & 305, 3/F., Building 22E, Phase 3, Hong Kong Science Park, New Territories, Hong Kong
t +852 2334 4481 f +852 2635 9021 www.sgsgroup.com.hk

Appendix C

Report verification statement

Central Kowloon Route
– Kai Tak West

Appendix C - Verification Statement

GRI 102-13

ASSURANCE STATEMENT

SGS HONG KONG LTD'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE GAMMON CONSTRUCTION LIMITED'S SUSTAINABILITY REPORT FOR 2021

NATURE OF THE ASSURANCE/VERIFICATION
SGS Hong Kong Limited (hereinafter referred to as SGS) was commissioned by Gammon Construction Limited (hereinafter referred to as Gammon) to conduct an independent assurance of the Sustainability Report 2021 (hereinafter referred to as the Report).

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

RESPONSIBILITIES
The information in the Report and its presentation are the responsibility of the directors or governing body (as applicable) and the management of Gammon. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all Gammon's stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance
SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	n/a
AA1000ASv3 Type 2 (AA1000APS Evaluation plus evaluation of Specified Performance Information)	Moderate

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information included the text and 2021 data in accompanying tables contained in the Report. Data and information of subsidiaries of Gammon were included in this assurance process, which covered China, Hong Kong, Macau and Singapore during the period from 1st January 2021 to 31st December 2021.

Reporting Criteria Options
Global Reporting Initiative, GRI Standards (2016), Core option
AA1000 Accountability Principles Standard (2018)

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, interviews, documentation & record review and validation with external bodies.

LIMITATIONS AND MITIGATION
Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

Some statements and information that were not identified as material issues were excluded from the scope of the assurance within the timescale allowed.

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

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with IRCA EMS Principal Auditor, auditor of ISO 37001, ISO 26000 & ISO 45001 and nominated tutor of GRI Standards.

ASSURANCE OPINION
On the basis of the methodology described and the verification work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria.

QUALITY AND RELIABILITY OF SPECIFIED PERFORMANCE INFORMATION
Gammon has developed good measuring tools to record all the need data.
The quality of the information disclosed in Gammon's Sustainability Report was found satisfaction. The data were accurate and reliable.

ADHERENCE TO AA1000 ACCOUNTABILITY PRINCIPLES STANDARD (2018)

INCLUSIVITY: Stakeholder engagement has been completed and the engagement frequency is determined clearly.

MATERIALITY: Referring to the structured stakeholder engagement & materiality assessment, 13 material topics were prioritized and confirmed.

RESPONSIVENESS: Gammon took actions to address these material topics in a timely manner.

IMPACT: The impacts of Gammon caused and contributed were clearly explain.

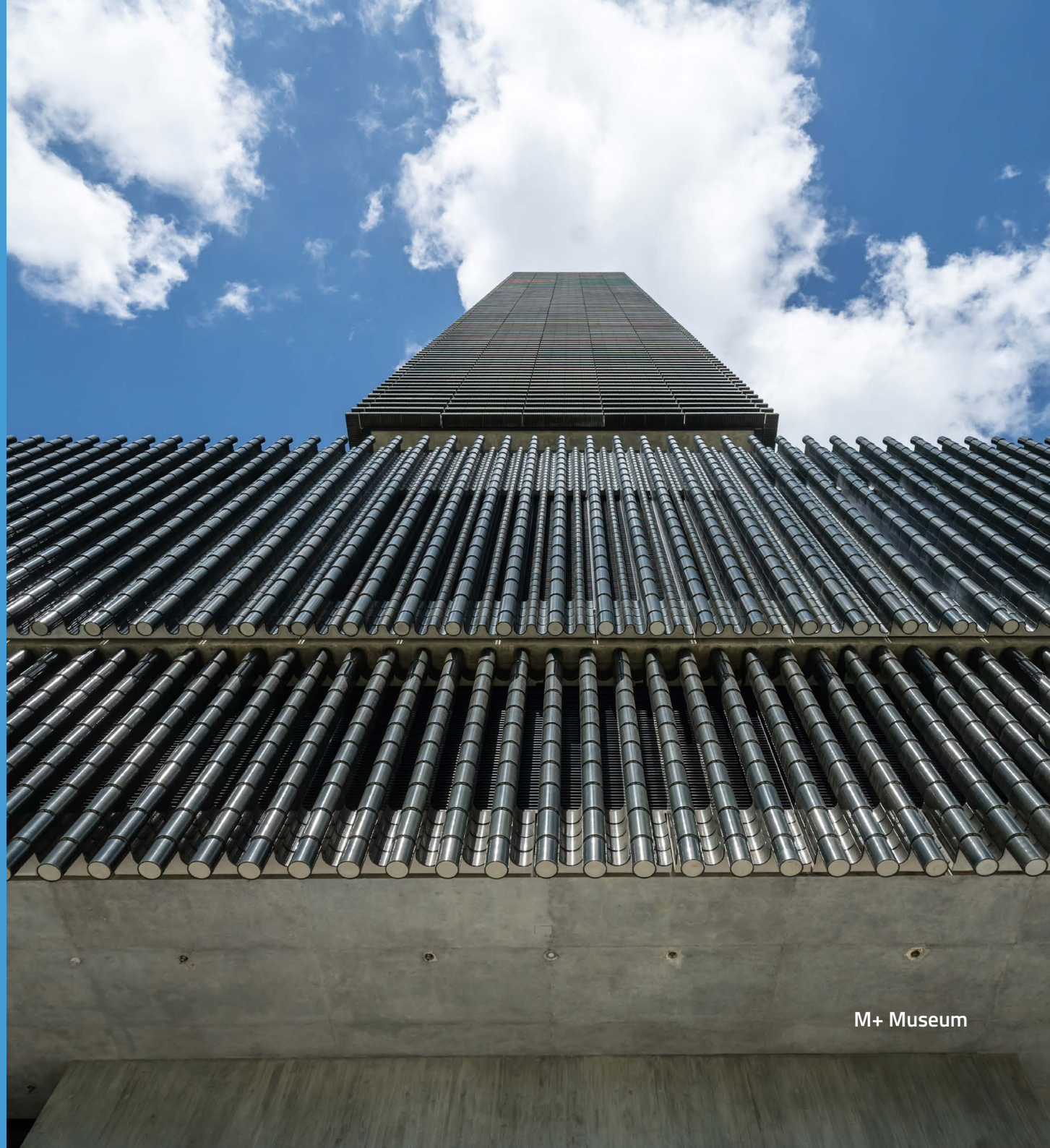
Signed:
For and on behalf of SGS Hong Kong Limited

AA1000
Licensed Report
000-8/V3-2IMDL

Miranda Kwan
Director
Knowledge Solutions
29 April 2022
WW.SGS.COM

Appendix D

GRI content index



M+ Museum

Appendix D - GRI content index

GRI 102-55

General Notes

1. GRI numbers in parenthesis '(GRI XXX)' indicate that this has not been identified as a material issue but data is available, has historically been disclosed, and is therefore reported. While data are generally reported according to GRI principles they may not fully comply with disclosure requirements.
2. All GRI standards used are 2016 version, except GRI 403 - Occupational Health and Safety (2018 version), GRI 303 - Water and Effluents (2018 version) and GRI 306 - Waste (2020 version).
3. * indicates that the topic has been identified as a material issue in the stakeholder engagement process
4. A copy of the Sustainability Report 2019 referred to in the table below can be found online here: www.gammonconstruction.com/en/sustainability-report.php
5. Individual disclosure items ('a', 'b', 'c', etc.) are not listed here

GRI Standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
General Disclosures				
Organisational Profile				
GRI 102	102-1	Name of the organisation	6	About us
	102-2	Activities, brands, products and services	6	About us
	102-3	Location of headquarters	Back cover	Headquartered in Hong Kong
	102-4	Location of operations	6 9-11	About us Project spotlight and outlook
	102-5	Ownership and legal form	8 Back cover	About us Statement ""Jointly and equally owned by Jardines and Balfour Beatty"
	102-6	Markets served	6 9-11	About us Project spotlight and outlook
	102-7	Scale of the organisation	7 77	About us: Scale of the business and operations overview Appendix A: Key performance indicators
	102-8	Information on employees and other workers	77	Appendix A: Key performance indicators [No significant variations during the year (e.g. seasonal variations). Daily paid employees and subcontractor worker numbers vary in response to project numbers, types and project delivery cycles.]
	102-9	Supply chain	73 77	How we manage: Our supply chain Appendix A: Key performance indicators
	102-10	Significant changes to the organisation and its supply chain	3	Structure and alignment of the report
	102-11	Precautionary principle or approach	56	How we manage: Managing risk
	102-12	External initiatives	72	How we manage: External commitments and initiatives
Influencing Industry*	102-13	Membership of associations	72 123	How we manage: Association memberships Appendix G: Membership of associations and industry bodies

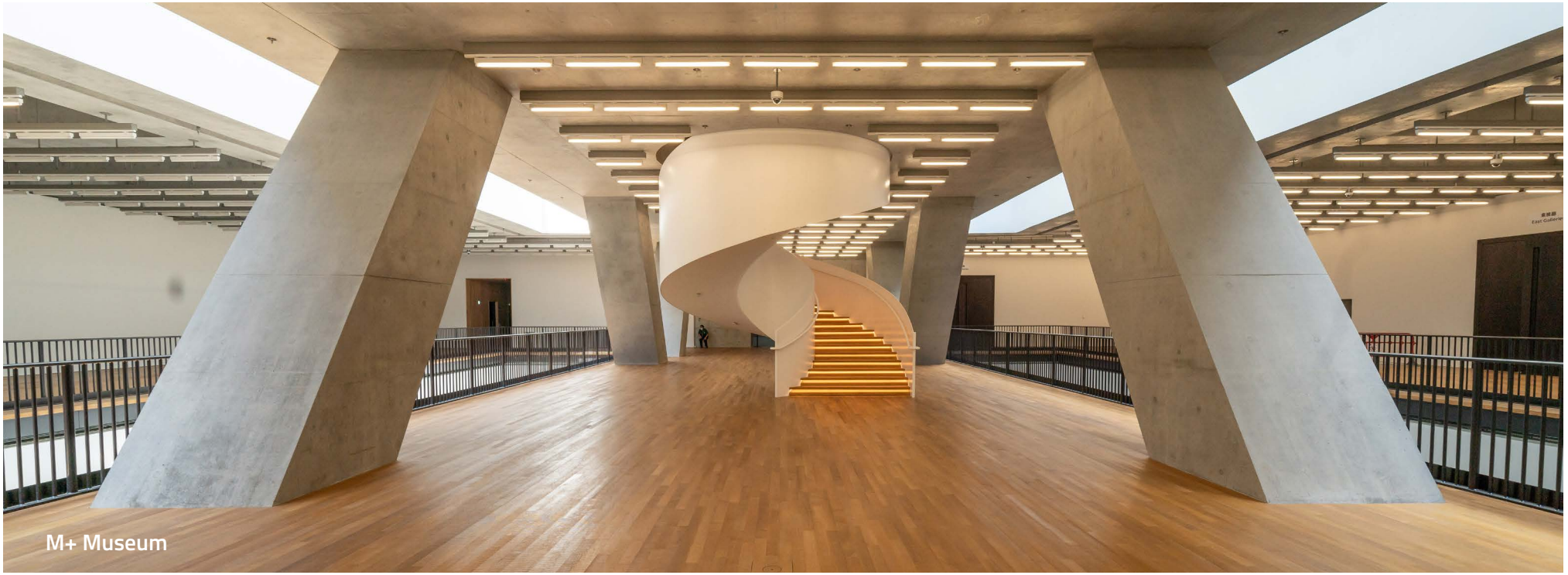
GRI Standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
Strategy				
GRI 102	102-14	Statement from senior decision-maker	4-5	Message from the Chief Executive
Ethics and Integrity				
GRI 102	102-16	Values, principles, standards and norms of behaviour	56	How we manage: Values and norms of behaviour
Governance				
GRI 102	102-18	Governance structure	53	How we manage: Governance structure
Stakeholder Engagement				
GRI 102	102-40	List of stakeholder groups	16	Materiality assessment
	102-41	Collective bargaining agreements	76	How we manage: Employee rights – collective bargaining
	102-42	Identifying and selecting stakeholders	16	Materiality assessment
	102-43	Approach to stakeholder engagement	16	Materiality assessment
	102-44	Key topics and concerns raised	16	Materiality assessment Appendix A: Key performance indicators
Reporting Practice				
GRI 102	102-45	Entities included in the consolidated financial statements	53	How we manage: Coverage of the report
	102-46	Defining report content and topic boundaries	16	Materiality assessment
	102-47	List of material topics	16	Materiality assessment
	102-48	Restatements of information	--	Any restatement of data in the report are highlighted individually with relevant explanation
	102-49	Changes in reporting	16	Materiality assessment [No significant changes from previous reporting period in the list of material topics and topic boundaries]
	102-50	Reporting period	6	About us
	102-51	Date of most recent report	6	About us
	102-52	Reporting cycle	6	About us
	102-53	Contact point for questions regarding the report	3 16 Back cover	Structure and alignment of the report Materiality assessment Description under the list of office addresses [sustainabilty@gammonconstruction.com]

GRI Standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
	102-54	Claims of reporting in accordance with the GRI Standards	3	Structure and alignment of the report
	102-55	GRI content index	102	Appendix D - GRI content index
	102-56	External assurance	3 102	Structure and alignment of the report Appendix C: Report verification statement
Management Approach				
GRI 103	103-1	Explanation of the material topic and its boundary	16	Materiality assessment
	103-2	The management approach and its components	--	How we Manage [See our management approach under each material topic section]
	103-3	Evaluation of the management approach	--	How we Manage [See our management approach under each material topic section]
Economic Topics				
Procurement Practices				
(GRI 103)	(103-2, 103-3)	Management approach	73	How we manage: Our supply chain
(GRI 204)	(204-1)	Proportion of spending on local suppliers	73 77	How we manage: Local supply chain spending Appendix A: Key performance indicators
Anti-Corruption*				
GRI 103	103-2, 103-3	Management approach	57	How we manage: Anti-corruption
GRI 205	205-1	Operations assessed for risks related to corruption	57	How we manage: Corruption risk assessment
Environmental Topics				
Materials*				
GRI 103	103-2, 103-3	Management approach	26 27-28 35 67 67	Environment - Zero Waste: Robots and automation Environment - Zero Waste: Less is more Value Chain - Co-creation: Progress on Responsible Growth - 25 by 25: Co-creation targets How we manage: Steel and concrete How we manage: Zero Waste: Other materials
GRI 301	301-1	Materials used by weight or volume	77	Appendix A: Key performance indicators
	301-2	Recycled input materials used	77	Appendix A: Key performance indicators
Energy*				
GRI 103	103-2, 103-3	Management approach	28 69	Environment - Zero Waste: Progress on Responsible Growth - 25 by 25: Zero Waste targets Environment - Zero Waste: Energy

GRI Standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
Environmental Topics (continued)				
GRI 302	302-1	Energy consumption within the organisation	77	Appendix A: Key performance indicators
	302-2	Energy consumption outside of the organisation	77	Appendix A: Key performance indicators
	302-3	Energy intensity	77	Appendix A: Key performance indicators
Water and Effllluents				
(GRI 303)	(303-1)	Water withdrawal by source	77	Appendix A: Key performance indicators
	(303-3)	Water recycled and reused	77	Appendix A: Key performance indicators
Emission				
(GRI 305)	(305-1)	Direct (Scope 1) GHG emissions	25 28 77	Environment - Zero Waste: Powering up construction Environment - Zero Waste: Less is more, Re-used Appendix A: Key performance indicators
	(305-2)	Energy indirect (Scope 2) GHG emissions	77	Appendix A: Key performance indicators
	(305-3)	Other indirect (Scope 3) GHG emissions	28 77	Environment - Zero Waste: Less is more, Eliminated Appendix A: Key performance indicators
	(305-4)	GHG emissions intensity	28 77	Environment - Zero Waste: Progress on Responsible Growth - 25 by 25: Zero Waste targets Appendix A: Key performance indicators
Waste*				
GRI 103	103-2, 103-3	Management approach	28 66 68	Environment - Zero Waste: Progress on Responsible Growth - 25 by 25: Zero Waste targets Environment - Zero Waste: Monitoring Environment - Zero Waste: Waste
GRI 306	306-3	Waste generated	77	Appendix A: Key performance indicators
	(306-4)	Waste Diverted from Disposal	77	Appendix A: Key performance indicators
	(306-5)	Waste Directed to Disposal	77	Appendix A: Key performance indicators
Environmental Compliance				
(GRI 307)	(307-1)	Non-compliance with environmental laws and regulations	77	Appendix A: Key performance indicators
Social Topics				
Employment*				
GRI 103	103-2, 103-3	Management approach	42 74	People - Caring: Progress on Responsible Growth - 25 by 25: Caring targets People - Caring: Employment
GRI 401	401-1	New employee hires and employee turnover	77	Appendix A: Key performance indicators

Social topics (continued)				
GRI standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
Occupational Health and Safety*				
GRI 103	103-2, 103-3	Management Approach	61-65	How we manage: Safety - Zero Harm
GRI 403	403-1	Occupational health and safety management system	61	How we manage: Occupational health and safety management system
	403-2	Hazard identification, risk assessment, and incident investigation	62	How we manage: Hazard identification, risk assessment and incident investigation
	403-3	Occupational health services	63	How we manage: Occupational health services and worker health promotion
	403-4	Worker participation, consultation, and communication on occupational health and safety	64	How we manage: Worker participation, consultation and communication on occupational health and safety
	403-5	Worker training on occupational health and safety	63	How we manage: Worker training on occupational health and safety
	403-6	Promotion of worker health	63	How we manage: Occupational health services and worker health promotion
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	64	How we manage: Prevention and mitigation of occupational health and safety impacts directly linked by business relationships
	403-8	Workers covered by an occupational health and safety management system	77	Appendix A: Key performance indicators
	(403-9)	Work-related injuries	18 77	Safety - Zero Harm: Accident and incidentrate graph compared with construction industry Appendix A: Key performance indicators
Training and Education*				
GRI 103	103-2, 103-3	Management approach	74 75	How we manage: Training and education How we manage: Development and support
GRI 404	404-1	Average hours of training per year per employee	77	Appendix A: Key performance indicators
	404-3	Percentage of employees receiving regular performance and career development reviews	77	Appendix A: Key performance indicators
Diversity and Equal Opportunity				
(GRI 405)	(405-1)	Diversity of governance bodies and employees	77	Appendix A: Key performance indicators
Customer Health and Safety*				
GRI 103	103-2, 103-3	Management approach	65	How we manage: Customer health and safety and compliance of products and services

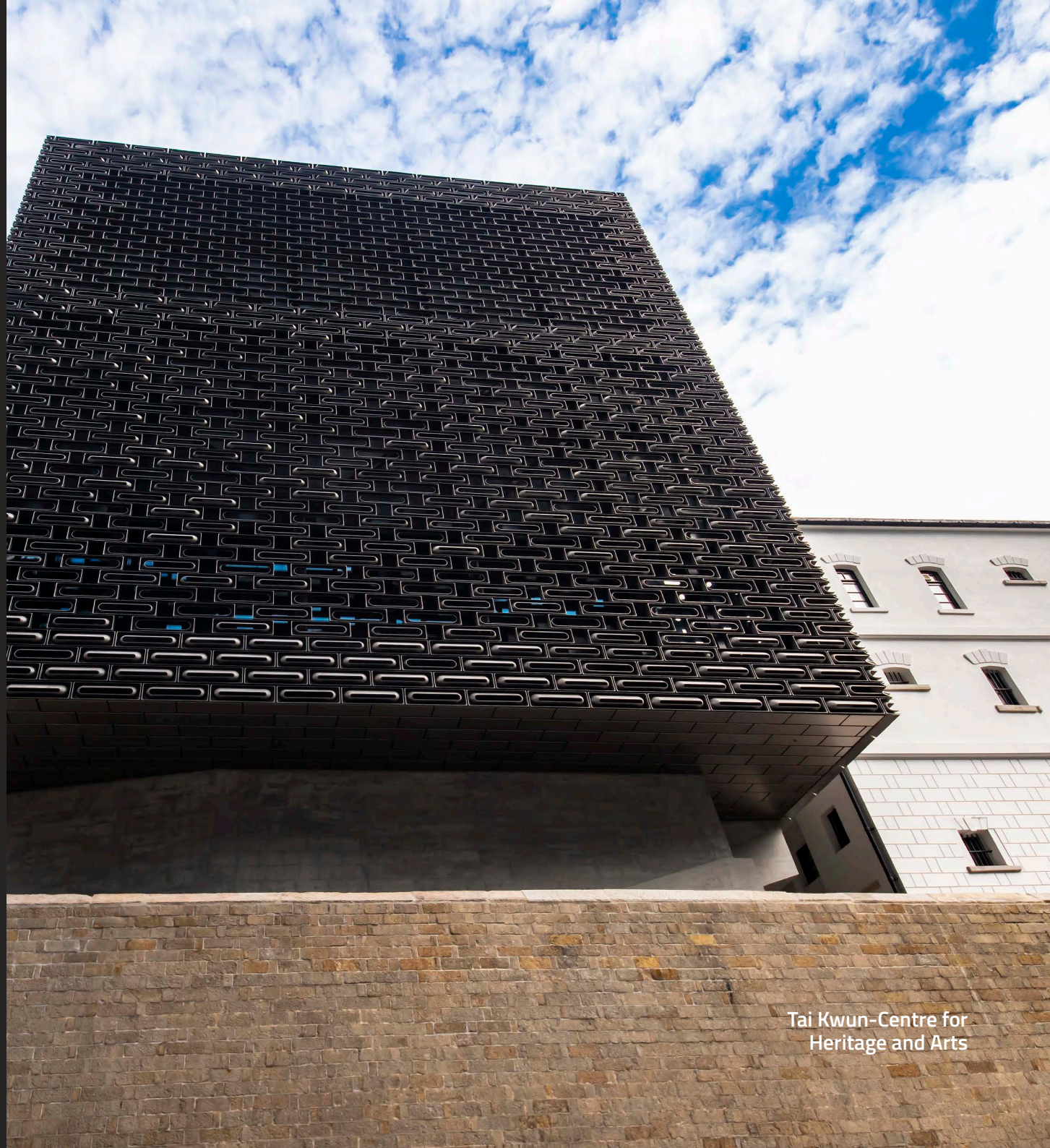
Social topics (continued)				
GRI Standard number	Disclosure number	Disclosure title	Page number(s)	Content reference and remark
GRI 416	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	77	Appendix A: Key performance indicators
Socio-Economic Compliance (quality/ compliance of products and services)*				
GRI 103	103-2, 103-3	Management approach	65	How we manage: Customer health and safety and compliance of products and services
GRI 419	419-1	Non-compliance with laws and regulations in the social and economic area	77	Appendix A: Key performance indicators
Product and Service Labelling				
G4 Aspects	CRE8	Sustainability certification, rating and labelling schemes for new construction	77 114	Appendix A: Key performance indicators Appendix F: Green building projects (partial listing)



M+ Museum

Appendix E

Other initiatives – awards



Tai Kwun-Centre for Heritage and Arts

Date	Name of award	Issued by	Name of project / division
12-Apr-21	Outstanding Construction and Renovation Award 2020 - Spirit of the Year	Hong Kong Professional Building Inspection Academy Limited	Gammon Construction Limited
12-Apr-21	Outstanding Construction and Renovation Award 2020 - Setting out team of the Year	Hong Kong Professional Building Inspection Academy Limited	ONTOLO
12-Apr-21	Outstanding Construction and Renovation Award 2020 - Contractor of Five Stars Residency	Hong Kong Professional Building Inspection Academy Ltd	Solaria
28-May-21	Environmental Recognition Award - Outstanding Environmental Performance in Q1 2021	Hong Kong Airport Authority	3RS Concrete Batching Plant
02-Jun-21	Quality Building Award 2020 - Hong Kong Residential (Multiple Buildings) - Finalist	QBA 2020 Organising Committee	Monterey
02-Jun-21	Quality Building Award 2020 - Hong Kong Non-Residential (New Building - Non Government, Institution of Community) - Merit Award	QBA 2020 Organising Committee	One Taikoo Place
02-Jun-21	Quality Building Award 2020 - Hong Kong Building (Renovation / Revitalisation) -Grand Award	QBA 2020 Organising Committee	Tai Kwun - The Centre for Heritage and Arts
08-Jun-21	Safety Contractor Award 2020	MTR Property Project Department	LOHAS Park Package 9
	Excellence in Construction Industry Volunteering Collaboration Awards - Bronze	Construction Industry Council	Michelle Tang Ka Man
06-Aug-21	27th Considerate Contractor Site Award Scheme - Non-Public Works - RMAA Works - Bronze	Development Bureau and Construction Industry Council	Ground Investigation Term Contract C (2019-2021)
06-Aug-21	27th Considerate Contractor Site Award Scheme - Outstanding Environmental Management Performance Awards - Non-Public Works - RMAA Works - Merit	Development Bureau and Construction Industry Council	Ground Investigation Term Contract C (2019-2021)
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Worker	Development Bureau and Construction Industry Council	Chan Chun Yan Ground Investigation Term Contract C (2019-2021)
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Frontline Supervisor	Development Bureau and Construction Industry Council	Lo Chi Hoi Ground Investigation Term Contract C (2019-2021)
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Subcontractor Frontline Supervisor	Development Bureau and Construction Industry Council	Lai Kin Wong Ground Investigation Term Contract C (2019-2021)
06-Aug-21	27th Considerate Contractor Site Award Scheme - Non-Public Works - New Works - Group B - Silver	Development Bureau and Construction Industry Council	Sai Sha Road Widening Works
06-Aug-21	27th Considerate Contractor Site Award Scheme - Outstanding Environmental Management Performance Awards - Non-Public Works - New Works - Group B - Merit	Development Bureau and Construction Industry Council	Sai Sha Road Widening Works

Date	Name of award	Issued by	Name of project / division
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Worker	Development Bureau and Construction Industry Council	Wong Wah Sai Sha Road Widening Works
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Frontline Supervisor	Development Bureau and Construction Industry Council	Wong Ming Him Sai Sha Road Widening Works
06-Aug-21	27th Considerate Contractor Site Award Scheme - Model Subcontractor Frontline Supervisor	Development Bureau and Construction Industry Council	Tong Ying Cheong Sai Sha Road Widening Works
06-Aug-21	27th Considerate Contractor Site Award Scheme - Non-Public Works - Model Subcontractor - Merit	Development Bureau and Construction Industry Council	Entasis Limited Proposed Commercial Development at KTIL240
06-Aug-21	27th Considerate Contractor Site Award Scheme - Non-Public Works - Model Subcontractor - Merit	Development Bureau and Construction Industry Council	Yee Hop Engineering Co Ltd Sai Sha Road Widening Works
26-Aug-21	Good MPF Employer	Mandatory Provident Fund Schemes Authority	Gammon Construction Limited
26-Aug-21	Good MPF Employer	Mandatory Provident Fund Schemes Authority	Gammon Building Construction Limited
26-Aug-21	Good MPF Employer 5 Years+	Mandatory Provident Fund Schemes Authority	Gammon E&M Limited
26-Aug-21	Good MPF Employer	Mandatory Provident Fund Schemes Authority	Gammon E&M Limited
27-Aug-21	Construction Management Awards 2020 - Young Construction Manager - Grand Award	Hong Kong Institute of Construction Managers	Chen Fai Wing, Phyllis Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - A&A Works - Excellent Construction Team Award	Hong Kong Institute of Construction Managers	Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - Construction Manager - A&A Works - Grand Award	Hong Kong Institute of Construction Managers	Chen Fai Wing, Phyllis Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - Engineer - A&A Works - Grand Award	Hong Kong Institute of Construction Managers	Cheung Wai Hong Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - Quantity Surveyor - A&A Works - Grand Award	Hong Kong Institute of Construction Managers	Cheng Tai Yau, Ricky Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - EHS Officer - A&A Works - Distinction	Hong Kong Institute of Construction Managers	Chan Tsz Fung Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - Construction Supervisor - A&A Works - Grand Award	Hong Kong Institute of Construction Managers	Tsui Chun Lok Central Plaza Podium Extension
27-Aug-21	Construction Management Awards 2020 - Excellent Construction Team - New Works - Merit	Hong Kong Institute of Construction Managers	The Quayside

Date	Name of award	Issued by	Name of project / division
27-Aug-21	Construction Management Awards 2020 - Construction Manager - New Works - Merit	Hong Kong Institute of Construction Managers	Sare Ka Ming, Franklin The Quayside
27-Aug-21	Construction Management Awards 2020 - Site Manager - New Works - Grand Award	Hong Kong Institute of Construction Managers	Chow Che Leung The Quayside
27-Aug-21	Construction Management Awards 2020 - Building Services Coordinator - New Works - Grand Award	Hong Kong Institute of Construction Managers	Tong Kei Ho, Michael The Quayside
27-Aug-21	Construction Management Awards 2020 - Engineer - New Works - Grand Award	Hong Kong Institute of Construction Managers	Tse Chung Wai, Terence The Quayside
27-Aug-21	Construction Management Awards 2020 - Construction Supervisor - New Works - Merit	Hong Kong Institute of Construction Managers	Lui Kin Leung, Wilson The Quayside
08-Oct-21	CIC Employers Appreciation Ceremony and Construction Industry Outstanding Apprentice Award 2021 - Outstanding Apprentice	Construction Industry Council and Hong Kong Institute of Construction	Chan Chun Hei (plasterer)
08-Oct-21	CIC Employers Appreciation Ceremony and Construction Industry Outstanding Apprentice Award 2021 - Outstanding Apprentice	Construction Industry Council and Hong Kong Institute of Construction	Lin Yelong (plant technician)
08-Oct-21	CIC Employers Appreciation Ceremony and Construction Industry Outstanding Apprentice Award 2021 - Active Participation Contractor - Silver	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
08-Oct-21	CIC Employers Appreciation and Construction Industry Outstanding Apprentice Awards 2021 - Intermediate Tradesman Training Scheme	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
08-Oct-21	CIC Employers Appreciation and Construction Industry Outstanding Apprentice Awards 2021 - Approved Technical Talents Training Programme - Senior Tradesmen (Diploma)	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
08-Oct-21	CIC Employers Appreciation and Construction Industry Outstanding Apprentice Awards 2021 - Advanced Construction Manpower Training Scheme - Pilot Scheme (Structured On-the-Job)	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
27-Oct-21	Autodesk Hong Kong BIM Awards 2021 - Honorable Mention	Autodesk Hong Kong	Tuen Mun – Chek Lap Kok Link Northern Connection Tunnel Building, Electrical and Mechanical Works
27-Oct-21	Autodesk Hong Kong BIM Awards 2021 - Winner	Autodesk Hong Kong	Advanced Manufacturing Centre
28-Oct-21	Hong Kong Awards for Environmental Excellence 2020 - Gold	Environmental Campaign Committee	Sai Sha Road Widening Works

Date	Name of award	Issued by	Name of project / division
28-Oct-21	Hong Kong Awards for Environmental Excellence 2020 - Construction Industry - Certificate of Merit	Environmental Campaign Committee	Advanced Manufacturing Centre
28-Oct-21	Hong Kong Awards for Environmental Excellence 2020 - Manufacturing and Industrial Services - Certificate of Merit	Environmental Campaign Committee	Concrete Technology Services
01-Nov-21	CIC Construction Digitalisation Award 2021 - Contractor Category A - Gold	Construction Industry Council	Gammon Construction Limited
05-Nov-21	Pilot project under CIC Sustainable Finance Certification Scheme	Construction Industry Council	Terminal 2 Expansion Works
05-Nov-21	Pilot project under CIC Sustainable Finance Certification Scheme	Construction Industry Council	Queensway Bridge
22-Nov-21	Quality Public Housing Construction and Maintenance Award 2021 - New Works Projects - Outstanding Contractor (Foundation)	Hong Kong Housing Authority	Gammon Building Construction Limited
22-Nov-21	Quality Public Housing Construction and Maintenance Award 2021 - New Works Projects - Outstanding Contractor (Ground Investigation)	Hong Kong Housing Authority	Gammon Building Construction Limited
22-Nov-21	New Works Projects - Best Site Safety - Timely Report of Near Miss Incident (Foundation / Civil Engineering)	Hong Kong Housing Authority	Foundation for Public Rental Housing Development at Hang Tai Road
26-Nov-21	Heritage Conservation Category of CIOB Construction Manager of Year Awards Hong Kong 2020 - Bronze	The Chartered Institute of Building (Hong Kong)	Cliff Leung Tai Kwun
01-Dec-21	Best HR Awards 2021 Best Corporate Wellbeing Programme - Grand Award	CTgoodjobs	Gammon Construction Limited
01-Dec-21	Best HR Awards 2021 Best HR Initiative - Gold	CTgoodjobs	Gammon Construction Limited
02-Dec-21	CIC Outstanding Contractor Award 2021 - Major Contractor Category - Revitalisation Award	Construction Industry Council	Gammon Construction Limited
02-Dec-21	CIC Outstanding Contractor Award 2021 - Major Contractor Category - Corporate Innovation Award	Construction Industry Council	Gammon Construction Limited
14-Dec-21	CarbonCare@ Label	CarbonCare InnoLab	Gammon Construction Limited

Appendix F

Green building projects

Appendix F - Green building projects

Gammon has completed many certified green building projects under HK-BEAM, BEAM Plus, LEED, WELL and Green Mark in Hong Kong and Singapore. The table below provides a partial listing of the projects we have been involved with:

G4-CRE8

Project	Rating	Client
BEAM Plus NB V2.0 Pilot Project – Hong Kong		
ELS, Foundation, Pile Caps, Road Improvement and Utilities Diversion Works for Project KC-008(A) at Chun Tin Street / Sung Chi Street, Kowloon	BEAM Plus NB V2.0 Ongoing	Urban Renewal Authority
Commercial development at Anton Street, Wan Chai	BEAM Plus NB V2.0 Provisional Platinum (2020)	Swire Properties Ltd
Contract No. HY/2019/13, Central Kowloon Route – Buildings, Electrical and Mechanical Works (Central Kowloon Route Administration Building)	BEAM Plus NB V2.0 Ongoing	Highways Department, HKSAR
HKU Medical Complex Extension, Pok Fu Lam	BEAM Plus NB V2.0 Pilot Provisional Platinum (2019)	The University of Hong Kong
HKU Pokfield Road Advanced Works	BEAM Plus NB V2.0 Ongoing	The University of Hong Kong
BEAM Plus NB V1.2 Project – Hong Kong		
eResidence, Ma Tau Wai	BEAM Plus NB V1.2 Final Platinum (2020)	Urban Renewal Authority
Central Plaza Annex, Wan Chai	BEAM Plus NB V1.2 Final Platinum (2020)	Cheer City Properties Limited & Protasan Ltd
One Taikoo Place, Quarry Bay	BEAM Plus NB V1.2 Final Platinum (2020)	Swire Properties Ltd
The Quayside, Kwun Tong	BEAM Plus NB V1.2 Final Platinum (2020)	Link Properties Ltd / Nan Fung Development Ltd
Lee Garden Three, Causeway Bay	BEAM Plus NB V1.2 Final Platinum (2019)	Alpha Ace Ltd (Hysan Development Co Ltd)
Yan Tin Estate, Tuen Mun	BEAM Plus NB V1.2 Final Gold (2021)	Hong Kong Housing Authority
LOHAS Park 6 (Construction of Pile Cap for Proposed Residential Development at Site N of TKO TL 60PR, LOHAS Park Package 6)	BEAM Plus NB V1.2 Final Gold (2021)	MTR Corporation Ltd / Great Team Development Ltd
ONTOLO, Pak Shek Kok	BEAM Plus NB V1.2 Final Gold (2021)	Great Eagle Holdings Ltd
Monterey, Tseung Kwan O	BEAM Plus NB V1.2 Final Gold (2020)	Precise Treasure Ltd (Wheelock Properties Ltd)
Global Switch Data Centre Phase 1-5, Tseung Kwan O	BEAM Plus NB V1.2 Preliminary Final Gold (2019)	Global Switch Hong Kong Ltd
The Papillons, Tseung Kwan O	BEAM Plus NB V1.2 Final Sliver (2019)	Chinachem Group

Fullerton Hotel

Project	Rating	Client
BEAM Plus NB V1.2 Project – Hong Kong (continued)		
The Murray Hong Kong, Central	BEAM Plus NB V1.2 Final Unclassified (2020)	Smart Event Investments Ltd (The Murray Ltd)
Solaria, Pak Shek Kok	BEAM Plus NB V1.2 Final Unclassified (2020)	K. Wah International Holdings Ltd
KAI BO 22, Kwai Chung (Foundations project only)	BEAM Plus NB V1.2 Final Unclassified (2020)	Keen Really Development Ltd
Le Cap, Kau To	BEAM Plus NB V1.2 Final Unclassified (2019)	Bravo Partner Ltd
Design and Construction of Immigration Headquarters in Area 67, Tseung Kwan O, Subcontract for Bored Pile Works	BEAM Plus NB V1.2 Provisional Platinum (2022)	HKSAR Immigration Department/Architectural Services Department
Proposed Residential Development at Ho Man Tin Station Package Two Property Development at KIL 11264	BEAM Plus NB V1.2 Provisional Platinum (2021)	Grace Castle Corporation Ltd
The Three-Runway System of Hong Kong International Airport – Terminal 2 Expansion	BEAM Plus NB V1.2 Provisional Platinum (2020)	Airport Authority Hong Kong
Foundation works for Grade A Office & Retail Development at NKIL 6556, Kai Tak Area 1F Site 2	BEAM Plus NB V1.2 Provisional Platinum (2020)	Rich Union Development Ltd
Foundation works for Proposed Office Development at 2 Murray Road	BEAM Plus NB V1.2 Provisional Platinum (2020)	Century Base Development Ltd

Project	Rating	Client
BEAM Plus NB V1.2 Project – Hong Kong (continued)		
Demolition and Associated A&A Works for Taikoo Place 2B Development, Quarry Bay (Two Taikoo Place)	BEAM Plus NB V1.2 Provisional Platinum (2019)	Taikoo Place Holdings Ltd
Proposed Residential Development at West Rail Kam Sheung Road Station Phase 1 Development, Yuen Long, NT Lot No1040 in Demarcation District No103	BEAM Plus NB V1.2 Provisional Gold (2021)	Kam Sheung Property Development Ltd
Proposed Residential Development at New Kowloon Inland Lot No. 6579, Lung Cheung Road	BEAM Plus NB V1.2 Provisional Gold (2020)	Wheelock Properties Ltd
Proposed Residential Development at NKIL 6564, Kai Tak Area 1L, Site 1, Kai Tak	BEAM Plus NB V1.2 Provisional Gold (2019)	Top Genius Holdings Ltd
Proposed Residential Development at NKIL 6563, Kai Tak Area 1L, Site 2, Kai Tak	BEAM Plus NB V1.2 Provisional Gold (2018)	Wheelock Properties Ltd
Foundations Works for Proposed Residential & Commercial Development at 33-47 Catchick Street, Kennedy Town	BEAM Plus NB V1.2 Provisional Gold (2018)	Shanghai Commercial Bank Ltd
Foundation, Pipe Pile and Sheet Piling Works for West Rail Yuen Long Station Property Development	BEAM Plus NB V1.2 Provisional Gold (2017)	Success Keep Ltd
Foundation for Public Housing Development at North West Kowloon Reclamation Site 6 Phases 1,2 and 3 and Fat Tseung Street, West, Contract No 20140553	BEAM Plus NB V1.2 Provisional Gold (2016)	Hong Kong Housing Authority
WKCDA Tower	BEAM Plus NB V1.2 Provisional Gold (2016)	West Kowloon Cultural District Authority
M+ Museum, West Kowloon Cultural District	BEAM Plus NB V1.2 Provisional Gold (2015)	West Kowloon Cultural District Authority
Foundation works for Commercial Development at KIL 240, 98 How Ming Street, Kwun Tong	BEAM Plus NB V1.2 Provisional Sliver (2021)	Turbo Result Ltd, KT Real Estate Ltd
Foundation and Earth Retaining Structure Works for Proposed Hotel Development at TCTL, 38, Tung Chung, Lantau Island	BEAM Plus NB V1.2 Provisional Silver (2017)	Brand Rise Ltd
Foundation Works for Proposed Commercial Development at Tung Chung Town Lot No.11, Tung Chung	BEAM Plus NB V1.2 Provisional Silver (2015)	Newfoundworld Project Management Ltd
Foundation and ELS (Stage 1) Works for Proposed Residential Development at Lot No 560RP Strawberry Hill, 36 Plantation Road, The Peak	BEAM Plus NB V1.2 Provision Bronze (2020)	Jardine Matheson & Co Ltd
Foundation Works for Residential Development at LRT Tin Wing Stop at TSWTL No. 2, Area 33, Tin Shui Wai	BEAM Plus NB V1.2 Provision Bronze (2019)	Best Vision Development Ltd
Property Development at No. 1 Plantation Road, The Peak	BEAM Plus NB V1.2 Provisional Bronze (2014)	Wharf Peak Properties Limited
Proposed Alteration and Addition Works for Swimming Pool and Filtration Plant Room of Strawberry Hill, 32 Plantation Road, Hong Kong – R.B.L. 512	BEAM Plus NB V1.2 Provision Bronze (2020)	Jardine Matheson & Co Ltd
Foundation, Piling and ELS Piling Work for Proposed Residential Development at To Shek Street, Shatin	BEAM Plus NB V1.2 Provisional Unclassified (2019)	Mainco Ltd
Foundation Contract for Proposed Commercial Development at No 1-9 Sha Tsui Road, Tsuen Wan, New Territories	BEAM Plus NB V1.2 Provisional Unclassified (2019)	Sunny Global Development Ltd
The Fullerton Hotel, Aberdeen	BEAM Plus NB V1.2 Provisional Unclassified (2018)	Parkland (HK) Ltd
Proposed Residential Development at KIL No.11257 Sheung Shing Street, Ho Man Tin	BEAM Plus NB V1.2 Provisional Unclassified (2018)	Goldin Financial Holdings Ltd

Project	Rating	Client
BEAM Plus NB V1.2 Pilot Project – Hong Kong (continued)		
CityU Student Hostel at Whitehead, Ma On Shan	BEAM Plus NB V1.2 Ongoing	City University of Hong Kong
Proposed Residential Development for LOHAS Park 12 at TKOTL 70RP, Site D, Tseung Kwan O	BEAM Plus NB V1.2 Ongoing	Wheelock Properties Ltd / MTR Corporation Ltd
Proposed Residential Development at TKOTL 70RP, Phase 11, LOHAS Park, Tseung Kwan O	BEAM Plus NB V1.2 Ongoing	Sino Land Co Ltd / MTR Corporation Ltd
Advance Works Contract for Project Blue – Proposed Development at 281 Gloucester Road, Causeway Bay	BEAM Plus NB V1.2 Ongoing	Excelsior Hotel (BVI) Ltd
Development of IE 2.0 Project C, Advanced Manufacturing Centre, Tseung Kwan O Industrial Estate	BEAM Plus NB V1.2 Ongoing	Hong Kong Science & Technology Parks Corporation
Demolition and Foundation Works at Prince of Wales Hospital for Redevelopment of Prince of Wales Hospital, Phase 2 (Stage 1)	BEAM Plus NB V1.2 Ongoing	Hospital Authority
Foundation and Site Formation for Public Housing Development at Lei Yue Mun Phase 4 at Yan Wing Street, Yau Tong, Contract No. 20180502	BEAM Plus NB V1.2 Ongoing	Hong Kong Housing Authority
Foundation Works for AIA Urban Campus Redevelopment at No. 1 Stubbs Road, Wan Chai	BEAM Plus NB V1.2 Ongoing	AIA Company Ltd
Foundation Works for Proposed Mixed Use Development on NKIL 6568, Kai Tak Area 1F, Site 1	BEAM Plus NB V1.2 Ongoing	Super Great Ltd
Foundation works for IE 2.0 Project A, Tseung Kwan O	BEAM Plus NB V1.2 Ongoing	Hong Kong Science & Technology Parks Corporation
Main Contract for Proposed Redevelopment at RBL 279, Shek O Residence, Big Wave Bay Road, Shek O	BEAM Plus NB V1.2 Ongoing	Jardine Matheson & Co Ltd
Foundation, Excavation and Lateral Support and Basement Excavation Works for New Acute Hospital at Kai Tak Development Area (Site A), Subcontract for Construction of Bored Pile Works at Staff Education Building	BEAM Plus NB V1.2 Ongoing	Hospital Authority, HKSAR Government
Foundation for Public Housing Development at Hang Tai Road, Ma On Shan Area 86B Phase 2, Contract No 2019052	BEAM Plus NB V1.2 Ongoing	Hong Kong Housing Authority
LOHAS Park Package 9, Tseung Kwan O	BEAM Plus NB V1.2 Ongoing	Wheelock Properties Ltd
Lyric Theatre Complex, West Kowloon Cultural District	BEAM Plus NB V1.2 Ongoing	West Kowloon Cultural District Authority
Foundation, Excavation and Lateral Support and Pile Cap Works for Cyberport Expansion Project at Cyberport	BEAM Plus NB V1.2 Ongoing	Hong Kong Cyberport Management Co Ltd
Design and Construction of Piling Foundation, Excavation and Lateral Support and Pile Cap Works, TWTL 160 at 13-23 Wang Wo Tsai Street, Tsuen Wan	BEAM Plus NB V1.2 Ongoing	Sun Hung Kai
Foundation for Public Housing Development at Hang Tai Road, Ma On Shan Area 86B Phase 2, Contract No 20190526	BEAM Plus NB V1.2 Ongoing	Hong Kong Housing Authority
Provision of Fire Services Facilities to Support the Three-Runway System at Hong Kong International Airport	BEAM Plus NB V1.2 Ongoing	Airport Authority Hong Kong
Provision of Police Facilities to Support the Three-Runway System at Hong Kong International Airport	BEAM Plus NB V1.2 Ongoing	Airport Authority Hong Kong

Project	Rating	Client
BEAM Plus NB V1.1 Projects – Hong Kong		
Mount Nicholson, The Peak	BEAM Plus NB V1.1 Final Sliver (2020)	Market Prospect Ltd
Parc City / Nina Mall 2, Tsuen Wan	BEAM Plus NB V1.1 Final Gold (2019)	Denny Investment Ltd (Chinachem Group)
Maxim's Centre, Cheung Sha Wan	BEAM Plus NB V1.1 Final Platinum (2019)	Luk Yeung Restaurant Ltd
Capri, Tseung Kwan O	BEAM Plus NB V1.1 Final Gold (2019)	Amblegreen Company Ltd (Subsidiary of Wheelock Properties)
ALTAMIRA, Mid-Levels	BEAM Plus NB V1.1 Final Platinum (2018)	Majestic Elite Property Development Ltd
The Parkside, Tseung Kwan O	BEAM Plus NB V1.1 Final Gold (2018)	Fortune Precision Ltd (Wheelock)
The Morgan, Mid-Levels (Foundations project only)	BEAM Plus NB V1.1 Final Gold (2017)	Majestic Elite Property Development Ltd
Midfield Concourse, Hong Kong International Airport	BEAM Plus NB V1.1 Final Gold (2017)	Airport Authority Hong Kong
One South Lane, Sai Ying Pun	BEAM Plus NB V1.1 Final Bronze (2017)	Both Talent Ltd (Chinese Estates Holdings Ltd)
Whitesands, Lantau	BEAM Plus NB V1.1 Final Platinum (2016)	Bao Wei Enterprise Ltd (Subsidiary of Swire Properties)
Arezzo, Mid-Levels	BEAM Plus NB V1.1 Final Platinum (2016)	Excel Free Ltd (Swire Properties Ltd)
CIC Zero Carbon Building, Kowloon Bay	BEAM Plus NB V1.1 Final Platinum (2015)	Construction Industry Council
Science Park Phase 3, Building 12W, 15W and 16W, Shatin	BEAM Plus NB V1.1 Final Platinum (2015)	Hong Kong Science & Technology Parks Corporation
Hysan Place, Causeway Bay	BEAM Plus NB V1.1 Final Platinum (2013)	Hysan Development Co Ltd
Shanghai Commercial Bank Tower, Central	BEAM Plus NB V1.1 Provisional Gold (2015)	Shanghai Commercial Bank Ltd
Castle One, Mid-Levels	BEAM Plus NB V1.1 Provisional Sliver (2014)	Best-Rights Company Ltd
The Forum, Exchange Square, Central	BEAM Plus NB V1.1Provisional Unclassified (2013)	Hong Kong Land Ltd

Project	Rating	Client
HK BEAM Projects – Hong Kong		
Chater House Commercial Development, Central	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
Jardine House, Central	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
One Exchange Square, Central	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
Lincoln House, Quarry Bay	HK-BEAM 5/04 Platinum	Swire Properties Ltd
Dorset House, Quarry Bay	HK-BEAM 5/04 Excellent	Swire Properties Ltd
LHT Tower, Central	HK-BEAM 4/04 Platinum	The Luk Hoi Tung Co Ltd
Mount Davis 33, Kennedy Town	HK-BEAM 4/04 Platinum	Urban Renewal Authority / Kowloon Development Co Ltd
Opus Hong Kong, The Peak	HK-BEAM 4/04 Platinum	Swire Properties Ltd
Fire Station with Ambulance Depot and Police Post at Penny's Bay, Lantau	HK-BEAM 4/04 Platinum	Architectural Services Department

Project	Rating	Client
HK BEAM Projects – Hong Kong (continued)		
HKU Centennial Campus, Pok Fu Lam	HK-BEAM 4/04 Platinum	The University of Hong Kong
One Island East, Quarry Bay	HK-BEAM 4/04 Platinum	Swire Properties Ltd
Kwun Tong Swimming Pool Complex	HK-BEAM 4/04 Platinum	Architectural Services Department
Serenade, Causeway Bay	HK-BEAM 4/04 Platinum	Hongkong Land Ltd
Tamar, Admiralty	HK-BEAM 4/04 Platinum	Architectural Services Department
York House, Central	HK-BEAM 4/04 Platinum	Hongkong Land Ltd
Victoria Park Swimming Pool Complex, Causeway Bay	HK-BEAM 4/04 Gold	Architectural Services Department
Ko Shan Theatre New Wing, Hung Hom	HK-BEAM 4/04 Gold	Architectural Services Department
Man Yee Building, Central	HK-BEAM 2/99 Excellent	Man Hing Hong Kong Land Investment Co Ltd
Cyberport 4 (Phase CIIIA), Pok Fu Lam	HK-BEAM 1/99 Excellent	Cyber-Port Management Ltd
One Peking, Tsim Sha Tsui	HK-BEAM 1/99 Excellent	Glorious Sun Holdings Ltd
Three Pacific Place, Quarry Bay	HK-BEAM 1/99 Excellent	Swire Properties Ltd
Devon House, Quarry Bay	HK-BEAM 2/96 Excellent	Swire Properties Ltd
1063 King's Road, Quarry Bay	HK-BEAM 1/96 Excellent	Hongkong Land Ltd
Oxford House, Quarry Bay	HK-BEAM 1/96 Excellent	Swire Properties Ltd

Project	Rating	Client
LEED Version 4 Projects – Hong Kong		
Central Plaza Annex, Wan Chai	LEED BD+C Core & Shell v4 Final Platinum (2021)	Cheer City Properties Ltd & Protasan Ltd
Proposed Residential Development at 139-147 Argyle Street, Kowloon (Clock Tower only)	LEED CI v4 Ongoing	Sino Land Co Ltd
Foundations Works for Commercial Development at KIL 240, 98 How Ming Street, Kwun Tong	LEED BD+C Core & Shell v4 Ongoing	Sun Hung Kai Properties Ltd
Foundation Works for Grade A Office & retail Development at NKIL 6556, Kai Tak Area 1F Site 2	LEED BD+C Core & Shell v4 Ongoing	Nan Fung Group
Advance Works Contract for Project Blue – Proposed Development at 281 Gloucester Road, Causeway Bay	LEED BD+C Core & Shell v4 Ongoing	Excelsior Hotel (BVI) Ltd
Commercial Development at Anton Street, Wan Chai	LEED BD+C Core & Shell v4 Ongoing	Swire Properties Ltd

Project	Rating	Client
LEED Version 3 (2009) Projects – Hong Kong		
One Taikoo Place, Quarry Bay	LEED BD+C Core & Shell v2009 Final Platinum (2020)	Swire Properties Ltd
The Quayside, Kwun Tong	LEED BD+C: Core & Shell v2009 Final Platinum (2020)	Link Properties Limited / Nan Fung Development Limited
Global Switch Hong Kong Data Centre, Building 1 and 2, Tseung Kwan O	LEED BD+C: Core & Shell v2009 Final Platinum (2018)	Global Switch Hong Kong Ltd
Lee Garden Three, Causeway Bay	LEED BD+C: Core & Shell v2009 Final Gold (2018)	Hysan Development Co Ltd
Foundation Works for Sha Tin Communication and Technology Centre	LEED BD+C: Core & Shell v2009 Final Gold (2016)	The Hong Kong Jockey Club
China Mobile Global Network Centre, MEP1, Tseung Kwan O	LEED BD+C: Core & Shell v2009 Final Gold (2016)	China Mobile International Ltd
The Forum, Exchange Square, Central	LEED BD+C: Core & Shell v2009 Final Platinum (2015)	Hongkong Land Ltd
Science Park Phase 3, Building 12W, Shatin	LEED BD+C: Core & Shell v2009 Final Platinum (2014)	Hong Kong Science & Technology Parks Corporation
HKU Centennial Campus, Pok Fu Lam	LEED BD+C: Core & Shell v2009 Final Platinum (2013)	The University of Hong Kong
Gramercy, Central	LEED BD+C: New Construction v2.2 Certified (2013)	Fine Mean Ltd
Hysan Place, Causeway Bay	LEED BD+C: Core & Shell v2.0 Final Platinum (2012)	Hysan Development Co Ltd
HSBC Shek Mun Data Centre Project Symmetry - BS Works	LEED ID+C v2009 Certified	The Hong Kong and Shanghai Banking Corporation Ltd
HSBC Project Bridge, Central	LEED CI v2.0 Gold	The Hong Kong and Shanghai Banking Corporation Ltd

Project	Rating	Client
WELL Version 2 Building Standard Projects – Hong Kong		
Proposed Residential Development at Ho Man Tin Station Package Two Property Development at KIL 11264	WELL V2 Pilot Dwelling Units Pre-certified (2021)	Grace Castle Corporation Ltd
The Fullerton Hotel, Aberdeen	WELL V2 Pilot Hospitality Pre-certified (2021)	Parkland (HK) Limited
Proposed Residential Development at 139-147 Argyle Street, Kowloon (Clubhouse and residential towers)	WELL V2 Pilot Dwelling Units Pre-certified (2020)	Sino Land Co. Ltd
HKU Pokfield Road Advanced Works	WELL V2 Core & Shell Ongoing	The University of Hong Kong

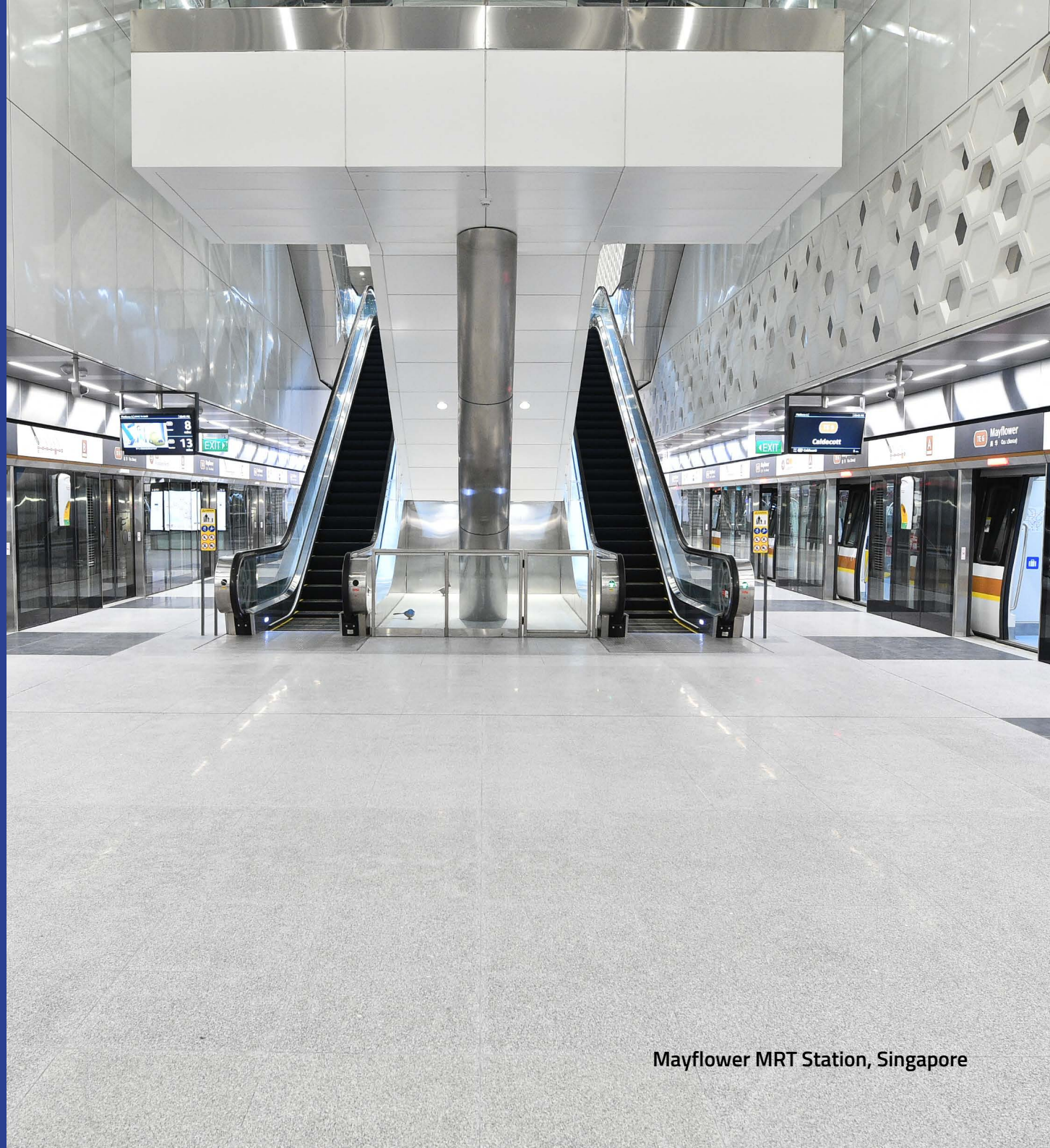
Project	Rating	Client
WELL Version 1 Building Standard Projects – Hong Kong		
The Quayside, Kwun Tong	WELL V1 Core & Shell Certified Gold (2021)	Link Properties Ltd/ Nan Fung Development Ltd
One Taikoo Place, Quarry Bay	WELL V1 Core & Shell Certified Platinum (2019)	Swire Properties Ltd
Commercial Development at Anton Street, Wan Chai	WELL V1 Core & Shell Pre-certified (2020)	Swire Properties Ltd
Gammon Head Office at The Quayside, Kwun Tong	WELL V1 New and Existing Interiors Pre-certified Gold (2020)	Gammon Construction Ltd

Project	Rating	Client
LEED Projects – Singapore		
Diaphragm Wall and Piling works to Singapore Innovation Centre	LEED New Construction v2009 Gold	CH2M Hill Singapore Pte Ltd
P&G Singapore Innovation Centre	LEED Commercial Interior v2.0 Gold	P&G
Design and Construction of 6-Storey Data Centre at Woodlands, Singapore	LEED Gold	Global Switch

Project	Rating	Client
Green Mark Projects – Singapore		
Arkema Symphony Project - Design & Build Building Package 01	Green Mark Ongoing	WOODS
Proposed Erection of New ITE College West PPP Project	Green Mark Platinum	Gammon Capital (West) Pte Ltd
Design and Construction of 6-Storey Data Centre at Woodlands	Green Mark Platinum	Global Switch
Nanyang Polytechnic Extension	Green Mark Platinum	Nanyang Polytechnic
WDL2 Woodlands Sleepers Installation works	Green Mark Platinum	SMRT Trains Ltd
Design and Construction of Mayflower Station	Green Mark Gold	Land Transport Authority
LTA Contract T221 - Construction of Havelock Station for Thomson Line	Green Mark Gold	Land Transport Authority
Mandai Depot	Green Mark Gold	Land Transport Authority
P&G Singapore Innovation Centre (SgIC)	Green Mark Gold	CH2M Hill Singapore Pte Ltd
Design and Construction of Chevron Building (D&B) package	Green Mark Certified	Chevron Oronite Pte Ltd
Construction of 3 Intra-Island Cableway Stations, 8 Cableway Tower Foundations and a Fort Siloso Pedestrian Bridge with Lift Tower at Sentosa	Green Mark Certified	Sentosa Development Corporation
Grace Assembly of God Church	Green Mark Certified	Grace Assembly of God Church

Appendix G

Membership of associations and industry bodies



Mayflower MRT Station, Singapore

Appendix G - Membership of associations and industry bodies

GRI 102-13

1. Hong Kong government		
Association/ Body	Group/ Committee	Appointment
A. Statutory Bodies		
Construction Industry Council	Construction Innovation and Technology Application Centre	Board Member
	Construction Industry Sports and Volunteering Programme (CISVP)	Committee Member
	Task Force on Construction Expenditure Forecast under the committee on Construction Procurement	Member
	Steering Group of STEM Alliance under Hong Kong Institute of Construction	Member
Development Bureau	Building Contractors Committee	Member
	Builders' Lift and Tower Working Platforms (Safety) Ordinance - Disciplinary Tribunal Panel	Panel Member
	Registered Contractors' Disciplinary Board Panel (Planning and Lands Branch)	Panel Member
	Panel of Enquiry-Site Safety	Panel Member
B. Permanent Non Statutory Bodies		
The Hong Kong Construction Association, Limited (HKCA)	HKCA Council	Council Member
	Civi Engineering Committee	Vice Chair
	Environmental Committee	Vice Chair
	Piling Contractors Committee	Vice Chair
	Site Investigation Committee	Vice Chair
	Young Members Society	Chair
C. Tertiary Institution		
The Hong Kong Polytechnic University	Department of Civil & Environmental Engineering Advisory Committee	Member
Vocational Training Council	Building Civil Engineering & Built Environment Training Board	Member

2. Non government organisation		
Association/ Body	Group/ Committee	Appointment
British Chamber of Commerce in Hong Kong	General Committee	Sub-Committee Chair
	Construction Industry Group	Chair
	Construction Industry Group	Member
	Environment and Energy Committee	Vice-Chair
	Future Leaders Committee	Member
	Innovation and Technology Committee	Member
	International Infrastructure Forum	Member
	Social Sustainability Committee	Member
Business Environment Council	Executive Committee	Deputy Chair
	Climate Change Business Forum Advisory Group	Ordinary Member
	Circular Economy Advisory Group	Steering Committee Member
	Sustainable Living Environment Advisory Group	Steering Committee Member
Chartered Institute of Building (Hong Kong)	Council	Council Member
Chartered Institution of Highways and Transportation, HK Branch	CIHT HK Branch Committee	Committee Members
Hong Kong Computer Society	CIO Board	Board Member
	Policy & External Liaison Council	Director
	IT Leadership Accelerator Platform (iLEAP)	Executive Committee Member
	Standing Committees (Construction Industry)	Member
	Talent Cultivation Standing Committee	Member
Hong Kong Green Building Council	Industry Standards and Practices Committee	Co-opted Member
	Infrastructure Rating System Committee	Co-opted Member
	Sustainable Development Committee	Co-opted Member
Hong Kong Institute of Construction Managers	Dispute Resolution Committee	Chair
Hong Kong Institution of Engineers	Building Division	Committee Member
	Electrical Division	Committee Member
	Geotechnical Division	Committee Member
	Manufacturing, Industrial & Systems Division	Ex-officio Member

2. Non government organisation (continued)		
Association/ Body	Group/ Committee	Appointment
	Mechanical, Marine, Naval Architecture & Chemical Division	Affiliate Member
	Structural Division	Committee Member
	Safety Specialist Committee	Committee Member
	Young Members Committee	Co-opted Member
Hong Kong Institute of Environmental Impact Assessment	Executive Committiee	Committee Member
Hong Kong Institute of Surveyors	Young Surveyors Group Committee	Committee Member
Hong Kong E&M Contractors' Association	Council	President
Hong Kong Federation of Electrical and Mechanical Contractors Ltd	Council	Vice President
International Powered Access Federation	Hong Kong Regional Council	Chair
Lighthouse Club	Main Committee	Member
	Safety Committee	Chair
The Hong Kong General Chamber of Commerce	Environment & Sustainability Committee	Member
	Manpower Committee	Member
	Real Estate & Infrastructure Committee	Member
The Women's Foundation	Girls Go Tech Programme Steering Committee	Member
The Hong Kong Management Association	People Management Committee	Member
The Institution of Occupational Safety and Health	Hong Kong Branch Committtee	Chair
The Singapore Contractors Association Limited	Council	Assistant Treasurer
	Productivity and Technology Sub-Committee	Chair

Gammon

HONG KONG SAR

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We value and encourage dialogue on our sustainability initiatives. Feedback provides insight that helps us to better communicate what is important and of interest to our stakeholders. We encourage questions or comments by contacting: **sustainability@gammonconstruction.com**

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