

# Sustainability Report 2020

Stronger together in a remarkable year

25 by 25



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### Our Brands:



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



Engineering design services



External façades and general contractor



Technology and innovation



Interior fit-out and contracting

GRI 102-1

GRI 102-2

# Introduction

## Stronger together in a remarkable year

GRI 101 GRI 102-50 GRI 102-53 GRI 102-54 GRI 102-56



**Penny's Bay quarantine facilities, where we monitored all phases of the MiC works using digital solutions that fed real-time data to the Hong Kong construction industry's first 5G Smart Control Centre.**

The year 2020 was remarkable for all businesses and a real test for operational resilience, continuity planning and true sustainability on many levels. The local governments where Gammon operates were, thankfully, quick to respond in controlling the spread of COVID-19. We were in good shape in terms of our continuity planning and epidemic response, largely due on our 2003 experience with the SARS outbreak.

Our cloud-based digital collaborative platforms also meant that, where needed, staff could work at home. However, our operations were not left unscathed, as supply chains were disrupted initially and we had to rapidly change how our sites were set up and controlled to minimise health risks and the chance of spread of infection. The response required additional effort or resources, resulting in added pressure on site operations' teams. The fact we survived and, in fact, continued to thrive with some remarkable achievements and project wins was testament to Gammon staff working together, united as 'One Team' in partnership with our clients, suppliers and subcontractors. We were stronger together in a remarkable year! This 19th edition of our sustainability report documents this remarkable year and how our teams have successfully risen above the challenges. We hope you enjoy the read!

### Structure of the report

Our report is again split into two parts: the first part briefly showcases some Highlights from the year and the Main Report contains more information on the progress, case studies, innovations and management approaches. The information is organised under the four focus areas of our sustainability strategy, Responsible Growth - 25 by 25 ([www.gammonconstruction.com/uploaded\\_files/files/en/Sustainability\\_Strategy.pdf](http://www.gammonconstruction.com/uploaded_files/files/en/Sustainability_Strategy.pdf)). The Appendices include formal disclosures, data and external verification in line with the requirements of the Global Reporting Initiative (GRI), Standards of the Global Sustainability Standards Board and AA1000 (AS).

### Alignment to GRI standards

This report has been prepared in accordance with the GRI Standards: core option. 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](mailto:sustainability@gammonconstruction.com). We welcome your view.

# Message from the Chief Executive

GRI 102-14

Despite the global uncertainty and anxiety of 2020, Gammon maintained its focus on driving change and contributing to a brighter and more sustainable industry.



Retired Chief Executive  
Thomas Ho

The year 2020 was certainly a remarkable one. It is sure to go down in history as one of the most challenging of our lifetimes, with the entire world united in the fight against COVID-19.

Everyone at Gammon should be immensely proud of how they responded to the pandemic. A range of protective measures were swiftly implemented to keep staff and workers safe and allow our operations to continue, while full utilisation of our digital platforms meant training, collaboration and access to health and well-being support were maintained. Of course, we experienced some disruptions to site work but thanks to our collective efforts and the commitment of everyone to embrace the 'new normal' these were minimised and we have been able to continue meeting commitments to our clients.

It was also a remarkable year for more positive reasons. We won an exceptional amount of new work, securing about HK\$25 billion of contracts over the 12-month period. This includes our largest solo award to date, the HK\$12.88 billion Terminal 2 Expansion Works at the airport.

**HK\$25 BILLION**

of contracts secured over  
12 month period

During the course of producing this report, Kevin O'Brien (below) succeeded Thomas Ho as Chief Executive of Gammon.



Chief Executive  
Kevin O'Brien

A huge factor in this unprecedented abundance of work winning was our ability to leverage strengths in integrated digital project delivery (IDPD), which has design for manufacture and assembly (DfMA), building information modelling (BIM), and the application of innovative technologies and approaches at its core.

Additionally, we achieved a number of milestones on existing projects that further showcased these strengths and supported our goal of being the smart

and digital contractor of choice. These include an escalation of DfMA approaches, ground-breaking use of sensor technology and our most extensive use of modular integrated construction (MiC) to date, as well as a number of firsts for Hong Kong including battery-powered tower cranes and the development of a 5G-enabled Smart Control Centre for greater control over construction processes. These achievements supported our Responsible Growth - 25 by 25 sustainability strategy by reducing waste, carbon and labour



We will maintain our focus on taking work off site to controlled factory environments wherever possible, as we know this is the best approach to removing and reducing risks and keeping everyone safe.

requirements and providing a safer working environment. You'll find more detail on these achievements in this report.

Unfortunately, there is a shadow cast over these successes, as despite further decreases in our accident incident rate we suffered three fatalities on our sites. We introduced a range of measures in response which are positively impacting our safety culture and getting our project leaders to the frontline more often. We will maintain our focus on taking work off site to controlled factory environments wherever possible, as we know this is the best approach to removing and reducing risks and keeping everyone safe.

The development of our DfMA and digital capabilities will also continue to be a priority which will support the delivery of our sustainability targets by 2025 and the longer-term vision for Hong Kong of carbon neutrality by 2050.

We are already leading in some areas but our competitors are never far behind so we must maintain momentum, as well as position ourselves to take advantage of the developing trend for smart, green and healthy buildings.

In the longer term, we will be looking to commercialise more of our own technologies through our subsidiary Digital G, and we are already in discussion with start-ups and large vendors to explore more opportunities for partnerships.

People development, in particular multi-skilled and digital training, will remain a focus over the next few years, as we need



Hosting Secretary for Development Michael Wong and the former Director for Architectural Services Sylvia Lam on a visit to our Penny's Bay project, where we delivered 700 MiC quarantine units in only 87 days.

to equip our staff to succeed and thrive in the context of the rapid changes taking place in the construction industry. Particularly important on our 'smart and digital contractor of choice' journey is the 'last 100m', getting innovations to the front lines and making sure they are being used and providing their full value.

There were certainly many highs and lows in 2020 but throughout the year we demonstrated how resilient we are in a crisis and proved ourselves to be 'future fit', with not only the capability and flexibility to adapt quickly to change

but also the knowledge and tools to deliver construction more sustainably. This provides confidence not only about the days that lie ahead, but also the decades that lie ahead for our young emerging leaders.

**Thomas Ho JP**  
Retired Chief Executive

**Kevin O'Brien**  
Chief Executive

# Award Highlights

We're always proud to receive industry recognition for our achievements. As well as setting ourselves apart from the competition, the third-party endorsement validates our standing as a leading contractor and rewards the hard work of our colleagues. During 2020, we took to the podium in a wide range of areas, a small selection of which is provided below.



We received three Gold, three Silver, one Bronze and four Merits at Construction Safety Week 2020.

## Maintaining environmental excellence

For the seventh time, Gammon took home top prize in the Construction Industry category of the Hong Kong Awards for Environmental Excellence. The latest recipient of the Gold Award was our Medical Complex Extension project for University of Hong Kong (HKU). We were also presented with an Environmental Excellence Certificate of Merit for E&M works on our Tuen Mun-Chek Lap Kok Link – Northern Connection tunnel and ancillary buildings project.



Both contracts were able to reduce energy consumption and waste through BIM and DfMA approaches. In addition, we gained Hong Kong Green Organisation Certification for our Concrete Technology Department, Lyric Theatre main works project, and Plantation Road residential development.



## Safety

We picked up multiple awards at Construction Safety Week 2020, a jointly organised event by the Development Bureau and the Construction Industry Council (CIC).

- Two Gold (for HKU Medical Complex Extension project and Sheung Shing Street) and a Bronze (Sai Sha Road Widening Works) in the Considerate Contractors Site Award.
- Gold (HKU Medical Complex Extension) and two Silver (Sheung Shing Street and Sai Sha Road Widening Works) in the Outstanding Environmental Management and Performance Awards.
- Gold (Sheung Shing Street), a Silver (Sai Sha Road Widening Works) and three Merits in the Innovative Safety Initiative Award.
- Merit for Lifting Safety Management System.

Our curtain wall division, Entasis, was also identified as a Model Subcontractor, while a further four frontline colleagues were recognised for their safety performance.

**BIM and DfMA form the cornerstone of our award-winning improvements to environmental and safety performance on our project sites. By optimising their use, everyone benefits, from our workers and clients through to the communities we operate in.**



## Innovation management

We became one of the first four organisations globally, and the only one outside the United Kingdom, to achieve a BSI Kitemark™ for innovation management based on ISO56002. The Kitemark™ validates that we have determined our vision, strategy, policy, objectives and establishment of the support processes needed to achieve the intended innovation outcomes. Organisations also need to demonstrate improvement through quantitative measurement against their own strategic intent.



## Sustainability best practice

Two Gammon projects received recognition at the biennial CIC Sustainable Construction Award presentation ceremony in November. Our Sai Sha Road Widening Project picked up the Contractor Gold Award in the New Works category, while Senior Construction Manager Michael Wong (left, above) was presented with an Excellent Award for Construction Manager.

Our HKU Medical Complex Extension project was also presented with the top award of Silver in the Repairs, Maintenance, Alterations and Additions category, with Construction Supervisor Wong Chun Kit collecting an Outstanding Award for Young Practitioner.



## Renewable energy

The solar photovoltaic (PV) system installed on the roof of our Gammon Technology Park received the Grand Award in the category of Renewable Energy (Corporate/Government Bodies) at CLP's Smart Energy Award 2020. The accolade provides recognition of our credentials in building, installing and delivering high-quality solar PV systems that integrate reliable performance, safety and sophisticated technology. More than 400 entries were received for the 2020 event.

GRI 302-1



## Safety and health performance

Our Singapore division received Silver in the Workplace Safety and Health Performance Awards in November. The award recognises companies that have performed well in safety and health through the implementation of sound management systems. The Mayflower MRT station project was also awarded the Safety and Health Award Recognition for Projects, more commonly referred to as SHARP, at the same event which was run by the Workplace Safety and Health Council.

# Project Spotlight

## 2020 new projects and highlights

GRI 102-4

GRI 102-6

### Hong Kong

#### Ongoing / Completed Projects

- 1 The Advanced Manufacturing Centre - first site where all four cranes powered by Enertainers
- 2 HKU Medical Complex Extension won Gold in the Hong Kong Awards for Environmental Excellence
- 3 HK's first long-throw sprinkler system tested at M+
- 4 Thousands of sensors installed at our Tseung Kwan O data centre project
- 5 Third Runway System concrete batching plant completed and operational
- 6 Structural steel works ongoing at City University
- 7 Entasis completes curtain wall installation for residential project in Ho Man Tin

#### New Projects

- 8 700 quarantine units completed in 87 days at Penny's Bay Phase 2 quarantine facility
- 9 Automatic People Mover & Baggage Handling System Tunnel project
- 10 Largest solo contract to date - Terminal 2 Expansion Works
- 11 Intermodal Transfer Terminal - Bonded Bridge project award
- 12 New Central Kowloon Route project for Buildings, Electrical and Mechanical Work
- 13 Artist Square Bridge awarded to improve connectivity to West Kowloon Cultural District
- 14 More residential contracts adjacent to existing project at Kai Tak
- 15 Preparation works for new natural gas power generation at Black Point Power Station
- 16 Remote landslide detection system with in-house developed GEOMON installed
- 17 Foundations for public housing in Ma On Shan
- 18 Foundations for residential project at Kam Sheung Road Station



**Macau**

Completion of The Londoner hotel room and podium renovations

**Singapore**

Arkema Symphony Project first design & build package awarded

Term Contract Site Investigation works for Housing Development Board



Ongoing / Completed Projects



New Projects

GROUP TURNOVER

Hong Kong & Macau

**US\$2.5 BILLION**

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Singapore

**US\$48 MILLION**



We used horizontal and vertical modules extensively in the service gallery of the Tuen Mun-Chek Lap Kok Link Northern Connection Tunnel (photo by Gammon Senior Project Manager Lee Ho Hang)

### Leading by example

Tony Small (Director - Health & Safety, Sustainability, Systems and Audit) became vice chairman of the Hong Kong branch of the Institution of Occupational Health and Safety (IOHS). With more than 46,000 members globally, around 700 of which are in Hong Kong, IOHS is the world's largest professional health and safety body.



Tony Small at our Argyle Street project which he commended for its safety culture.

### Clearing the air

GRI 403-2

The control of dust, especially silica dust, which can cause serious health issues, was the focus of a special campaign during the year. An action plan was developed, with working groups producing guidance notes for seven high-risk activities. Special equipment with extraction and filtering devices was heavily promoted for situations when dust-free work cannot be achieved.

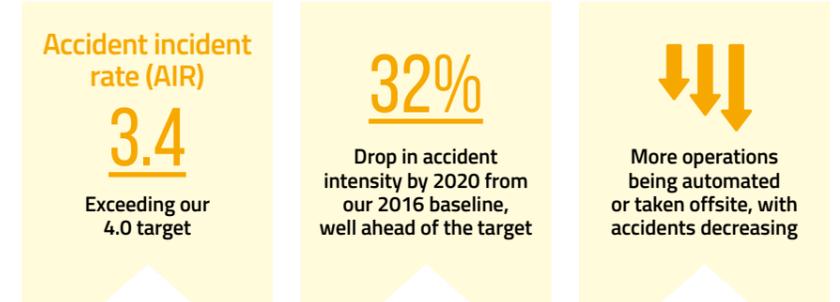


Dust control was the focus of a special campaign.

### Climate change is risky business

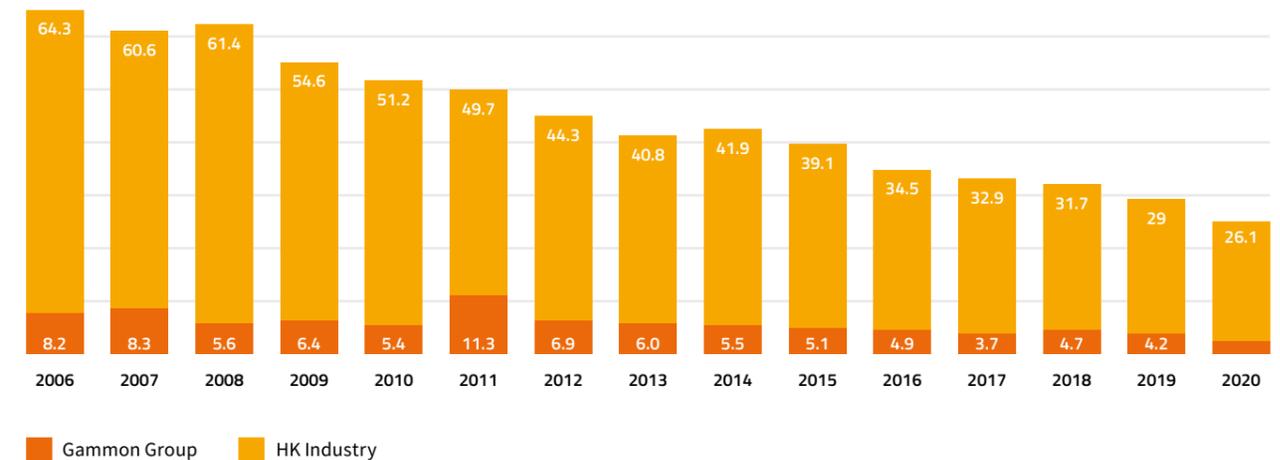
We held our first climate change risk assessment workshop which was attended by various internal divisions. Assessing ourselves against the projected climate in 2050, we developed a risk register and corresponding mitigation measures aiming to ensure the resilience and safe operation of our business, as well as facilitate future obligations of reporting climate-related financial disclosures. The register will be updated periodically.

### Progress on our Responsible Growth - 25 by 25 strategy



### Accident and incident rate graph compared with industry

GRI 403-2



Gammon's strategy of increasing DfMA and MiC, as well as digitalisation for planning, is the best approach to achieving our Zero Harm aspiration.

Tony Small  
Director

# Safety

## Our goal is always Zero Harm

Keeping our staff and workers protected from COVID-19 was one of the overriding safety concerns of 2020. Some of the actions we took included implementing a Team A and Team B workplace separation strategy, with working from home encouraged wherever possible, facilitated by our adoption of Office 365 and Teams roll out in late 2019. Strict social distancing rules were introduced such as restrictions on numbers attending meetings and riding in lifts, and temperature checks were taken at all site and office entrances.

COVID updates for Singapore and Hong Kong were provided during our weekly online safety core briefs, enabling us to keep site and head office personnel up to date with the latest government regulations and our own procedures. While we did have positive cases on some project sites, the full cooperation of our company in abiding by our and the government's COVID measures meant largescale spread was successfully contained.

GRI 403-6

Despite decreasing our accident incident rate to 3.4 – exceeding our 4.0 target – we were deeply upset to have three fatalities on our sites. We subsequently introduced a number of measures including safety and quality KPIs for all project leaders, safety and engineering managers who are assessed on a monthly basis. These are already driving proactive actions on our 100-plus projects. We have also standardised the presentation of step-by-step practical method statements to brief our frontline workers and introduced further hold points that must be checked and approved before certain processes can proceed.

Other safety-related actions during 2020 are discussed in the main report.

GRI 403-2

# Environment

Working towards zero waste in energy, water and resources

Penny's Bay Quarantine Centre, delivered using volumetric MiC

78

68%

Reduction in waste intensity\*

38%

Less carbon intensity\*

\*For Phase 2 Penny's Bay compared with an average of 12 recently completed Gammon residential projects, normalized against construction floor area.

Our Penny's Bay Phase 2 MiC project achieved a 68% reduction in waste and 38% less carbon intensity on site when compared with traditional methods

We believe significant reduction in environmental impacts during construction is most likely to be achieved through standardisation, repetition and offsite construction based on BIM and integrated digital project delivery.

In 2020, we got the chance to test this out with the construction of Phase 2 of the Penny's Bay Quarantine Centre, our third volumetric MiC project, on which we realised a 68% reduction in waste to landfill, 38% less carbon intensity and 76% reduction in water intensity on site when compared with residential projects built with traditional in-situ methods. Further information on this project and other waste reduction achievements can be found in the main report.

Our biennial Sustainability Conference took place online for the first time, to accommodate the need to remain socially distanced. A series of webinars were held for staff and external stakeholders covering the broad subjects of environmental solutions to site challenges, inclusion and wellbeing, responding to COVID-19, and becoming the smart and digital contractor of choice. External guest speakers included those from CLP, Arup and our partners in the development of the Enertainer battery storage device, Ampd Energy.

GRI 305-4    GRI 306-2

Our Concrete Technology Department achieved its 300th certificate for ready-mixed concrete products under the CIC's Green Product Certification - Carbon Labelling Scheme. Of the 300 products, 259 have the highest carbon rating of Platinum and 33 have the second highest rating of Gold. The licences cover a variety of concretes produced at three batching plants. Use of our CIC-certified products help earn extra credits in the BEAM Plus New Building Certification Scheme.



Showcasing green and sustainable features at a global conference.

We were invited by CIC and the Hong Kong Green Building Council to present at the World Sustainable Built Environment Online Conference 2020. Senior Environmental Manager Eddie Tse, pictured far right, presented our Sai Sha Road Widening project's green and sustainable features in the Hong Kong session held on day one of the conference. We also showcased the project through a display panel in the CIC booth at the China Housing Expo held in Beijing in November.



Three of our sites took part in a recycling trial.

Three of our Tseung Kwan O-based project sites took part in a plastic recycling trial during the year. Free pick-up of PET and HDPE bottles was provided by New Life Plastics and taken to EcoPark, Hong Kong's first recycling business centre. This was in readiness for the operation of a new recycling plant being developed by the local joint venture. The bottles will be processed into higher value food grade recycled PET and HDPE products. The trial gave us and New Life Plastics valuable experience in establishing collection and logistics so we can more easily engage further projects in the future.

GRI 306-2

## Progress on our Responsible Growth - 25 by 25 strategy

Our strategy has targets for reductions in carbon, waste to landfill, water and energy intensities.



Achieved all the annual targets on our trajectory towards our 25% reduction by 2025



We also had reductions in the absolute values of all these metrics



On our Advanced Manufacturing Centre project, maximised adoption of DfMA combined with the latest digital technology resulted in reduced construction duration, cost and waste, as well as a safer work environment.

# Value Chain

## We collaborate up and down our value chain

We made great progress on our integrated digital project delivery journey, with a marked increase in DfMA, MiC, factory-based construction and the use of BIM for planning and collaboration. Highlights include our Advanced Manufacturing Centre (AMC) project, which is built using many DfMA approaches, including the modularisation of 75% of MEP services, as well as precasting structural elements.

At Global Switch, we handed over Buildings 3, 4 and 5 of the works with a 7D BIM model that will allow facilities management to better manage and maintain the building, while on our Lyric Theatre project, we established a common data environment that manages data sources from multiple

stakeholders to provide a single source of truth. On Phase 2 of the Penny's Bay Quarantine Centre, we completed more than 95% of the works using MiC, resulting in the design, fabrication, and installation of 700 units in only 87 days. These projects, and others, are discussed in more detail in the main report.

We also gained our first regulatory approval, from Buildings Department, for the use of concrete strength maturity sensors, a technology we have been actively promoting since 2018. We put considerable effort into influencing the industry to take up this technology, carrying out trials in over 20 projects to prove its benefits which include the ability to strike formwork early for productivity enhancements.

The work of promoting concrete sensor technology was driven by our subsidiary Digital G which brings both our own in-house innovations to the market, as well as representing those of start-ups, specialist groups and universities. Digital G expanded during the year, taking on more resources to meet the demand from a range of clients and contractors and to supply products such as ground movement sensors and hybrid reality solutions.

The team continued to explore other products and companies, working on exclusive distribution arrangements for a number of new technologies we believe will deliver tangible value to both the construction industry and society.

See the main report for further information.

## Nurturing green finance

With the support of Credit Agricole CIB and long-standing client Wheelock Properties, we implemented one of the first green guarantees in Asia Pacific - a HK\$170 million performance bond associated with a residential project we are delivering for Wheelock.

To satisfy the requirements of the green guarantee, the development must achieve a BEAM Plus Gold rating and we also adopted other green initiatives.

We believe green finance will help accelerate greener performance and lower carbon emissions in the Hong Kong construction industry and we will be looking for further similar opportunities.



Building with green credentials.

## International BIM recognition

In July, we became one of the few companies in Hong Kong and Asia to be accredited to the international BIM standard ISO 19650. The certification applies for both our Hong Kong and Shenzhen offices and covers the concepts and principles for management of information across the asset lifecycle and during the delivery phase of assets.



Executive Director CC Hau (left) collects our ISO 19650 certification.



We were recognised three times at the Celebration of BIM Achievement 2020 event.

## BIM recognition

Gammon was recognised as a leading BIM Organisation at the CIC's Celebration of BIM Achievement 2020 event. Two of our projects – AMC and Global Switch Data Centre – also received recognition as BIM Projects. The aim of the BIM Achievement celebration is to recognise outstanding projects, organisations and individuals for their contributions in adopting and promoting BIM in the construction industry.

## Progress on our Responsible Growth - 25 by 25 strategy



We believe green finance will help accelerate greener performance and lower carbon emissions in the Hong Kong construction industry. We will be actively looking for further opportunities in green finance.

Emma Harvey | Group Sustainability Manager

# People

Caring for our employees and community during a challenging year



The HR teams responded very quickly, rapidly innovating and adopting new technology to continue their essential services during an entirely new set of circumstances. I'm very proud of what they achieved.

Jenny Pong | Director

Keeping our people connected and informed during the pandemic was very important to give peace of mind to both our employees and those who work on our sites.

We accelerated our adoption of digital learning during the year to accommodate the need for social distancing. This included transferring some of our existing courses into e-learning modules and carrying out many virtual training sessions via Teams. Our orientation programme also became virtual including a new SharePoint site that guides new joiners through the onboarding process and provides company information, access to Gammon communities and e-learning opportunities. In addition, we launched a Beyond Wellness SharePoint site and Teams channel that shares information on issues such as health and wellbeing of both body and mind and provides staff with the ability to register for events including exercise classes and health talks, as well as purchase face masks or gain general COVID-19 tips.

GRI 403-6



Health and wellbeing is promoted through our Beyond Wellness SharePoint site and Teams channel.

Our desire to provide a diverse and inclusive workplace where everybody has the opportunity to thrive gained momentum with the launch of our Diversity and Inclusion (D&I) Council. The Council will provide visible leadership to encourage greater diversity and create an inclusive culture across the company, with members consisting of representatives from senior management, operations, Young Professionals Group (YPG) and D&I Champions. One of their first orders of business was to set a 'Building Belonging' statement of intent including a range of targets for 2025.

We also created an employee community called Women in Gammon and allies Network (WinG) for those interested in gender equality and women's development within the company and wider construction industry. Further information can be found in the main report.



Head of Learning and Wellness Carmen Chan and Wellness Leader Jo Ling collect our Gold awards at the Best HR Awards 2020 ceremony.

## Training and development

For the third year running, we received four awards from the CIC for our efforts in training workers and nurturing young practitioners.

- **Gold** – Contractor hiring the most trades in 2019
- **Gold** – Employer offering outstanding apprenticeship training in 2019
- **Silver** – Contractor hiring the most graduates in 2019
- **Commended** – As a good employer offering semi-skilled worker training.



## Progress on our Responsible Growth - 25 by 25 strategy



We made good progress on diversity and inclusion and achieved our 2020 target. The COVID-19 pandemic had a negative impact on some of our targets so renewed efforts will be required once disruption is reduced.

## INWED

We organised an International Women in Engineering Day (INWED) webinar in collaboration with lawyers Pinsent Masons.

During the event, five panelists from the legal, construction and engineering professions shared their thoughts and experiences in relation to INWED's 2020 theme Shape the World.

Hosting networks and opportunities for women to collaborate was one of the recommendations to come out of the event, which our new WinG community will be providing.



A happy memory from pre-COVID days – colleagues pose for a picture before the start of the Gammon-sponsored China Coast Marathon and Half Marathon, held in January.

Contributions from the company, our staff and partners amounted to nearly HK\$2 million.

## Community

The typically strong participation of Gammon employees in community activities was curtailed during 2020 due to restrictions caused by the pandemic. Throughout the year, we were only able to participate in or organise about 30 civic-minded events, a considerable drop from the 80 in 2019. Contributions from the company, our staff and partners remained strong, however, amounting to nearly HK\$2 million.

One recurring volunteering activity during the early stages of the pandemic was the distribution of masks and coronavirus caring packs. Other endeavors included giving blood, visits to the elderly, food and warm clothing distribution and countryside clean-ups, as well as the sponsorship of runs, walkathons and other events.

We share some of the highlights of our community work during the year.

For the fifth consecutive year, a team of Gammon runners completed laps of a 400m track in The Lighthouse Club's Lap Dog Challenge, a charity fundraiser event. Our five runners completed 439 laps (175km) to raise more than HK\$90,000, with Christy Leung's 94 laps (37km) also making her the champion in the women's category.



Members of Gammon's YPG delivered masks to low-income families and the elderly on a number of occasions during the year. In total, more than 70,000 face masks and 1,500 bottles of sanitiser were distributed by the YPG, other Gammon staff and their children, and various NGOs. Individual project sites also held similar events, donating the same protective products to workers.

Epitomising the Gammon caring spirit are Au Kam Chuen and Ng Yuen Wah who were awarded Excellence in Construction Industry Volunteering Gold and Bronze Awards respectively in the Construction Industry Volunteer Award Scheme 2020. Yuen Wah also picked up the Outstanding Award for Volunteering Excellence and Activeness at Construction Safety Week.

Staff and subcontractors from our Lohas Park Phase 9, No 1 Plantation Road and Kai Tak 6564 and 6563 projects raised more than HK\$280,000 to support the We Share, We Can programme. The initiative helps students and families facing hardship and financial difficulties during the COVID-19 pandemic.



Our Central Kowloon Route - Kai Tak West project supported an inter-primary maths competition organised by ELCHK Hung Hom Lutheran Primary School. Some of the test questions featured elements of the tunnel project. The team also hosted a booth at the event to promote construction and engineering as a career choice to the younger generations.

# Innovation

Innovative solutions form the cornerstone of achieving both the targets of our Responsible Growth - 25 by 25 sustainability strategy and modernising our industry. During 2020, much of our focus was on standardising and enhancing existing in-house developed tools, common data environments and software so that all new projects could be set up to a common standard. We also held an in-house Innovation Forum in December, where 200 staff discussed the development and application of innovative digital solutions that will improve efficiency, safety and quality on our projects and position ourselves as the Smart and Digital Contractor of Choice. A three-year Digital Innovation Roadmap was announced that defines our strategic goals and themes.



## Data-driven construction

To meet the fast-track programme of our Penny's Bay Phase 2 quarantine facilities project, we established the Hong Kong construction industry's first on-site 5G-enabled Smart Control Centre. Inside the centre, engineers tracked and interpreted a pool of real-time data from a variety of sources including our own digital monitoring solutions for off-site construction (STAMP) and quality control (Inspecto) of the 700 quarantine units, 95% of which were completed using MiC. Further data came from 5G AI cameras that inspected the site area and generated safety alerts via a PA system. Despite the high-level analysis taking place in the centre, the data was presented in an easy-to-read format for the benefit of the entire team, in particular frontline supervisors who could make use of the information to improve communication and enhance understanding.



Gammon engineers interpret data in the Smart Control Centre.

## Digital ESSW

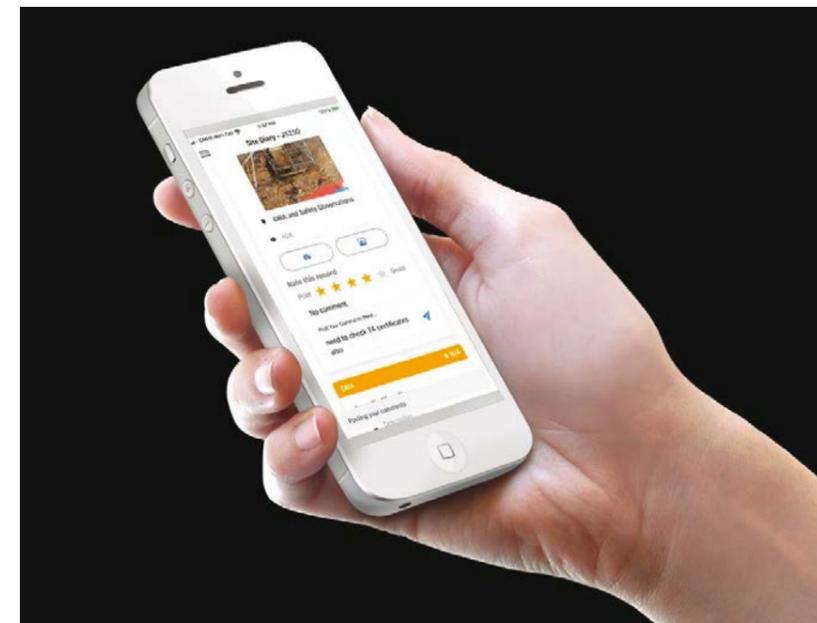


Deputy Project M&E Manager Ryan Fung with his G-Lock innovation.

One of our talented engineers developed an electronic padlock system to replace the traditional paper and key-based electrical safe systems of work (ESSW) procedures on site. Called G-Lock, the invention combines a Bluetooth-enabled padlock and a mobile app through which the authorisation and issuance of permits and access to electrical rooms is controlled.

As well as resolving the potential issue of lost keys and unauthorised access, G-Lock reduces the time involved in applying for and closing permits by an estimated 90%. It is also paperless - taking a project with 250 secured-access rooms as an example, that would translate to a potential saving of over 200kg of CO<sub>2</sub> emissions.

GRI 305-3      GRI 306-2



Our Gambot app lets users report safety-related issues and review records without a network connection.

## New and improved

Launched in 2017, Gambot™ is our first AI robot. Operating as a virtual assistant through an instant messaging platform, it supports frontline staff in capturing site activities and automating routine processes, in particular those related to safety. During 2020, the Gambot App was launched which enables users to report safety issues and review records without a network connection. Also new is an AI forecasting function that reviews historical data on our Concrete Management System to determine more accurate concrete requirements. The target is to save an average of one mixer truck of concrete per workday. Further updates include the ability to issue stop work orders and review and rate dynamic risk assessments.



## Stimulating creativity

Innovative ideas from staff and subcontractors are encouraged and supported, with our innovation competition being one of the main outlets. In 2020, we received 53 entries which will be evaluated by judges from within Gammon and external industry experts. The final results will not be released until 2021 so make sure to read our Sustainability Report next year to find out more about the winning ideas.

## Promoting change

We spoke at a number of external events and sat on various panels during the year, showcasing our achievements in digitisation and innovation. This included an innovation exchange forum at PolyU's Faculty of Construction and Environment where we spoke on digitally connected construction, sensors, and our in-house developed integrated digital project delivery (IDPD) wheel, a user interface that centralises our digital tools and platforms. The event also provided an opportunity to promote construction as a viable career choice to upcoming graduates.



Gammon Head of Digital, James Thompson, speaks at Microsoft's Culture of Innovation event.

# Performance at a Glance

## Environmental Performance

(Baseline year is 2016)

Scope 1 and 2 carbon emissions



Decrease (2016-20)

Waste to landfill only\*



Decrease (2016-20)

Waste to landfill + 50% waste to sorting facilities\*



Potable water consumption



Decrease (2016-2020)



24%

Decrease in energy consumption from 2016 to 2020



4,297 KWH

(Excluding FIT) renewable energy generated 2016 to 2020



100%

Certified sustainable timber formwork, door and paper purchases



B5

Used in 100% of Gammon's plant and equipment

Group turnover by region (US\$ millions)



## Employee numbers and gender

Total employees by region

6,829



5,627 1,202  
82.4% 17.6%

Hong Kong & Macau SAR

6,047



5,050 997  
83.5% 16.5%

Mainland China

414



256 158  
61.8% 38.2%

Singapore

368



321 47  
87.2% 12.8%

## Development, wellbeing and community engagement



Total training hours



Training hours per person



New graduates recruited  
55% increase from 2019



HK head office WELL Building Standard Precertified Gold



HK\$1,988,000

Total Gammon Charity donations and sponsorships



HK\$ 223,580

Cash donations by Gammon employees

## Safety highlights



Group Accident Incident Rate (Target of 4.0)



Decrease in Lost Time Injury Rate from 0.74 in 2019 to 0.70 2020



Drop in the number of accidents compared to 2019



Reduction in the number of reportable accidents\* on site



Donations of hand sanitizer



Donations of masks

## Value chain highlights



Projects being delivered with collaborative common data environment systems



Spend on more sustainable materials and products



Concrete mixes with CIC Green Product Certifications

\* Reportable accidents are defined as injuries resulting in more than 3 days leave

# Main Report

Progress, case studies,  
innovations and  
management approaches

Development of the new  
Water World at Ocean Park.



# Who we are

## Organisation and report coverage

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 2020 calendar year. The previous report for 2019 was issued in the third quarter of 2020.

GRI 102-1   GRI 102-2   GRI 102-4   GRI 102-45   GRI 102-6   GRI 102-50   GRI 102-51   GRI 102-52

### Organisational profile

The principle 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:

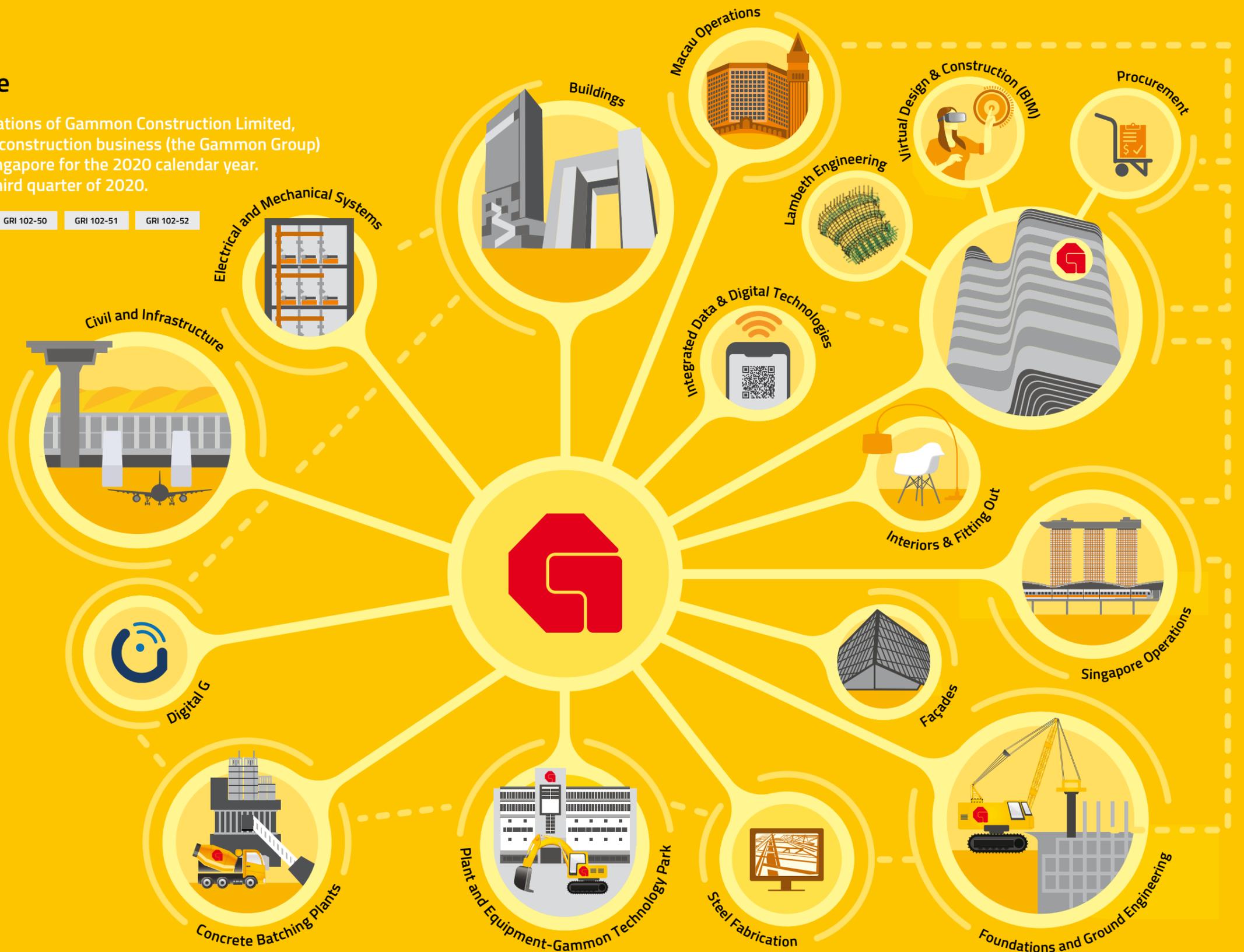
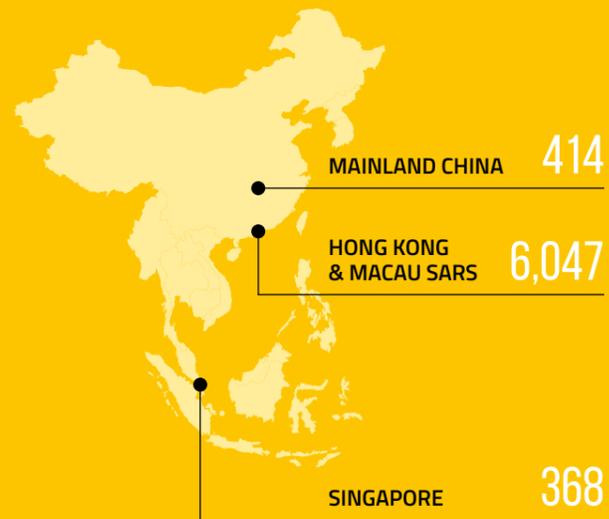
- Government works departments and other government authorities
- Commercial, residential and industrial property developers
- Other contractors
- Transport and utilities providers
- Property and other built asset owners

### Scale of the organisation

GRI 102-7

Total employees by region (as at end December 2020)

**TOTAL EMPLOYEES BY REGION** 6,829





Terminal 2 Expansion Works – our largest solo contract to date at HK\$12.88 billion

# Scale of the business

In 2020, we had around 120 active projects across the business. The group turnover and workforce data broken down by region is presented on pages 22 to 23.

We describe major project completions and new projects during 2020 on the next page. Further details of our operations, company information and performance can be found in the key performance indicators (KPI) table (Appendix A).

Our current project listing of all ongoing projects can be found in our magazine, The Record, which is published every year and can be found on our website at: [www.gammonconstruction.com/en/publications.php](http://www.gammonconstruction.com/en/publications.php). Quantifying our products or services is highly complicated due to the varied and integrated nature of our business. We are not able to disclose details of our capitalisation, as this information is commercially sensitive. Ownership of the business is 50% Jardines and 50% Balfour Beatty.

## Market position and project awards

Our performance in 2020 was remarkably good, given the challenges brought by the COVID-19 pandemic. Highlights include securing a number of major infrastructure projects, in particular two at the airport – Terminal 2 expansion works, and tunnels and associated buildings for the automated people mover and baggage handling system – and a further contract for the Central Kowloon Route. A complete list of new projects is provided below, while highlights of the year's success can be seen on pages 8 to 9.

Division	Job name	
Civil	<ul style="list-style-type: none"> <li>Artist Square Bridge</li> </ul>	<ul style="list-style-type: none"> <li>Early civil works for Black Point Power Station, Unit D2</li> </ul>
Civil E&M	<ul style="list-style-type: none"> <li>APM &amp; BHS Tunnels and Related Works</li> <li>Central Kowloon Route - Buildings, Electrical and Mechanical Works</li> </ul>	<ul style="list-style-type: none"> <li>Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road</li> <li>Terminal 2 Expansion Works</li> </ul>
Building	<ul style="list-style-type: none"> <li>Subway Extension - Preconstruction Advisory</li> <li>Penny's Bay Quarantine Facilities Phase II</li> </ul>	<ul style="list-style-type: none"> <li>Kai Tak 6563 Residential Development</li> <li>Alteration and addition work at Gloucester Tower</li> </ul>
Façade (Entasis)	<ul style="list-style-type: none"> <li>Tower Façade Installation for Commercial Development at 98 How Ming Street, Kwun Tong</li> </ul>	<ul style="list-style-type: none"> <li>Glass replacement works at Hang Seng Headquarters</li> <li>Replacement of cladding at Hang Seng Headquarters footbridge</li> </ul>
Foundations	<ul style="list-style-type: none"> <li>Ground Investigation Works for Proposed Subsidised Sale Flats Development at Anderson Road Quarry Site R2-2</li> <li>Foundation, ELS, Pile Cap &amp; Basement Slab Works for West Rail Kam Sheung Road Station Package 1 Property Development</li> <li>Ground Investigation Works for New Academic Building in Tai Po Campus</li> <li>Ground Investigation Works for Proposed Redevelopment at House No 9, Shek O Residence</li> <li>Ground Investigation Works for Proposed Redevelopment at Tuen Mun Lot No 518</li> <li>Ground Investigation Works for Construction and Rehabilitation of Trunk Sewage Rising Mains in Cheung Sha Wan - Investigation, Design and construction</li> <li>Design and Construction of Piling Works for Proposed Residential and Recreational Development at TPTL No.157, Sai Sha (Site B), Shap Sze Heung</li> </ul>	<ul style="list-style-type: none"> <li>Foundation, Excavation &amp; 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</li> <li>Foundation Works for AIA Urban Campus Redevelopment</li> <li>Piezocene Penetration Test Service for the Hong Kong Offshore LNG Terminal Project Survey Work</li> <li>Site Investigation Works for Existing/Prospective Sites of CLP Powers' Premises</li> <li>ELS Works for Project Blue - Proposed Development at 281 Gloucester Road, Causeway Bay</li> <li>Tunnel Monitoring Works for Housing Development at Kai Tak</li> <li>Foundations for Public Housing Development at Hang Tai Road, Ma On Shan Area 86B Phase 2</li> <li>Ground Investigation Works for Inbound Carparks at Hong Kong Border Crossing Facilities and Airport City Link</li> </ul>
E&M	<ul style="list-style-type: none"> <li>Hong Kong Jockey Club Clubhouse Extension - Initial Works</li> </ul>	<ul style="list-style-type: none"> <li>Negative-Pressure Isolation Room</li> </ul>
Interiors (IntoG)	<ul style="list-style-type: none"> <li>Office Fitting Out Work in Airport Freight Forwarding Centre</li> </ul>	<ul style="list-style-type: none"> <li>Proposed A&amp;A works For Shoppers' Care Centre at Harbour City</li> </ul>
Steel Fabrication (Pristine)	<ul style="list-style-type: none"> <li>Shatin Sewage Works - Noise Barriers</li> <li>Hong Kong Aero Engine Services Limited - Solar Panels</li> <li>Shiu Wing Steel - Solar Panels</li> </ul>	<ul style="list-style-type: none"> <li>Structural Steelwork Package for Main Contract for Jockey Club One Health Tower for City University of Hong Kong</li> </ul>
Singapore	<ul style="list-style-type: none"> <li>Arkema Symphony Project</li> </ul>	<ul style="list-style-type: none"> <li>Term Contract Site Investigation Works For Housing &amp; Development Board</li> </ul>

## Report content

This report has been prepared in accordance with the GRI Standards: Core Option and has been verified against the GRI Standards and in accordance with AA1000AS (2018) Accountability Principles by an independent third party, as shown in Appendix B. The Director for Health & Safety, Sustainability, Systems & Audit is responsible for commissioning the professional external body to undertake the assurance. Governance information and management approaches for the operation of the business remain unchanged since 2018 and are presented in the How we Manage section. The GRI Content Index (Appendix C) references the required general and material topic disclosures and locations where they can be found in the report.

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. 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)

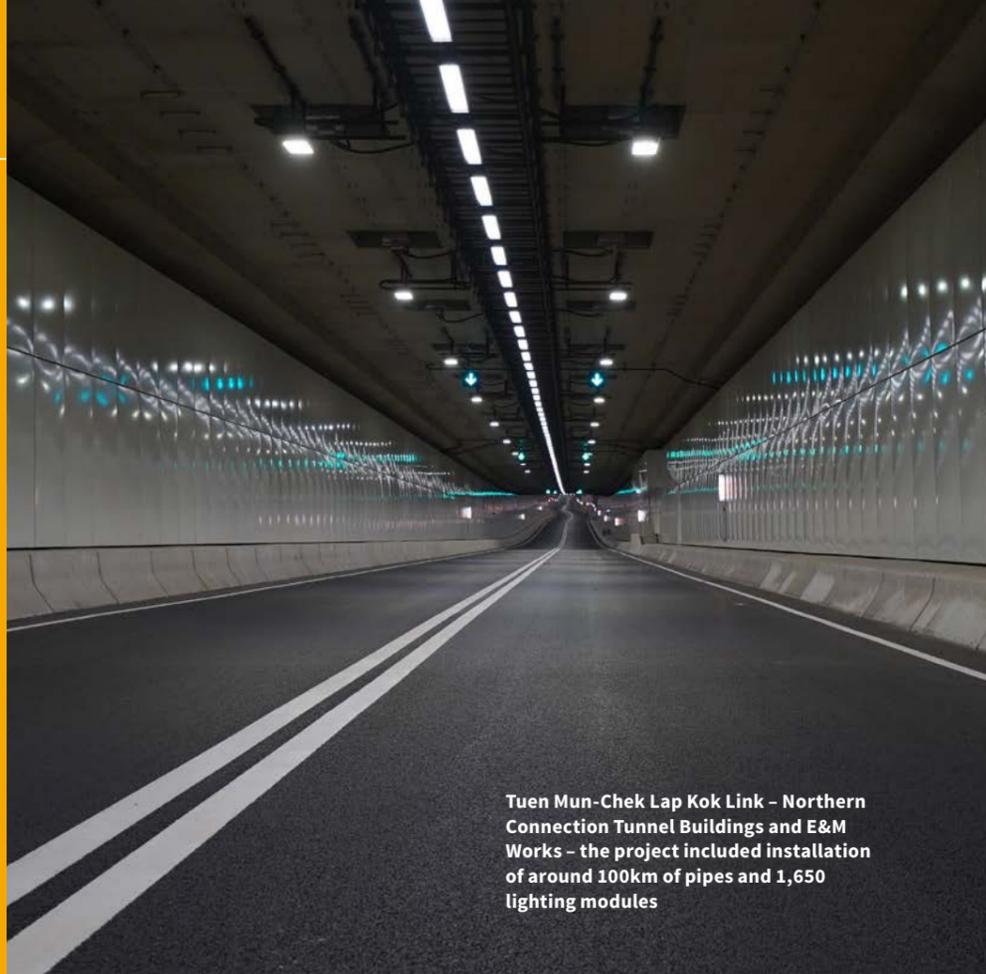
### PRC

- 金门建筑信息顾问(深圳)有限公司 (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 name of the company.*

### Singapore

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



Tuen Mun-Chek Lap Kok Link – Northern Connection Tunnel Buildings and E&M Works – the project included installation of around 100km of pipes and 1,650 lighting modules



All DfMA units and prefabricated products for Global Switch were manufactured in our factory in mainland China

Significant projects completed during the period include the Tuen Mun-Chek Lap Kok Link - Northern Connection Tunnel Buildings, Electrical and Mechanical Works. At 5km long, it is the first tunnel in Hong Kong to include a service gallery beneath the carriageway.

Buildings 3, 4 and 5 of our Global Switch data centre project were also handed over to the client. About 70% of the first-fix electrical and mechanical works were manufactured in a factory environment and plant rooms were assembled with zero hot work. We also delivered Phase II of the Penny's Bay temporary quarantine facilities, installing 700 modular habitable units in only 87 days. More than 95% of the works were completed using an MiC approach, including pre-installed MEP.

Looking ahead, significant investments in transportation and social infrastructure are planned in Hong Kong which is expected to drive growth in the construction sector.

Over HK\$500bn is also earmarked to expand, redevelop and construct new hospitals in the territory.

The government has also identified land for new homes and railway developments, as it aims to meet its target of building 430,000 units by 2029. Over HK\$500bn is also earmarked to expand, redevelop and construct new hospitals in the territory. This increase in public spend is expected to offset a slowdown in the commercial construction sector.

In Singapore, the market is anticipated to make a quick recovery from the project delays of 2020, as public spend commences on infrastructure projects.

## Stakeholder engagement and material issues

- 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 2020 report as the material issues change very little from year to year given the stability of the business. The previous assessment is presented in the Sustainability Report 2019, Appendix D. At that time our stakeholders identified 13 material issues presented below against the Responsible Growth – 25 by 25<sup>1</sup> sustainability strategy focus areas:

Responsible Growth Focus Area	Topics
Governance	<ul style="list-style-type: none"> <li>• Anti-corruption</li> <li>• Innovation</li> </ul>
Safety – Zero Harm	<ul style="list-style-type: none"> <li>• Safety management</li> <li>• Working environments</li> <li>• Customer health and safety</li> </ul>
Value Chain – Co-creation	<ul style="list-style-type: none"> <li>• Compliance/quality of products and services</li> <li>• Improving client satisfaction</li> <li>• Influencing industry</li> </ul>
People – Caring	<ul style="list-style-type: none"> <li>• Staff retention, employment and development of our people</li> <li>• Labour shortage</li> </ul>
Environment – Zero Waste	<ul style="list-style-type: none"> <li>• Construction materials</li> <li>• Waste</li> <li>• Energy</li> </ul>

<sup>1</sup> [https://www.gammonconstruction.com/uploaded\\_files/files/en/Sustainability\\_Strategy.pdf](https://www.gammonconstruction.com/uploaded_files/files/en/Sustainability_Strategy.pdf)

## In the pursuit of excellence

GRI 102-13

Influencing the industry was identified as one of our material issues 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 our business operations. We also advocate for change through speaking engagements and inspire our teams, our subcontractors and suppliers through participation in reputable award schemes to continue to raise the bar (see Appendix D) 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 E for an updated list). Appendix F 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.



# Green and Caring

GRI 403-2   GRI 403-3   GRI 403-6



Now in its tenth 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
- Innovation for better performance

In 2020, 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 summary below of project initiatives that led to the award of Green Flags in 2020.



### Digital approaches

Digital technology has been fully utilised by our foundations team at the AIA Urban Campus Project, where new piles are installed within an existing multi-level basement. Drone surveys, photogrammetry and laser scanning were used to produce a 3D as-built model and integrate it with the structural works for planning, sequencing, method statements and worker briefings. Welfare provisions, housekeeping and access provision were also considered excellent.



### Positive engagement

A large number of caring and green initiatives have been established on the challenging and constrained HKU Medical Complex project site. These include smart lighting controls in offices, dimmable hoarding lighting triggered by motion sensors, good facilities for subcontractors, proactive noise monitoring, air quality sensors and use of BIM and DfMA. Our examiners also commented on the effort the team put into creating a good working relationship with HKU.



### Innovative thinking

Our Green Flag examiners were particularly impressed by the level of innovative thinking on our Yuen Long Bridges project.

Ideas included different foundations methods such as the 'bushion' which reduces vibration to underground utilities, a portable water treatment system, and salvaging of damaged traffic lights to convert to solar phone chargers.



### Setting high standards

Excellent greening and welfare facilities and a proactive approach to enhancing the safety culture of subcontractors were just a few of the reasons our Argyle Street project was awarded a Green Flag. They also impressed with innovations such as extendable edge protection and water-filled foldable safety barriers, and their proactive engagement with nearby residents. Our examiners also felt there was a strong team spirit and commitment to setting high standards.

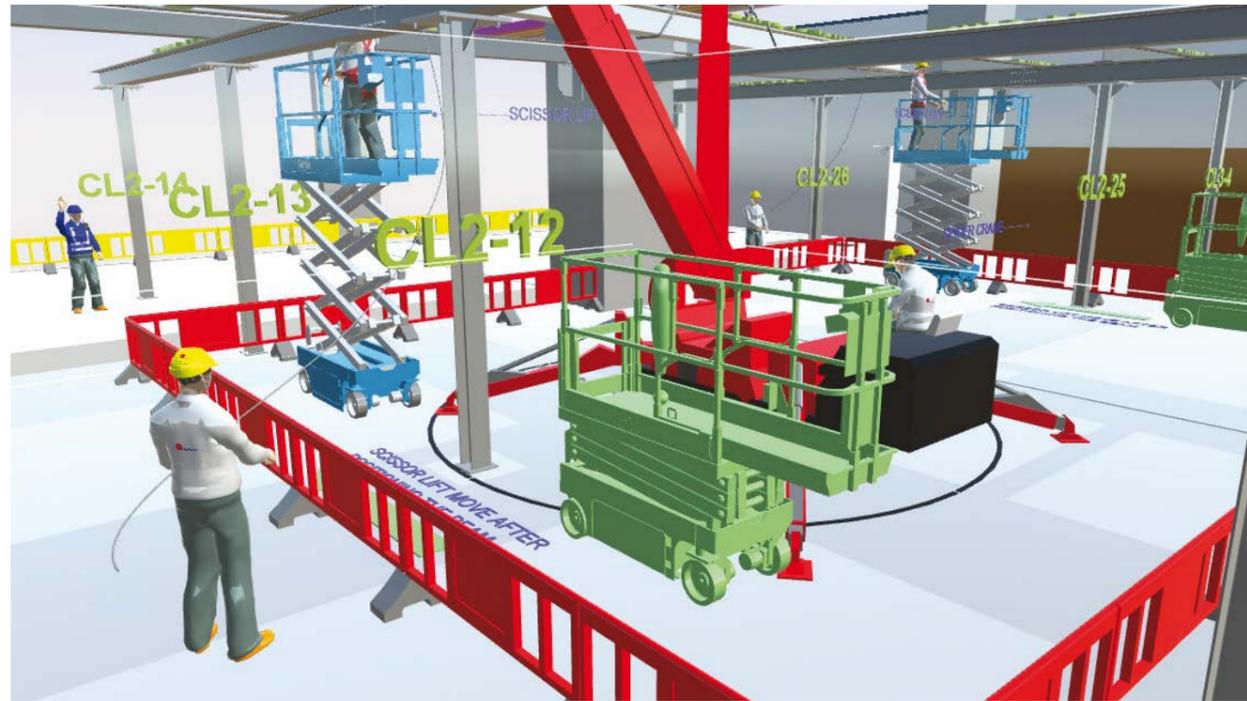


### Clean and well organised

The large and challenging site at our Lohas Park 9 high-rise project was considered clean and well organised, with good-quality subcontractor facilities and plenty of rest areas. The implementation of DfMA approaches such as pipe duct cladding will reduce welding, on-site work and waste, while a strong safety culture has been achieved through engagement with subcontractor employers.

# Safety - Zero Harm

## 2020 activities and case studies



Cloud-based coordination platform 3D Repo was used on AMC to identify and address potential risk.

### Getting more from 4D GRI 403-2

On our Advanced Manufacturing Centre (AMC) project the site team have not only embraced 4D BIM, they've taken a collaborative approach to expanding use of the digital models for improved safety.

"A weakness with 4D is that a video or PowerPoint deck is produced and shared, but then there's no further engagement," explains Paul Evans, Executive Director – E&M & Chief Technology Officer at Gammon. "On the AMC project, the team improved sequencing through 4D, then used the model to continue engagement and carry out collaborative, in-depth safety reviews."

With training from 4D modelling specialists, the E&M team built a detailed virtual construction sequence of the basement plant chiller room, where a significant amount of heavy steel was to be installed. This 4D model was then used for safety reviews on repetitive tasks with input from the entire project team. Unlike conventional BIM deliverables, what made this different

was it included temporary items such as plant and operatives, so everyone could better understand construction at specific points in time.

Using cloud-based coordination platform 3D Repo, the E&M team then reviewed the 4D model and tagged risks and assigned responsibility. The 4D model was then updated and further reviews were performed until the team were confident in delivery before construction started.

"The process allowed the team to identify risks and discuss them as a group," says Paul. "In fact, it opened a great debate with more than 100 questions asked in a one-hour workshop. Most importantly, issues were identified that were difficult to pick up in a 2D environment, like the location of workers outside the fatal zone."

"Questions even went beyond safety and the team started exploring quality issues and practicalities such as whether certain

plant had been procured, how it would be delivered, or where it would be stored. These queries would have come up later, but by identifying them earlier it saved time and potential complications further down the line."

After such successful implementation on AMC, this approach to safety will be rolled out on other Gammon projects.



### A different outlook GRI 403-2

At our Singapore office, we've been supported by funding from the Building and Construction Authority and installed a BIM cave, a projection-based virtual reality (VR) system that creates an immersive experience.

General Manager of Integrated Digital Delivery in Singapore, Michael O'Connell, explains how our projects and clients are benefitting from the technology.

"Normally when you look at the design of a 3D model on a monitor, it's a flat experience," he says. "We wanted to be able to look at things differently, which is what the BIM cave lets us do. It's very immersive, so you experience the site or building digitally from within the space, rather than looking at it from the outside."

"It's a powerful safety tool, because you get a much greater appreciation of the risks that might be involved in a particular area or element of works. It also facilitates collaboration and coordination. We can have people on site wearing VR headsets and those in headquarters in the cave and we're immersed in the model at the same time. For those based on site, you see their avatar in the room."

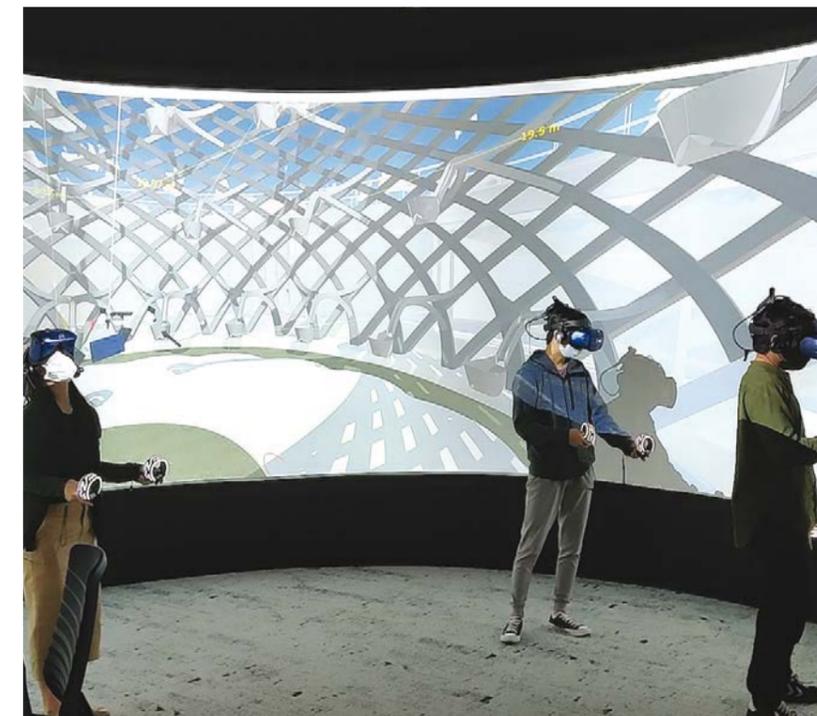
"We've been getting great use out of it. We're even showcasing it for tenders, by putting the model into the cave which we can then show in our submission."

**We wanted to be able to look at things differently, which is what the BIM cave lets us do.**

The Singapore office is also using the cave for virtual mock-ups, with the aim that it replaces physical ones entirely, with the added materials and waste avoidance benefits.

"We can bring the client in, put the VR headset on and then make changes," explains Michael. "For example, on our Sentosa project the design included two-tone colours on the huge steel vessel-like structures and we suggested the client use only one. They were worried about the look so we did a rendering that replicated the exact colour and projected that onto a 240-degree screen with three projectors, then let the client go into the model. After the BIM cave they agreed to a single colour. This saved us cost and labour in terms of doing the protection, as well as reduced activities on site and of course any time you do that, there's a safety benefit."

In Hong Kong, we enabled our BIM lab with VR capabilities and will be installing a separate BIM cave in 2021.



Our Singapore office's BIM cave is being used as a safety and collaboration tool and to replace physical mock-ups.

### Accelerating behavioural change GRI 403-2

Safety and quality KPIs were implemented mid-2020 in order to drive proactive actions by project leaders, as well as provide inspiration within the divisions. Director Stanley Chen explains the reasons for them and how they are driving change.

"We've asked project leaders to get more engaged with the workforce, in particular the frontline, and to check their method of work in a very detailed, step-by-step manner to improve safety and quality standards. The KPIs help govern this engagement, setting behaviours in a systematic way. They're a kind of accelerator of behavioural change."

"We have about 200 people – generally engineering, project, safety and area managers – carrying out a monthly self-assessment, marked against the established criteria and backed by evidence to prove they're following the correct behaviours. The director in charge together with the project leader then review them to ensure they're being assessed accordingly."

The scoring system that has been developed provides an indication of commitment and performance and is shared with our Executive Committee each month, with good performance highlighted and action taken when underperformance is noted. Each of our 100+ projects engage with the safety and quality KPI process, without exception.

"We're trying to put more power into the hands of the project leaders, and help them to drive cultural change," adds Stanley. "The improvement we've seen is encouraging."

**We've asked project leaders to get more engaged with the workforce, in particular the frontline, and to check their method of work in a very detailed, step-by-step manner to improve safety and quality standards.**

### Protecting our workers

GRI 403-6



One of the temporary on-site living quarters we established for our workers in Singapore.

When large numbers of COVID-19 cases began to appear in Singapore’s migrant worker dormitories, we acted quickly to set up three temporary living quarters (TLQs) at two of our construction sites. By converting entire floors to TLQs, we were able to take some of our workers out of the higher-risk commercial dormitories into spaces that allowed for greater social distancing.

This also meant numbers were reduced for those that remained at the paid commercial accommodation, in some rooms by almost 50%.

Director James Yuen from the Singapore division describes the set-up of the TLQs, which even caught the attention of government officials.

“We cleared out office areas at two of our construction sites and laid new vinyl, then brought in beds and cabinets and placed them about 2.5m apart. This spacing meant we couldn’t bring in too many beds, but we managed to move around a quarter of our direct employees out of the dormitories. We also provided them with masks and sanitiser, as well as cleaning equipment to keep the living areas hygienic, offered guidelines on other preventative measures, and HR staff checked on them daily.

“We had a lot of workers expressing their gratitude at the effort we took into looking after their health and welfare.”

“We even had a visit from the Land Transport Authority chief executive and other senior directors, who heard about our efforts and wanted to see first-hand what we had done.”

“Our approach also meant that when the commercial dormitories came under virtual lockdown when the circuit breaker was extended, we had a team of essential services workers who we could roster around the sites.”

**By converting entire floors to TLQs, we were able to take some of our workers out of the higher-risk commercial dormitories into spaces that allowed for greater social distancing.**

### Behind the masks

GRI 403-6

In the early days of the pandemic, queues for face masks were a common sight in Hong Kong. Initially, we were able to rely on shareholders’ group Mannings to provide stock which we then made available to staff and workers. In the middle of the year, we then worked with two of our PPE suppliers in China to set up production lines in their factories which provided us with our own dependable supply chain for masks.

Quality control was undertaken by our Shenzhen-based team who would visit the factories to ensure standards were being met. Throughout the year, we supplied masks to workers and subcontractors, along with sanitiser and protective clothing such as face shields.



Setting up our own production lines for face masks gave us a dependable supply for our staff and workers.

### The big picture

GRI 403-5

One of the safety measures implemented during 2020 was the mandating of more detailed, work-specific pictorial method statements which provide a lot more detail on steps and checks to brief key personnel and frontline workers.

The extract shown here is from our Arkema Symphony project in Singapore, providing a prime example of how images can enhance clarity of understanding, particularly for major work activities. Not only do they provide greater clarity regarding different works activities in relation to each other, they are also proving immensely helpful to improving comprehension and retention of works sequences. The images also provide a tool for greater engagement and discussion during pre-work briefings.

#### MAJOR SCOPE OF WORKS (INSTALLATION OF PRECAST ELEMENTS)

WBS 4.0 – COLUMN LIFTING TO INSTALLATION			
STEP	ACTIVITY	ILLUSTRATIONS	NOTE(S)
4.7	Fix temporary support props to ground  1. With Column still supported by crane, Riggers un-tie the temporary props on open 2. Props are drilled and fixed to base slab 3. Surveyor checks for final position / verticality and adjusts props accordingly		1. Ensure column is in correct orientation 2. Engineer to previously give clear directions as to which side corbels are to be facing
	Residual Risk	Until Column fully secured crane will take load Pinch points during erection of Temp Props	

We have mandated the use of step-by-step pictorial method statements.

### Progress on Responsible Growth - 25 by 25: Caring targets

	Objectives	Target by 2025	Status	Progress in 2020
1	Improve safety on our sites and our methods to reduce the number of accidents	25% reduction in the number of reportable accidents <sup>5</sup> on site / HK\$ billion of turnover	👍	There was a 13% drop in the number of reportable accidents in 2020, which is positive given the increase in total work undertaken <sup>1</sup> . Group AIR target of 4.0 was achieved.
2	Achieve zero fatalities	Zero	🔧	Tragically, however, there were still fatalities on sites in Hong Kong. And while serious injuries are sadly still occurring, there was a drop of 45%. We hope our safety KPIs, offsite construction and digital processes such as 3D Repo can help reduce these incidences.
3	Achieve zero permanently disabling injuries	Zero	🔧	
4	Achieve zero injuries to our workers	Zero	🔧	
5	Achieve zero injuries to the members of the public	Zero	🔧	

👍 On track to meet target    🔧 Further improvement needed

<sup>1</sup> Based on total revenue for 2020

# Environment - Zero Waste

## 2020 activities and case studies

### A vision for Zero Emission Construction Sites

We were very pleased to see the release of a Technical Circular (TC) in September on Timely Application of Temporary Electricity and Water Supply for Public Works Contracts and Wider Use of Electric Vehicles in Public Works Contracts. The TC requires an early application to be made for temporary power (up to around 400 Amps) and water supply as a pre-construction activity. This is applicable for public works contracts for projects tendered after February 2021. It also encourages the greater use of electric vehicles on Government contracts. This is a great step towards reducing the number of diesel generators on site and reducing the health impacts to staff, workers and neighbours.

Following the release of the TC, we developed a proposal for a collaborative partnership of similar counterparts and their value chains for private sector projects, called the Power Up Coalition. We approached the Business Environment Council with the idea to sponsor the implementation of this programme under their Low Carbon Charter and help the whole sector in Hong Kong transition away from the use of diesel generators and work towards zero emission construction sites over the longer term. We have a vision of zero emission construction sites that uses a combination of technologies in the future, as visualised in the illustration on page 42.



The marine ELS system adopted for construction of a 370m-long underwater tunnel on our Central Kowloon Route - Kai Tak West project. Photo by Gammon Assistant Project Manager Jeffrey Wing.

### Strutting our stuff

GRI 306-2

Our Central Kowloon Route - Kai Tak West project deployed a self-developed innovative system for installation of the excavation lateral support (ELS) struts for stage one of a 370m-long underwater tunnel.

Taking a DfMA approach, 160-tonne struts in the form of mega trusses were prefabricated in our Pristine steel factory in Dongguan then delivered to site by barge. They were then assembled using bolt connections and skidded to their final positions on a rail system preinstalled along the top of the pipe-pile walls of the 60m-wide cofferdam.

Contracts Manager Alan Yan explains some of the benefits of the innovative approach.

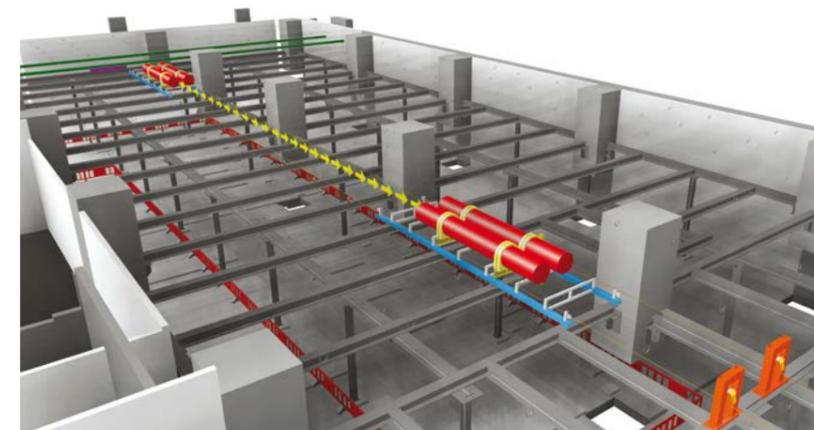
“Compared with the traditional in-situ method for ELS installation, our skidding system almost doubled the installation rate and used 60% less labour and 50% less plant. Safety was also improved by removing the need for welding and working above water, as well as significantly reducing plant

operations. The struts can also be re-used in the second stage of underwater tunnel construction for reduced resource use and embodied carbon.”

Around 1,900 tonnes of struts were provided by our L1 Contract for the Lyric Theatre Complex and Extended Basement at West Kowloon Cultural District. The intention to re-use struts on other projects was developed as early as the L1 tender stage in 2018 - both Kai Tak West and L1 will also ultimately supply an anticipated 14,000 tonnes worth to our tunnel project at the airport, greatly reducing the embodied carbon in the temporary works for these projects.

Both the design of the skidding system and the recycling of struts fully support our Responsible Growth - 25 by 25 sustainability strategy by reducing environmental impacts, providing a safer working environment, more efficient project delivery and improved workmanship.

Excavated rock from the Kai Tak West site helped us deal with the shortage of aggregate in 2020, brought about by border and quarry closures due to COVID-19. Up to 7,000 tonnes of rock from the project was crushed before being sent to one of our batching plants, helping tide our projects over until our usual supply lines were restored.



Productivity, logistics and safety improvements were achieved in the AMC chiller plant room with our special lifting technique for MEP modules.

### All the way with DfMA

GRI 306-2

On our AMC project, an impressive 75% of the MEP services were designed as modules at our off-site factories, along with 27% of the superstructure works. While our electrical and mechanical division is already well known for its modular solutions, on the AMC project they also developed special lifting techniques that improved productivity, logistics and safety.

“In the chiller plant room, instead of lifting pipework area by area,” says Senior Construction Manager Ryan Wong, “we developed a robust framework that allowed the plant to be raised from a centralised location using a tailor-made mechanical transportation system, then slid to its ultimate destination. As well as being faster, it was safer for workers, as it reduced high-level work.”

“In other areas, we used two lifting platforms that were synchronized which enabled us to lift much bigger modules. Again, this was far safer and more productive.”

The project also made use of sensor technology to improve utilisation of the 300 scissor lifts.

“Sensors attached to the lifts detected motion, with the data sent to a live map that allowed us to visualise usage and better plan locations of machinery, or combine those that were under-utilised. Less resources were required to coordinate the plant and rental costs were also reduced.”

Our precast double-tee approach also eliminated the need for extensive scaffolding typically associated with high-level structural works, as well as a tremendous amount of formwork, falsework erection activities and use of timber. Five tonnes of carbon were saved just from the reduced number of falsework lifts of the tower cranes alone.

Further benefits of our DfMA approach include a reduction in site labour of around 30%, reduced wastage and shaving 5% off an already highly challenging programme.



Concrete DNA Pro can integrate with BIM.

### Concrete savings

In collaboration with UK company Converge, we created the world's first digital twin of site concreting. The achievement was made possible due to the launch of the latest iteration of a concrete maturity platform called ConcreteDNA.

The ConcreteDNA Pro version is now equipped with capabilities to integrate with BIM and provide in-depth material performance analytics. This means project teams can track and ensure concrete is meeting expected standards. With this added certainty, concrete cube testing procedures can be reduced, resulting in less concrete use, less waste and lower embodied carbon. On our AMC project, we were able to save over 110 tonnes of concrete waste by reducing testing by approximately 14,000 cubes.

Our digital business, Digital G, and Converge have been working together since 2017 and have deployed the ConcreteDNA technology on over 30 projects. It is the only digital concrete maturity system approved by Buildings Department, Architectural Services Department, Drainage Services Department and Airport Authority Hong Kong, and the solution is available through the Construction Innovation and Technology Fund of the Hong Kong Construction Industry Council. It is also available in Singapore and the Building and Construction Authority is currently considering its approval.

We were able to save over 110 tonnes of concrete waste by reducing testing by approximately 14,000 cubes.

GRI 306-2

## Innovations and upgrades

At our Foundations Department, the team is encouraged to continuously review repetitive work to see if material can be re-used. In 2020, one of the improvements that came from this approach related to temporary casings. These were upgraded from 10mm to 12mm and the mild steel from S275 to S335 which means the casing lasts an average three to six months longer, more than offsetting the additional cost.

They also carried out an upgrade of concrete from Grade 45 to 60 to reduce rebar requirements for piles subject to design load composition (ie, axial and tension loads). On one of our Kai Tak foundations projects, the subsequent carbon emission reductions resulting from the use of higher grade concrete and lower rebar quantity amounted to 2,402 tonnes once the overall embodied carbon was considered using the CIC Carbon Assessment Tool.

While some contractors may be reluctant to use Grade 60 due to concerns over supply rate, operating our own batching plants means we are not subject to the same uncertainty.

Other improvements in 2020 included the fabrication of a cluster drill bit that can form rock sockets up to 1.35m diameter which results in programme and environmental benefits. Typically, reverse cycle drilling (RCD) is deployed to form the rock socket for bored piling works, however, utilising the cluster bit is up to almost ten times faster and requires 20-30% less diesel than the RCD.



Our cluster bit is ultimately more efficient and requires less diesel than RCD.



HKU Medical Complex Extension: Gold Award winner at the Hong Kong Awards for Environmental Excellence.

## Award-winning construction

GRI 306-2

As we reported on page 6, our HKU Medical Complex Extension project was presented with a Gold Award at the Hong Kong Awards for Environmental Excellence in 2020. Director Tony Wong shares some of the initiatives that resulted in the accolade.

“One of the key challenges for the project team was its location on an operating campus next to sensitive learning spaces. Mitigation measures employed to protect campus users included swapping traditional hacking methods during demolition of the slab for saw-cutting machines to reduce dust and noise. Real-time air quality and noise level monitoring was also undertaken in nearby buildings. A dust screen covered the entire superstructure during the demolition and construction phase, while 600 tonnes of concrete was sent for recycling into paving blocks.

“The first design of the structural steel used welded joints, but we convinced the architect and structural designer to adopt an off-site fabrication and bolt and nut approach. This meant we could reduce wastage and transportation of components, as well as avoid site welding which provided benefits including no toxic gases, improved safety, reduced energy consumption and a faster programme.”

Other environmental highlights included using a Bondek structure as formwork for the slab instead of timber, use of CIC green product certified concrete mixes, and BIM with 3D scanning to assist with coordination to minimise the potential of abortive works and the waste associated with it.

The project was also the first to integrate concrete sensors with the BIM model. This allowed early dismantling of scaffolding and formwork which helped accelerate the concrete cycle.

“HKU is a great example of a sustainable approach to construction,” says Tony. “It ticks all the boxes when it comes to safety, environment, productivity and consideration of the local community.”

As well as HKAEE, in 2020 the project also received a Considerate Contractor Gold award, Silver in the CIC Sustainable Construction Awards Repair, Maintenance, Alteration and Addition category (which was the top award in the category), and Cecelia Kwok, who led the team, was named our Project Manager of the Year.



We reviewed how to use our extensive plant resources more efficiently and effectively.

## Seven Business Improvements

We launched a Seven Business Improvements initiative to further reduce materials use and waste on our projects. Designed to focus the project teams and drive the right mindset and behaviours, the initiatives required the achievement of savings across a comprehensive range of areas in a project's lifecycle: energy, plant productivity, plant consumables, materials, labour, subcontractor management, cost trends and defects. Despite the challenges of COVID affecting our programme of progress, we have seen encouraging reductions in resources and waste and the initiatives will continue to be a focus.

On our Central Kowloon Route – Kai Tak West project, for example, the team focused on achieving improvements in concrete wastage through better planning and management and exceeded the original reduction target by 15%.

We also conducted a review into how to use our extensive plant resources more efficiently and effectively and looked at trending of projects and upcoming works to see which equipment we should strategise in the future.

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

	Objectives	Target by 2025	Status	Progress in 2020
1	Reduce carbon emissions to mitigate the impacts of climate change (2016 as a baseline) GRI 305-4	25% reduction in carbon intensity (kg CO2e / HK\$1 million turnover)		On target and continuing to promote electrification and use of Enertainers in Hong Kong
		25% reduction in carbon intensity (kg CO2e / days worked)		
2	Pursue zero waste to landfill / incinerator to minimise resource wastage GRI 306-3	25% reduction in landfill (or incinerator) waste intensity tonnes / HK\$1 million turnover (HK & Macau) (2016 baseline)		Waste intensity continues to reduce and is on track. Absolute waste amounts have also reduced
		25% reduction in incinerator waste intensity tonnes / HK\$1 million turnover (SGP) (2018 baseline)		
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) continues to improve and is on track
4	Pursue zero wasted water to avoid resource wastage	25% reduction in water intensity (m3) / HK\$1 million turnover (2016 baseline)		Implemented water saving measures and re-use of treated site discharges
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		Expansion of system at Sai Sha Road to 50kWp and Kai Tak West to 199kWp (TKO office 200 kWp PV system also implemented)

On track to meet target Further improvement needed

# Zero Emission Construction Site

## Vision of a Zero Emission Construction Site

Gammon's vision for a zero emission construction site aims to achieve zero local fossil fuel emissions. The basic principle is to use renewable energy and 'electrify everything' on site but given the large power demands, we foresee a blend of power sources being used including grid electricity, non-fossil fuels and hydrogen.

Our zero emission construction site of the future firstly must be grid-connected, as we anticipate local power supplies in all locations to decarbonise. We expect battery energy storage systems (BESS), such as the Enertainer, to be used to smooth peak demands on site from equipment such as cranes and hoists. Plant, vehicles and equipment will become almost entirely electrically powered and charging systems will be needed on sites for both stationary and mobile plant. The zero emission site of the future will also maximise solar power production (or other renewable generation where possible) with surplus being fed back into the grid or off-grid BESS. Other power / fuels may also be used for energy-intensive operations and we anticipate green hydrogen power also forming part of the energy mix in future, possibly even being generated on site.

## 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 Mobile electric plant on charge while stationary
- 6 Charging for electric vehicles and plant
- 7 Renewable energy for Feed-in Tariff or to power site offices
- 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



Reduction in Scope 1 and 2 carbon absolute emissions between 2019 and 2020



Innovative solutions, DfMA, global standards in BIM quality and a one-team approach were just some of the reasons Global Switch was named our Project of the Year.

# Value Chain - Co-Creation

## 2020 activities and case studies

### Project of the year – Global Switch

Our project of the year award for 2020 went to Global Switch Hong Kong, our data centre contract in Tseung Kwan O. The implementation of DfMA and innovative solutions on the contract has been impressive throughout its duration – think built-to-order MEP modularisation, weld-free plant rooms and the region’s heaviest DfMA thermal tanks – but as works came to an end in 2020, it was the way the project team handled completion planning and close-out that impressed.

Being a data centre, global standards in BIM quality were required for the design, construction and facility management. Accuracy was imperative for the more than 20,000 asset entries - each with 44 attributes - which were handed over to the facilities management team. BIM up to a level of development (LOD) 500 was even

achieved on the second and final phase of the project (Buildings 3, 4 and 5) before the official completion date.

“Being LOD500, it’s an industry standard that the model reflects all data and the geometry is 100% aligned with the site condition,” explains project BIM Manager Stanley Mok. “For the as-built BIM fine-tuning, we used 3D scanning and photogrammetry of the site which was transferred into the digital twin. We could then integrate all the asset information and site condition in this platform and create the as-built BIM for facility management. There was also a lengthy site inspection process with the client to check everything in the model was correct and exactly the same as the site condition.

“Maintenance scheduling and warranty information are available in the asset

register which was input into the BIM model for handover to the facilities management team for its further use. Each item is tracked by a unique asset ID. For each of the 20,000 assets, we fixed barcode labels to the physical item which can be scanned by the end user to obtain the relevant information.”

It wasn’t all about digital achievements, though. Throughout the process, the team achieved every milestone on time and maintained a good and transparent relationship with the client. Defects in general were minimal and the building was described as “spotless” on handover. We also felt the project embodied the ‘one team’ spirit that forms an important part of the Gammon ethos, with the ABWF and E&M teams collaborating closely, taking into consideration each other’s site activities and constraints so that work took place in a harmonious and ordered manner.



BIM collaboration software has played a key role in the development of the off-site construction methods for the vessel-like structures on our Sentosa project.

### Role Models

In Singapore, BIM collaboration software Revisto and modelling programme Rhino were deployed to develop the two steel and one precast models for the bespoke vessel-like structures that form a key feature of renovation plans for Sentosa Island’s north-south precinct. Revisto was implemented early at project kick-off, allowing the consultant to easily comment on and progress the design. It also gave the design team visibility as the composition developed which helped immensely with co-ordination and clash detection. Fabrication and deployment of the vessels were then modelled parametrically in Rhino so we could look at multiple options for the design and construction methodology. All prefabricated elements are then 3D laser scanned at the factory and added back into the model to validate the individual components and ensure they are in tolerance.

### Behind the scenes

We caught up with a few of the specialists in our Integrated Data Technologies (IDT) department whose wizardry with all things technical provides vital support to the efficient and safe running of our sites

There was much talk about artificial intelligence at Gammon in 2020, why was that?

**Alan Kong:** We’ve been developing the use of AI in Gammon for a few years and we accelerated our pace in 2020. We anticipated it would become a standard requirement when tendering for work, and it also provides such huge benefits, particularly for safety, planning and improving productivity.

### How is it being implemented?

**Jay Chan:** One example is for tower crane optimisation. We use AI to assess the site floor plan and programme of work going forward, and what elements need to be lifted and installed where. This information is then congregated as ‘constraints’ in a mathematical model. This lets us find the best place to site cranes to reduce the duration of lifting activities. And by installing CCTV cameras with AI that recognises lifting objects, we can further analyse and enhance the plan.

**Lavender Liu:** We’re applying AI for planning to many different areas. For example, every day our concrete department receives a lot of orders but there can be a risk of overordering to provide a safety buffer which means wastage. By using AI mathematical models, we can look at



In-house talent: from left to right, Jay Chan (Data Scientist), Lavender Liu (Principal Systems Engineer), Duncan Lee (Senior Systems Analyst) and Alan Kong (Senior Manager, Business Applications).

previous data, correlate that with what’s needed and reduce overall ordering.

We use CCTV cameras with AI on a lot of our sites to monitor fatal zones and the wearing of PPE. AI computer vision also helps with dump truck counting, with the data uploaded to a dashboard for the project managers to further analyse.

**Alan Kong:** We also worked with Digital G to begin development of a mobile monitoring system called G-Eye which is a prototype portable CCTV with AI capability. It provides real-time inspection of front-line conditions and is easy and quick to relocate. This is being launched in 2021.

### Any other noteworthy achievements from the IDT team in 2020?

**Duncan Lee:** We launched Inspecto DWSS to satisfy mandatory requirements by the Hong Kong SAR government on all capital works. The application covers all stipulations on digitalisation of RISC, site diary, safety and cleaning inspections, and labour return records. In addition, clients may choose to switch on the Inspecto blockchain option so all transactions are recorded in blockchain, making them technically immutable. We are now seeing Inspecto DWSS going into non-government projects, too.



Left to right: Director Brian Gowran, centre, chats with Façade and ABWF Manager Paul Dymott, left, and Area Project Manager HY Lam, both of whom were key drivers in achieving the quality necessary to meet the M+ museum project brief.

### A quality product

While we are undeniably driven on increasing our digital capabilities, we also instigated a renewed focus on quality workmanship and basic construction skills in 2020, via the introduction of down-to-basics training for less experienced staff and KPIs for managers (see pages 49 and 35). Elevating construction standards is a focal area the team on our M+ project understand only too well, as high-end finishing was required for the spaces that will go on to house some of the world's finest collections of art, design, architecture, moving images and Hong Kong visual culture. Building to such high standards with low tolerance proved to enhance not only our own project team's approach to quality and quality management, but also that of the trade contractors.

While the bulk of the materials – concrete, timber, ceramic and glass - could be considered simple, the degree of precision needed to achieve architect Herzog & de Meuron's required spec was anything but. In fact, Director Brian Gowran who led the project likens it to "that of a Swiss clock".

As well as working with numerous new materials, there were also stringent acoustic requirements for the galleries. Our approach was to insist on standards for the prototypes that were even higher than those required in the works.

"In the case of the timber," says Brian, "the first floor we put in we measured every gap and even 1mm out of place was not accepted. Initially, this level of precision scared the trade contractors. But by refusing to budge on these high standards in the prototypes, we were able to roll out the floors to a very high level of quality and if you look around the project, you'll find no gaps that aren't exactly to the required millimeter. By taking this attitude, we also reduced waste from potential rework later due to tolerance issues and so on.

"Our approach also dovetailed into Gammon ramping up the focus on quality at the beginning of 2020, which culminated in quality KPIs mid-year. This was really helpful on M+, because we were dealing with an architect who insisted on fine precision in all elements of the project. It helped create an environment that's conducive to delivering a quality product."



High levels of precision achieved quality finishes as well as a reduced potential for waste on our M+ Museum project.

### Information engineers

We established the role of project-based information engineers to ensure the considerable amount of data we produce is collected, processed, used and policed in a structured and efficient manner. Information engineers will also facilitate management of the federated BIM model and the production of project outputs. While our initial focus is on our larger projects, all contracts will eventually include this role.

### Efficiencies in the procurement process



We continued to develop our digitalised ordering system, DiMart. Improvements in 2020 included the capacity to issue electronic material receipts and better manage goods when on site.

Trials were undertaken with a number of key trades on the function of electronic material receipts. Once receiving our purchase order, the chosen suppliers visited the DiMart site, pre-registered before delivery and obtained a QR code. On delivery of the goods, our site personnel scanned the code to ensure all product details were correct, after which the data was transferred to our Enterprise Resource Planning system for greater process efficiencies. After the successful

trials, we will be gradually implementing the function across different trades during 2021.

We also added a function to the DiMart app that allows site staff to state where the received products have been stored once on site, with a checkbox to confirm if they have been quality checked. This data can be monitored to ensure quality checking is taking place in a timely manner.

### Progress on Responsible Growth - 25 by 25: Co-creation targets

	Objectives	Target by 2025	Status	Progress in 2020
1	Increase off-site construction to increase efficiency in resource use, improve safety and programme  GRI 403-2	25% reduction in on-site hours worked / HKD \$1M turnover		While there is a gradual increase in off-site DfMA, the rate of uptake by the industry is slower than hoped. We need to work with clients to be engaged earlier in the design process and enable more off-site solutions.
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 <sup>1</sup> ) with digital progress monitoring		Over a third of projects were being delivered with integrated digital project delivery methods in 2020.
3	Increase production and use of more sustainable materials to reduce pressure on finite natural resources  GRI 301-1	25% of procurement spend on more sustainable materials <sup>2</sup>		Achieved (but not exceeded) target. Seeing growing interest in more sustainable materials.
		25% of concrete quantity produced is certified or equivalent to 'Platinum' level under the CIC Green Product Certification Scheme <sup>3</sup>  GRI 301-1		Ahead of target. Over 40% of mixes used were of CIC's lowest embodied carbon grade or equivalent.
4	Collaborate with the value chain to support Sustainable Development Goals	To launch a collaborative programme with our value chain and corporate social investment partners in 2020, 2025 target to be confirmed		Initiated the Power Up Coalition with the Business Environment Council to work towards eliminating diesel generators on sites.

On track to meet target    Further improvement needed

<sup>1</sup> CDE = Common Data Environment

<sup>2</sup> 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.

<sup>3</sup> Previously termed 'Outstanding' grade in the now-replaced CIC Carbon Labelling Scheme



Broad spectrum capabilities delivered with a one-team approach at our recently completed data centre project.

# People - Caring

## 2020 activities and case studies

### A focus on heart, health and happiness

GRI 403-6

Our employees' wellbeing has always been a priority and we have long been implementing initiatives to support physical and mental health. Wellness Leader Jo Ling describes some of those carried out in 2020.

"With the arrival of COVID-19, we provided new promotions and education on subjects such as coronavirus prevention, personal hygiene, social distancing and how to cope mentally with concerns over the pandemic or periods of quarantine. Of course, staff could also take advantage of our existing employee care line which provides assistance to those struggling emotionally.

"Other workshop topics included those on stress management, sleep apnea, positive psychology, skin care and musculoskeletal disorders. In total, we carried out 544 health talks and workshops during the year, which included 6,496 attendees. Our wellness leaders, who are registered nurses operating out of head office, also worked in conjunction with site nurses on our construction sites to conduct nearly 12,000 health screenings."

Other initiatives included a health expo which was conducted in September to advocate healthy food, while a free flu vaccination programme was promoted from October to December. We also ran a smoking cessation incentive scheme to motivate staff and workers to quit the habit.



Members of the HR team pose together pre-pandemic, before masks became a staple of our wardrobes.

Left to right: Employee Care Manager Liva Ko, Wellness Leader Elaine Kwan, Director Jenny Pong, Head of Learning & Wellness Carmen Chan and Wellness Leader Jo Ling.



### Gammon's first music video

In July, we launched our first music video. Called This Battle, it was released to cheer us on in the fight against COVID-19.

Over 80 staff and their family members, as well as business partners, participated in the production. You can view the video at:

[www.youtube.com/watch?v=gC1L\\_gxAq4](http://www.youtube.com/watch?v=gC1L_gxAq4)

Health screenings

11,789

Health talks / workshops

544

With

6,496

Attendees

### Training, educating and upskilling

GRI 404-1

We continue to place great importance on developing the potential of our employees and have an extensive range of training programmes that are delivered via our Gammon Academy. During 2020, a total of 219 virtual or classroom training sessions were carried out, which involved 4,856 attendees. A further 10,000 hours of e-learning also took place. New topics introduced during the year included sustainability, DfMA and digital platforms and applications, and we further began a project management programme that helps the development of our assistant project managers move into the next level of their careers.

Despite the strong focus on digital technology within the company, we understand it's imperative our young engineers properly learn the core skills of construction. We therefore introduced a down-to-basics programme which provides training in the correct way of carrying out activities such as setting out, measuring rebar, cable containment, waterproofing and other basic techniques such as bar bending schedules. By developing this primary knowledge, we aim to strengthen the level of quality delivered during execution.

We have also been focusing on improving our 'one-team' approach. One of the ways we have done this is through a multi-skilled training programme for both workers and staff, which Head of Learning & Wellness Carmen Chan explains in a little more detail.

Our multi-skilled training helps remove barriers between teams and promotes the right mindset, where staff and workers co-operate more readily to get the job done.

Gilbert Tsang | Executive Director

"The multi-skilled training programme gives members of the construction teams the opportunity to learn more about other areas of the business through a series of topics that range from foundations through to E&M, and even commercial processes. They can further swap onto another team and gain hands-on experience of another area of works and through that gain a greater appreciation and consideration of activities taking place around them. This prepares them for more complex projects.

"The programme also helps prepare our young stars to be future leaders, as it gives them a more holistic view of construction which helps with planning, co-ordination and overall implementation when delivering a project," adds Carmen.

Director Patrick Hou, who heads up our Foundations and Construction Services Division, describes his experience with the programme during the year.

"We've swapped some of our managers with those of civils projects, which has given them a chance to learn piling works, understand the Buildings Department

procedures related to foundations, and help develop value-engineering proposals. And we've seconded engineers and foremen to civils works to help with some of the piling and roadwork. Everyone is working as a team and we're training them to have multi-skills, in an environment where they learn by doing.

"The programme isn't restricted to engineers, we're also teaching our workers so they have a greater skill set. For example, we're training our tower crane operators to also handle crawler cranes so they have more than one licence. This gives us more possibilities for future resource arrangements. We're also educating workers in welding and rigging, which are two areas in which there are always labour shortages in Hong Kong.

"It's a great programme which our clients will also benefit from, as the increased capabilities of the team translates into increased efficiencies on our project sites."

### Virtual hackathon

In July, we were one of ten challenge partners in Hack.Asia, a 36-hour virtual hackathon led by our shareholder Jardines. Teams of students and start-ups from around Asia competed to provide the best solutions to problems presented by each of the challenge partner companies. Mentors, business experts and judges from Gammon provided support to the teams throughout the event, as we challenged them to develop and introduce new IoT and technology solutions that generate more detailed analytics to enhance safety, quality, productivity and reduce environmental impact on our construction sites. The members of our chosen winning team were offered internships within the company.



Alexandra takes a selfie with sponsors and committee members of WinG.

### Attracting future new recruits

We continued our support of the HK Institute of Construction's STEM Alliance, as the only contractor on the steering group. The Alliance aims to promote science, technology, engineering and mathematics in secondary schools and raise awareness of engineering and technology. During 2020, the Alliance engaged with students to showcase the implementation of BIM and promote construction as a viable option to potential future employees by demonstrating how much the industry has changed with the adoption of digital technology.

### Women in Gammon and Allies Network (WinG)



WinG chair Alexandra Grierson introduces our new employee community for those interested in gender equality and women's development in Gammon and the wider construction industry

Across the world, women represent just 10% of all jobs in the construction industry, and in Hong Kong, women make up only 8% of all fully qualified engineers. There are many reports that recognise that companies with more diverse staff and inclusive working environments perform better than those without, so is the male-dominated construction industry missing out on these benefits and, more importantly, is it an environment that realises the full potential of all its staff?

These were the questions I posed to the recently formed Diversity and Inclusion Council, when proposing the creation of the Women in Gammon and Allies Network, or WinG for short.

The main focus of WinG is for all colleagues to work together towards gender equality - where everyone is treated equally and receives the same opportunities, regardless of their gender. A sense of belonging is also one of the key factors in an inclusive environment, so I really wanted to create a platform where colleagues who are underrepresented across the company can easily connect, share their experiences, and grow their network.

In the last quarter of 2020, WinG was soft launched, a committee was established, and we held our first test event in December. An invite-only virtual event, it focused on the disproportionate impact COVID-19 had on women, with some of Gammon's inspiring women sharing their stories of overcoming the challenges 2020 had brought. It was an incredible success and a great way to see out what was otherwise a tough year.

Everyone plays a role in the journey towards gender equality, and it is important to remember the rise of women does not mean the downfall of men. Within Gammon, I am pleased to say WinG membership has around 40% male representation, demonstrating the strong support from male allies throughout the business to work collaboratively towards an equal environment for all.

### Progress on Responsible Growth - 25 by 25: Caring targets

	Objectives	Target by 2025	Status	Progress in 2020
<b>Employees</b>				
1	Increase staff retention, particularly for new joiners by enhancing work experiences GRI 401-1	25% reduction in staff turnover rate within the 1st year of joining the group		Reduced turnover but reduction not quite on target. Added pressure from COVID-19
2	Attract, retain and support life-long careers for workers and apprentices GRI 401-1	25% increase in the % of workers who have been upskilled from unskilled to semi-skilled and semi-skilled to skilled		Upskilling behind schedule but multi-skilled workers well ahead of target. Almost double the number of apprentices recruited in 2020 compared with 2019
		25% increase in the % of workers who are multi-skilled (HK only)		
3	Monitor and improve staff satisfaction / happiness and wellbeing	75% of staff satisfied / happy based on overall mean		Given the upheaval brought by COVID-19, it was decided to postpone the survey a year to 2021
4	Develop a culture of fairness, inclusion and respect	By 2020 develop an agenda for diversity and inclusion (D&I). 2025 target to be confirmed		D&I Council established and 'Building Belonging' agenda developed including 2025 targets <sup>1</sup>
<b>Community</b>				
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 significantly curtailed due to pandemic. Matching fund under consideration
		By 2020 establish matching fund to encourage employee donations. 2025 target to be confirmed		
2	Improve value and impact of charity / community activities	By 2020 establish corporate community impact objectives for corporate social investment 2025 target to be confirmed		Work on corporate community impact postponed
3	Create shared value (using skills and expertise to address a social need)	25% increase in newly recruited workers from districts with the highest levels of poverty		Ahead of target for recruitment. D&I Champions considering potential programme options

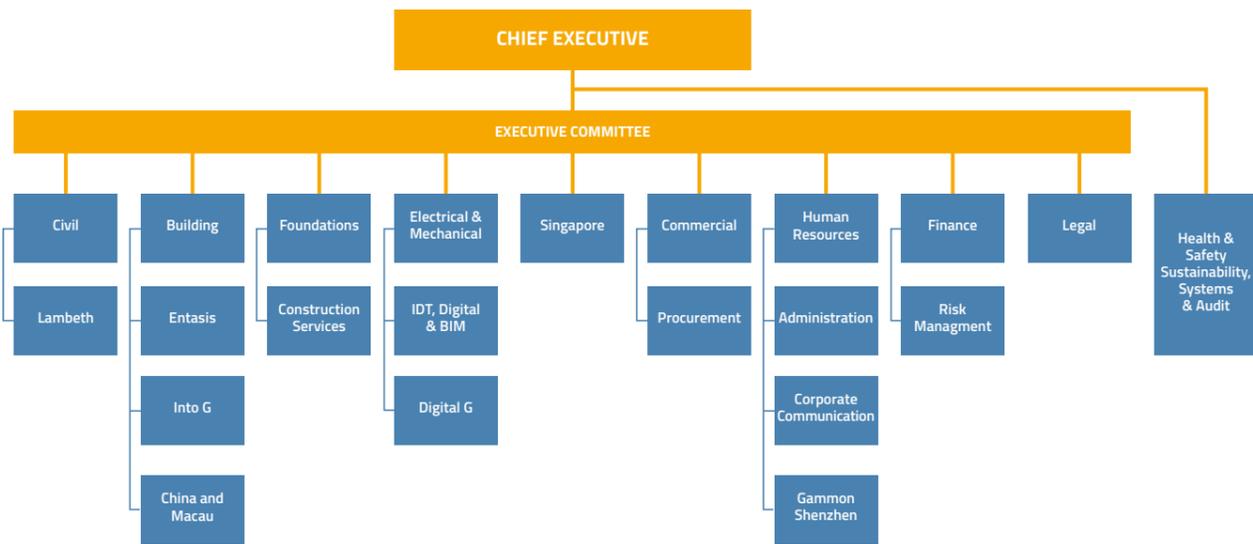
On track to meet target    Further improvement needed

<sup>1</sup> Sustainability strategy document updated with new targets: [www.gammonconstruction.com/uploaded\\_files/files/en/Sustainability\\_Strategy.pdf](http://www.gammonconstruction.com/uploaded_files/files/en/Sustainability_Strategy.pdf)

# 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 some 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

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 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 documents 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.

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.

The ExCo is responsible for decision-making on sustainability issues that are addressed at weekly Safety and Environmental Action Committee 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.

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 four focus areas up to the year 2025 for which the ExCo has overall responsibility. The strategy is publicly available online and can be found here:

[www.gammonconstruction.com/uploaded\\_files/files/en/Sustainability\\_Strategy.pdf](http://www.gammonconstruction.com/uploaded_files/files/en/Sustainability_Strategy.pdf)



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.

Our shareholder Balfour Beatty reviews our sustainability progress annually. As part of that review, a third-party assessment is undertaken to audit our greenhouse gas emissions before they are submitted to CDP (formerly the Carbon Disclosure Project). 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 (see the Value Chain section).

## Values and Norms of Behaviour

GRI 102-16 GRI 102-44

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<sup>1</sup> 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

<sup>1</sup> See [www.gammonconstruction.com/uploads/Code\\_of\\_Conduct.pdf](http://www.gammonconstruction.com/uploads/Code_of_Conduct.pdf)



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.

## 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.

## 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.

## 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.

## 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.

## Climate Change Related Risk Management GRI 201-2

As we know, climate change is bringing a range of new risks as well as opportunities for all businesses. We therefore commenced a formal risk and opportunity identification process with internal stakeholders and developed an initial risk and opportunity register. We anticipate reporting against the recommendations of the Taskforce on Climate-related Financial Disclosure (TCFD) in the coming year and have therefore established a TCFD working group consisting of staff from sustainability, finance and risk management teams with overview by the Gammon Board. Risks and opportunities have been identified under both physical risks (people, assets, operations etc.) and transitional risks (expenditure, policy and legal compliance, market etc.). Opportunities were also recognised, for example, savings from

resource efficiencies, products and services, resilience, etc. Risks will be assessed both qualitatively and quantitatively based on programme, reputation, compliance, safety and financial impacts against different temperature change scenarios and time horizons. They will be rated from very high to low and this will decide the level of mitigation against our risk appetite. The financial implications of these risks and mitigation actions will be considered during 2021 in line with the advice of our shareholders. Risk levels and corresponding improvement actions will be reviewed at least annually, with the addition of new or emerging risks. This will cascade to and from the corporate, project and function registers to ensure the process is integrated into the overall management system.

# Safety - Zero Harm

## Management Approach

### Commitment to safety

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 protect 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.

## 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.



## 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 'Careline'. 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).



## 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 416

GRI 419

GRI 103-2

GRI 103-3

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.

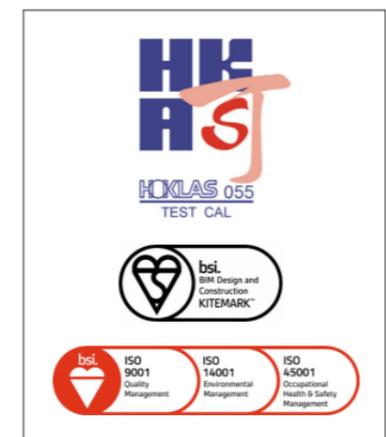
## Operating with recognised management systems

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 50001:2011. 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 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 is sent out to key subcontractors and 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.



# Environment - Zero Waste

## Management Approach

### Environmental Management

GRI 103-2

#### 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 construction methods 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 and cut waste in all its forms (refer to Sustainability Report 2018, page 12).

We are active Council members of the Business Environment Council (BEC) and remain a Patron member of the Hong Kong Green Building Council (HKGBC). 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 over 10 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. 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 ACE. There is also a sustainability dashboard (S-Dash) that combines all sustainability-related data (environment, social, financial, safety) into an easy-to-understand single summary which is available every month. 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 designed to use resources wisely and minimise negative social and ecological impacts. We are committed to the efficient use of resources and minimising impacts on environments affected by our operations.



We have been recognised as one of the leaders in sustainable procurement in the construction sector and have been awarded the Sustainable Consumption Enterprise by the BEC.

We adopt the widely accepted '3Rs' philosophy of 'reduce, reuse, recycle' and focus very strongly on avoiding material use in the first instance by rethinking designs and construction methods where at all 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 allow for the full use of BIM, a collaborative design approach using a common data environment, sufficient lead time for offsite construction and a leaner design overall with the use of integrated digital project delivery (IDPD).

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 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 IDPD and earlier 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 energy/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 and energy use. Detailed data on the construction of these materials in recent years is included in Appendix A.

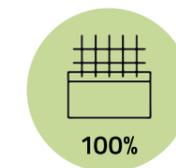
Through different initiatives, we have encouraged alternative designs using mechanisation, modularisation (e.g. re-use of modular struts), standardisation, automation and offsite prefabrication solutions (e.g. E&M modularisation, precast concrete) which result in more efficient use of resources. Tools such as our ACE 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. 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.

#### 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 (e.g. use of pulverised fuel ash (PFA) as a cement replacement in concrete), sustainable sources, and the use of design alternatives to reduce material quantities. One example is our use of certified sustainable timbers (normally FSC or PEFC certified) 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 paper-based submissions.

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



Formwork



Timber Doors



FSC Certified Office Paper

#### Our sustainable timber purchases for 2020 (HK)

## Low carbon ready-mix concrete

GRI 301-2

Our Concrete Technology Department continues to investigate new alternatives for more sustainable concrete mixes. The raw material types, sources (e.g. recycled content for cement replacements, 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 gate' life cycle carbon footprint for concrete mixes and these have been verified against BSI PAS 2050 Product Carbon Footprint Verification. We were the first concrete producer to have Construction Industry Council (CIC) Carbon Labels for our ready-mix concretes. We started with just 10 mixes but over time that number has grown and in 2019, the two green labelling systems from the CIC and HKGBC were combined and the Carbon Labels converted to CIC Green Product Certification Scheme labels. Our Carbon Labels have therefore been converted and we have CIC Green Product Certification labels for over 300 mixes with most performing at Platinum or Gold level.



## Effluent And Waste

GRI 103-2

GRI 103-3

GRI 306-2

### Our approach

Gammon has developed a set of production procedures including water pollution control and 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 water pollution and waste management risks are identified and assessed and appropriate mitigation measures implemented and maintained to achieve compliance with the law, contract, Health, Safety and Environmental Policy commitments, objectives and targets. Most sites prepare a project-specific Waste Management Plan to define responsibilities and mitigation clearly from the beginning of the project.

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). Off-site construction and using a design for manufacturing and assembly (DfMA) approach present real opportunities for improvement both on material use (as mentioned above) and waste avoidance and we continue to promote these both internally and externally.

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 waste streams and opportunities to improve in terms of solid waste, energy and water. Each project is asked to forecast the major types / sources of solid waste (for landfill or incinerator) that will be generated and to select a small number to focus change, monitor and set targets for reduction.

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 where possible.

## Reuse and recycling of construction waste

In Hong Kong, we continue to be challenged by waste reduction, as is the rest of the construction industry. All our excavated materials are directly re-used for backfilling on site, transferred to other 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 waste separation difficult. Currently, the only widely recycled materials on sites in Hong Kong are waste metals, and this is largely due to the still strong market for scrap metal. However, we also recycle 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 some wooden pallets and timber where possible, and use the new facility, Y-Park. 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 bespoke ordering, bulk production and reduced movements can reduce waste generation;
- The use of BIM with visualisation and early design freeze to avoid abortive and repeat work;
- Re-usable packaging methods and packaging 'takeback' by suppliers;
- 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). Data on our waste generation and disposal is shown in Appendix A.

## 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.

## Energy

GRI 103-2

### Energy Mix

Energy was identified as a material issue during our stakeholder engagement process. Around three quarters 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. 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).

### 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. Mitigating our contribution to global warming by reducing the carbon emissions associated with our energy consumption is a key intention. 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.

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. 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 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 gradually 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 Energywise 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 ACE dashboard and S-Dash.



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

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.

### Energy on site

Our preference on site is to use mains-connected electricity from local power companies rather than diesel generators wherever possible. This improves our energy (and carbon) efficiency, reduces noise and air quality impacts to both people working on the site and surrounding neighbours, and reduces costs. However, in many cases the amount of electricity that can be supplied 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, as well as get approval for and build a temporary transformer room, particularly if in a more remote or new development area. We therefore advocate for early application of sufficient electricity supply by our clients to avoid the need to use diesel generators and to allow for the use of more electric plant in the future.

In the meantime, 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. We are hoping to more widely adopt a DfMA and modular approach to construction in order to minimise impacts such as these.

# Value Chain - Co-Creation

## Management Approach

### Influencing the industry and committing to change

#### Association memberships

GRI 102-13

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 and support them in governance, advisory or participation in committees or 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 F of SR19. 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;
- Partnering lunches with CEO forums; and
- Various workshops and presentations.

#### External commitments and initiatives GRI 102-12

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 below.

Date	Principles/Chartered	Organisation	
2012	WBCSD Manifesto for Energy Efficiency in Building	Business Environment Council	<a href="http://www.wbcsd.org/Projects/Energy-Efficiency-in-Buildings/Resources/">www.wbcsd.org/Projects/Energy-Efficiency-in-Buildings/Resources/</a>
2014	Hong Kong Green Purchasing Charter	Hong Kong Green Council	<a href="https://www.greencouncil.org/">https://www.greencouncil.org/</a>
2016	No Car Day 2016	Friends of the Earth (HK)	<a href="https://www.foe.org.hk/default.aspx">https://www.foe.org.hk/default.aspx</a>
2017	Code of Practice against Discrimination in Employment on the Grounds of Sexual Orientation	Constitutional and Mainland Affairs Bureau	<a href="http://www.cmab.gov.hk/en/issues/code_of_practice.htm">www.cmab.gov.hk/en/issues/code_of_practice.htm</a>
2017	Pledge to Support the Development of Qualified Environmental Professionals	Hong Kong Institute of Qualified Environmental Professionals Limited	<a href="http://hkiqep.org/pledge-to-support-the-continuous-professional-development-of-qualified-environmental-professionals/">http://hkiqep.org/pledge-to-support-the-continuous-professional-development-of-qualified-environmental-professionals/</a>
2018	STEM Alliance	Hong Kong Institute of Construction	<a href="http://www.hkic.edu.hk/eng/stem">www.hkic.edu.hk/eng/stem</a>
2019	BEC Low Carbon Charter	Business Environment Council, Climate Change Business Forum	<a href="http://bec.org.hk/articles/bec-low-carbon-charter">http://bec.org.hk/articles/bec-low-carbon-charter</a>
Annually	Biz Green Dress Day	Hong Kong Green Building Council & Construction Industrial Council	
Annually	Earth Hour	World Wildlife Fund for Nature	

## Our Supply Chain

GRI 102-9

GRI 103-2

GRI 103-3

### Supply chain management and procurement approach

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 which is available on our website<sup>1</sup> and our process, practices and procedures are included within our BMS. Our subcontract procurement, management and administration procedures are also defined in our BMS. 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.

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.

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, 21% is typically on those from Hong Kong, 47% on those based in mainland China, and 32% 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.



Sharing with supply chain through webinars.

### 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

GRI 103-2

GRI 103-3

### Our People

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

GRI 404-2

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, alternate Saturdays off, 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.



## Training and Education

GRI 401-1

GRI 404-2

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. Our training roadmap strategically divides staff into four groups: new recruits (including graduate engineers), administrative staff, middle managers, and senior management and above.

Each year, we run an average of 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, and managerial skills development. In addition to classroom training, we offer e-learning, virtual classes, seminars, 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 to guide each individual employee. Our comprehensive training programme has been identified as one of the key reasons new graduates select Gammon and construction as a career.

In addition, we also 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.

<sup>1</sup> See [www.gammonconstruction.com/uploaded\\_files/files/en/Sustainable\\_Procurement\\_Policy\\_2015.pdf](http://www.gammonconstruction.com/uploaded_files/files/en/Sustainable_Procurement_Policy_2015.pdf)

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 and a Construction Supervisor and Technician Apprentice Group which provide 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.

## Development and Support

GRI 404-2

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 disciplines such as BIM, procurement, finance, safety, occupational health, quality 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.

### 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<sup>1</sup>. 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.

<sup>1</sup> See [www.gammonconstruction.com/uploads/Code\\_of\\_Conduct.pdf](http://www.gammonconstruction.com/uploads/Code_of_Conduct.pdf)



# Appendices

Tuen Mun Public Rental Housing Development

# Appendix A – Key Performance Indicators

**General Notes:** All GRI Standards used are 2016 versions, except GRI 403 - Occupational Health and Safety, which is the 2018 version. GRI numbers in parenthesis '(GRI XXX)' indicate this topic has not been identified as a material issue in the stakeholder engagement exercise but data are available, have historically been disclosed, and are therefore provided. While these data are generally reported according to GRI Standards, they may not fully comply with disclosure requirements. The '-' indicates data was not disclosed in that year.

The data reporting follows an equity share approach. For example, joint venture (JV) projects are included according to the proportion of the equity share. For all data, that of subcontractors is excluded where information is not available.

**GRI Standard      Performance Indicators      Units      2016      2017      2018      2019      2020**

## ORGANISATION

### GRI 102 General disclosures

GRI 102-7 Scale of the organisation, product labelling

Active project sites	number	129	139	136	150	118
<b>Total employees (by region)<sup>1</sup></b>	<b>number</b>	7,835	7,268	6,924	7,035	6,829
Mainland China	<b>number</b>	524	474	397	429	414
Singapore (SGP)	<b>number</b>	1,027	595	488	418	368
Hong Kong (HK) & Macau	<b>number</b>	6,281	6,196	6,036	6,187	6,047
Vietnam <sup>2</sup>	<b>number</b>	3	3	3	1	-
<b>Group turnover (by region)</b>	<b>US\$ millions</b>	2,613	2,633	2,417	2,301	2,565
Mainland China & Rest of Asia	<b>US\$ millions</b>	0.30	0.60	2.20	0.03	0
Singapore	<b>US\$ millions</b>	134	118	257	88	48
Hong Kong & Macau	<b>US\$ millions</b>	2,479	2,514	2,157	2,214	2,517

G4-CRE8 Product and service labelling

Sustainability certification, rating and labelling schemes for new construction (HKBEAM, BEAM Plus, LEED and Green Mark) <sup>3</sup>	number of projects, cumulative	87	98	128	149	163
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1. Includes monthly and daily paid employees. 2. Share in Vietnam business was sold in 2019.
3. Cumulative count of number of projects joined HKBEAM, BEAM Plus, LEED, Singapore Green Mark scheme.

## SAFETY-ZERO HARM

### GRI 403 Occupational Health and Safety

GRI 403-8 Workers covered by an occupational health and safety management (OH&SM) system (OHSAS 18001 or ISO 45001)

Employees and workers are covered by OS&HM system	number	-	-	-	-	19,381
	%	-	-	-	-	100
Employees and workers are covered by OS&HM system that has been internally audited <sup>1</sup>	number	-	-	-	-	17,799
	%	-	-	-	-	91.8
Employees and workers covered by OS&HM system that has been audited or certified by external party <sup>2</sup>	number	-	-	-	-	17,799
	%	98.9	98.4	91.9	95.6	91.8

(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	2 (SGP)(M)	0	0	1(HK)(M)	1 (HK) (M)
Fatalities (subcontractor workers) (location) (Gender: M/F)	number	1 (HK)(M)	1 (HK)(M)	0	1(HK)(M)	2 (HK) (M)
<b>Accident Incident Rate<sup>3</sup></b>						
<b>Group operations – all workforce</b>	per 1,000 workers	4.9	3.7	4.7	4.2	3.4
<b>Employees</b>	per 1,000 workers	4.0	2.5	2.3	2.2	3.1
<i>by region</i>						
Mainland China & Rest of Asia	per 1,000 workers	0	0	0	0	0
Singapore	per 1,000 workers	4.4	1.9	0	0	3.9
HK & Macau	per 1,000 workers	4	2.6	2.5	1.9	3
<i>by gender</i>						
Male	per 1,000 workers	3.8	2.5	2.5	2.3	3.4
Female	per 1,000 workers	8.4	3.2	1.1	1.8	0.9
<b>Workers (excludes employees)</b>	per 1,000 workers	5.9	4.6	6.2	5.5	4.5
<i>by region</i>						
Mainland China & Rest of Asia	per 1,000 workers	0	0	0	0	0
Singapore	per 1,000 workers	0	0	1.7	1.6	0
HK & Macau	per 1,000 workers	6.2	4.9	6.7	5.8	4.5
<i>by gender</i>						
Male	per 1,000 workers	6.3	4.4	6.6	6.1	5.0
Female	per 1,000 workers	3.7	15	3.1	2.7	1.6
<b>Occupational disease rate<sup>4</sup></b>	rate	0	0	0	0	0

1. Due to COVID-19, internal audit for Macau Projects were not conducted.
2. From 2016-2019, projects reported under G4-CRE6. Since 2020, percentage is calculated based on number of workforce on sites. ISO 45001 does not include JV projects (except Sai Sha Road Widening Works) or Macau operations to date.
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.
4. No data available as reported directly to local Governments.

**GRI Standard      Performance Indicators      Units      2016      2017      2018      2019      2020**

## SAFETY-ZERO HARM

### GRI 403 Occupational Health and Safety (continued)

(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

<b>Lost day rate<sup>1</sup></b>						
<b>Group operations – all workforce</b>	rate	4.5	4.7	4.6	4.8	3.7
<b>Employees</b>	rate	4.9	7.6	2.1	2.5	2.2
<i>by region</i>						
Mainland China & Rest of Asia	rate	0	0	0	0	0
Singapore	rate	0.4	0.2	0	0	0.1
HK & Macau	rate	5.6	8.3	2.3	2.6	2.4
<i>by gender</i>						
Male	rate	6.1	9.8	2.3	2.8	2.7
Female	rate	2	2.4	0.6	1.1	0.5
<b>Absentee rate (all employees)<sup>2</sup></b>	rate	1.07	1.06	1.07	1.11	1.91
<i>by region</i>						
Mainland China & Rest of Asia	rate	0.99	0.99	1.1	0.84	0.8
Singapore <sup>3</sup>	rate	1.15	1.3	1.78	1.05	5.98
HK & Macau	rate	1.06	1.05	1.03	1.13	1.7
<i>by gender</i>						
Male	rate	0.16	0.98	1.02	1.08	1.99
Female	rate	1.53	1.45	1.32	1.28	1.53

1. Lost day rate = Total labour days lost / Total hours worked in the period \*10,000.
2. Absentee rate = Days absent / Total normal working days.
3. Monthly paid workers only until 2020 when daily paid workers were added.

## ENVIRONMENT-ZERO WASTE

Some minor changes in previous years' data largely due to alignment of reporting boundaries to follow ISO 14064 (equity share) approach, year-end account reconciliation and minor formula corrections.

### GRI 301 Materials

GRI 301-1 Materials used - non renewable materials

Major materials used (rebar/steel)	tonnes	151,230	111,376	120,956	113,156	107,326
Major materials used (concrete)	m <sup>3</sup>	991,747	682,040	582,394	550,020	687,648

Materials used - renewable materials

Major materials purchased (timber formwork)	m <sup>3</sup>	5,796	1,484	2,814	1,641	969
% of timber purchases that were Forest Stewardship Council (FSC) certified	% of spend	98	100	100	100	100

GRI 301-2 Recycled input materials used

Cement replacements <sup>1</sup>	% of cement replaced	27.8	26.8	24.2	23.6	18.6
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### GRI 302 Energy

GRI 302-1 Energy consumption within the organisation

<b>Fuel Consumption - non renewable sources<sup>2</sup></b>						
Total fuel consumption	gigajoules	840,504	609,716	805,037	768,014	592,299
Diesel consumption	gigajoules	140,252	151,899	93,048	19,047	30,812
B5 Biodiesel <sup>3</sup>	gigajoules	700,214	457,554	711,966	748,968	561,487
Petroleum consumption <sup>4</sup>	gigajoules	37	262	23	0	0
Electricity Consumption <sup>5</sup>	gigajoules	124,592	141,601	124,164	110,438	132,386
Other energy use <sup>6</sup>	gigajoules	78,717	77,573	78,396	71,947	68,577
<b>Energy Consumption - renewable sources<sup>7</sup></b>						
Renewable energy including solar and wind power <sup>8</sup>	kWh	5,833	10,622	10,349	11,528	4,297
	gigajoules	21	38	37	42	15

1. % of cement replacements decreased in 2020 due to: extension of seasonal PFA shortage period and reduced demand for PFA content in concrete mixes (from internal and external clients)
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
4. Petrol used for construction purposes only
5. Data updated due to equity share approach adopted for all years, detailed information can be found in Appendix B.
6. Reported since 2019. Mainly includes propane, butane, acetylene and other mobile fuel use.
7. Excludes grid connected renewables making use of the HK Feed-in Tariff.
8. Solar power includes PV panel and solar water heater. Estimated based on equipment specification and local conditions.

GRI Standard	Performance Indicators	Units	2016	2017	2018	2019	2020
<b>ENVIRONMENT-ZERO WASTE</b>							
<b>GRI 302 Energy (continued)</b>							
<i>GRI 302-1 Energy consumption within the organisation</i>							
<b>Energy Consumption - total within organisation</b>							
Total energy consumption within the organisation	gigajoules	1,043,833	828,928	1,007,634	950,441	793,277	
	MWh <sup>1</sup>	-	-	-	264,012	220,355	
<b>Energy productivity<sup>2</sup></b>	revenue/gigajoules	0.195	0.248	0.187	0.189	0.252	
<i>GRI 302-2 Energy consumption outside the organisation</i>							
<b>Business air travel - aircraft fuel<sup>3</sup></b>	Litres	-	49,940	67,680	63,684	6,358	
<b>Staff cars - petrol consumption</b>	Litres	667,080	595,896	534,081	459,947	327,960	
<b>Staff cars - diesel consumption</b>	Litres	8,394	9,970	5,379	838	4,375	
<b>Staff cars - B5 biodiesel consumption</b>	Litres	1,334	155	0	0	0	
<i>Renewable energy generation under FiT<sup>4</sup></i>							
<b>Renewable energy supplied to grid<sup>5</sup></b>	kWh	-	-	1,987	306,921	469,016	

1. Reported since 2019.
2. Revenue unit = HK\$100k.
3. Data Reported since 2017, fuel conversion factor related to type of aircraft. Emission factor from WBCSD Greenhouse gas protocol Mobile Combustion GHG Emission Calculation Tool version 2.6.
4. FIT= Feed in Tariff offered by electricity utilities in Hong Kong.
5. 2 project sites (Kai Tak West and Sai Sha Road) + Gammon Technology Park.

<b>(GRI 303) Water</b>							
(GRI 303-1)	<b>Municipal water consumption</b>	m <sup>3</sup>	1,120,136	1,390,911	1,412,092	938,793	912,305
	<b>Municipal water intensity</b>	m <sup>3</sup> /HK\$1m turnover	54.7	67.6	74.7	51.7	46
(GRI 303-3)	Recycled water	m <sup>3</sup>	5,523,201	1,788,216	2,989,052	1,534,787	597,717
	<b>% of water recycled based on total demand<sup>1</sup></b>	%	83	56	68	63	40
	<b>% of water recycled of total water withdrawal</b>	%	493	129	212	163	66

1. % of recycled water used based on total demand (municipal water consumption + recycled water used).

<b>(GRI 305) Emissions</b>							
<i>The 2020 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, statement ref: HK21/00095 dated 12th May 2021. Data revised to align methodology for all years for Scope 1 and 2 emissions. Equity share approach used.</i>							
<i>(GRI 305-1) Direct (Scope 1) GHG emissions</i>							
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 1)<sup>1</sup> (Category 1)</b>	tonnes	69,607	50,966	66,448	61,908	50,722
	Direct emission from Towngas stoves combustion <sup>1</sup>	tonnes	34	38	37	36	31
	<b>Biogenic CO<sub>2</sub>e emissions (from B100)<sup>1,2</sup></b>	tonnes	2,527	1,627	2,582	2,696	2,033
<i>(GRI 305-2) Energy indirect (Scope 2) GHG emissions</i>							
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 2)<sup>1,3</sup> (Category 2)</b>	tonnes	19,614	21,986	19,382	17,062	15,210
	Indirect emission from purchased Towngas <sup>1</sup>	tonnes	8	9	9	8	7
	<b>Scope 1 &amp; 2 GHG emissions<sup>1</sup></b>	tonnes	89,220	72,952	85,830	78,970	65,931

1. Data revised to align methodology for all years for Scope 1 and 2 emissions. Equity share approach used.
2. Emissions from B100 biodiesel (contained in B5 used)
3. Emission factors from 中國區域電網基準線排放因子, Macau CEM Sustainability Report, Singapore Energy Market Authority, CLP and HKE Sustainability Reports based on the most recent relevant year.

GRI Standard	Performance Indicators	Units	2016	2017	2018	2019	2020
<b>ENVIRONMENT-ZERO WASTE</b>							
<b>(GRI 305) Emissions (continued)</b>							
<i>(GRI 305-3) Other indirect (Scope 3) GHG emissions<sup>1</sup></i>							
	<b>Total reported carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 3)<sup>2</sup></b>	tonnes	77,618	24,118	22,420	77,935	46,585
	Staff cars use (Category 3)	tonnes	1,541	1,381	1,228	869	856
	CO <sub>2</sub> e from business air travel <sup>3</sup> (Category 3)	tonnes	297	268	354	325	31
	Landfill disposal (Hong Kong) (Category 4)	tonnes	75,777	22,017	20,264	28,474	20,218
	Waste incineration (Singapore) <sup>4</sup> (Category 4)	tonnes	3.00	8.40	3.24	1.27	0.14
	Water consumption (Hong Kong) <sup>5</sup> (Category 4)	tonnes	-	443	419	345	373
	Water consumption (Singapore) <sup>6</sup> (Category 4)	tonnes	-	-	150	26	5
	Water consumption (Mainland China) <sup>6</sup> (Category 4)	tonnes	-	-	2.4	2.1	2.0
	Water consumption (Macau) <sup>7</sup> (Category 4)	tonnes	-	-	-	1.3	0
	Fresh water and raw water processing from tanker (Hong Kong) <sup>8</sup> (Category 4)	tonnes	-	-	-	0.02	0.29
	Sewage from restaurants and catering services <sup>9</sup> (Category 4)	tonnes	-	-	0.7	0.4	0.7
	Temporary works material - Structural Steel (Hong Kong) <sup>8</sup> (Category 4)	tonnes	-	-	-	47,309	21,257
	Temporary works material - Timber Formwork (Hong Kong) <sup>8</sup> (Category 4)	tonnes	-	-	-	581	350
	Temporary works material - Concrete (Hong Kong) <sup>10</sup> (Category 4)	tonnes	-	-	-	-	3,492
<i>(GRI 305-4) GHG emissions intensity</i>							
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 1)<sup>11</sup></b>	kg/HK\$1m turnover	3,415	2,482	3,525	3,449	2,535
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 2)<sup>11</sup></b>	kg/HK\$1m turnover	962	1,070	1,028	951	760
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 1 &amp; 2)<sup>11</sup></b>	kg/HK\$1m turnover	4,377	3,552	4,554	4,400	3,295
	<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 3)<sup>12</sup></b>	kg/HK\$1m turnover	3,808	1,174	1,189	4,342	2,328
<b>GRI 306 Effluent and Waste</b>							
<i>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.</i>							
<i>GRI 306-2 Waste by type and disposal method</i>							
<b>GRI 306-2a Hazardous Waste Disposal</b> (Disposal by licensed contractor. Disposal method determined based on compliance with local government requirements.)							
	Chemical waste disposal - liquid <sup>1</sup>	litres	283,429	260,920	264,730	239,260	214,800
	Chemical waste disposal - liquid <sup>2</sup>	kg	272,092	250,483	254,141	229,690	206,208
	Chemical waste disposal - solid	kg	8,840	7,833	8,519	191,807	18,595
<b>GRI 306-2b: i Non Hazardous Waste Reuse</b> (Inert wastes generated in Hong Kong and Singapore only.)							
<i>Total inert material to public fill (Public fill banks are managed by local Governments and materials are reused for backfill / land formation etc.)</i>							
	Total quantity of inert material to public fill	tonnes	1,468,132	961,210	952,314	841,643	1,049,576
	Hong Kong (direct to public fill)	tonnes	1,150,241	765,896	937,071	829,094	1,030,466
	Hong Kong (sorting facilities portion) <sup>3</sup>	tonnes	20,325	28,892	15,244	12,549	11,756

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-Ellella et al.
3. Assumed 50% of waste sent to sorting facilities is diverted to public fill.

GRI Standard	Performance Indicators	Units	2016	2017	2018	2019	2020
<b>ENVIRONMENT-ZERO WASTE</b>							
<b>GRI 306</b>	<b>Effluent and Waste (continued)</b>						
<b>GRI 306-2b: i Non Hazardous Waste Reuse (continued)</b>							
	Singapore	tonnes	297,567	166,422	-	-	-
	Macau	tonnes	-	-	-	-	7,355
	Total quantity of direct inert material reused on site or other site	tonnes	148,125	410,833	724,645	1,009,453	509,981
	Hong Kong	tonnes	112,542	191,833	724,110	1,009,078	509,884
	Singapore <sup>1</sup>	tonnes	35,583	219,000	535	375	96
	Direct inert material reused percentage <sup>2</sup>	%	9	30	43	55	33
<b>GRI 306-2b: ii Non Hazardous Waste Recycling (diverted from landfill)</b>							
	Total waste recycled excluding rebar/steel	tonnes	3,373	1,792	1,252	4,477	2,597
	Recycling rate (excluding rebar / steel) <sup>3</sup>	%	4.5	2.2	2	6	4.8
	Total waste recycled including rebar/steel	tonnes	40,139	34,394	11,112	10,948	17,878
	Recycling rate (including rebar / steel) <sup>3</sup>	%	36	30	15	13	26
	Rebar/steel recycled	kg/HK\$1m Turnover	1,804	1,587	523	361	764
		tonnes	36,767	32,602	9,860	6,467	15,281
<b>GRI 306-2b: iv Non Hazardous Waste Incineration (waste to energy)</b>							
	Total construction site waste incinerated						
	Macau <sup>4</sup>	tonnes	-	-	-	-	954
	Singapore <sup>5</sup>	tonnes	241	675	260	102	1,539
<b>GRI 306-2b: vii Non Hazardous Waste Disposal<sup>6</sup></b>							
	Total construction site waste sent to landfill - HK						
		tonnes	50,524	49,483	45,542	57,964	39,593
	Total construction site waste sent to sorting facilities - HK <sup>7</sup>						
		tonnes	20,325	28,892	15,244	12,549	11,756

- Limited excavation work in Singapore since 2018 (rail projects excavations largely completed).
- Direct reuse and reception site arrangement initiated by Gammon.
- Starting from 2019, total waste to landfill includes 50% of the waste disposed of at Government sorting facilities.
- Waste Incineration quantity reported in Macau since 2020.
- Construction Waste Incineration reported in SGP in addition to Food Waste Incineration since 2019.
- Waste to Landfill and Sorting Facilities reported separately since 2020.
- Assumed 50% of waste sent to sorting facilities is residual waste sent to landfill.

**VALUE CHAIN-CO-CREATION**

GRI 102	General disclosures						
<i>GRI 102-9, (GRI 204-1)</i>	<i>Supply chain/Procurement practice</i> <i>Subcontractors are taken to be external parties providing services and/or labour. Suppliers are taken to be external parties supplying equipment or materials</i>						
	<b>Active subcontractors and suppliers</b>	number	1708	1677	1819	1912	1,985
	<b>Location of suppliers by country or region</b>						
	Hong Kong & Mainland China (considered to be local)	% by number	97	95	97	96	94
	Overseas	% by number	3	5	3	4	6
	<b>Payment to suppliers by country or region</b>						
	Hong Kong & Mainland China (considered to be local)	HK\$1M	-	2634	3171	3262	3,252
	Overseas	HK\$1M	-	75	105	214	218
	<b>Supply chain category</b>						
	Subcontractors	number	905	919	939	990	968
	Distributors/Traders/Stockists	number	645	621	753	776	751
	Manufacturers	number	101	85	69	78	145
	Licensees	number	28	26	32	23	39
	Professional	number	13	2	2	3	43
	Contractors	number	2	1	3	3	5
	Service companies	number	12	23	21	39	34
	NGO/Charitable organisations <sup>1</sup>	number	2	0	0	0	0

GRI 102-44	Key topics and concerns raised						
	<b>Yearly customer satisfaction survey</b>						
	Very satisfied	%	20	17	20	22.9	To be updated later in 2021
	Satisfied	%	60	66	55	52.1	
	Neutral	%	17	11	11	20.8	
	Dissatisfied	%	3	6	13	2.1	
	Very dissatisfied	%	0	0	2	2.1	

1. Excludes company events.

GRI Standard	Performance Indicators	Units	2016	2017	2018	2019	2020
<b>PEOPLE-CARING</b>							
<b>GRI 102</b>	<b>General disclosures</b>						
	<i>Employees and workers</i>						
	<i>The level of detail of the data has gradually improved since 2017 with some data reporting started in 2019</i>						
<i>GRI 102-8</i>	<i>Information on employees and other workers</i>						
GRI 102-8 a&b	<b>Total monthly-paid staff (by location, contract type and gender)</b>	number	4,578	4,381	4,445	4,589	4,482
	<b>Mainland China</b>	number	524	474	397	428	414
	Permanent	%	-	100	100	100	100
	Male	number	-	-	-	269	256
	Female	number	-	-	-	159	158
	Contract	%	-	0	0	0	0
	<b>Singapore</b>	number	368 <sup>1</sup>	336	297	262	241
	Permanent	%	-	92	93	96	97
	Male	number	-	-	-	204	187
	Female	number	-	-	-	48	47
	Contract	%	-	8	7	4	3
	Male	number	-	-	-	9	7
	Female	number	-	-	-	1	0
	<b>Hong Kong &amp; Macau</b>	number	3,683	3,568	3,748	3,898	3,827
	Permanent	%	-	89	87	85	87
	Male	number	-	-	-	2714	2704
	Female	number	-	-	-	617	639
	Contract	%	-	11	13	15	13
	Male	number	-	-	-	520	448
	Female	number	-	-	-	47	36
	<b>Vietnam</b>	number	3	3	3	1	0
	Permanent (Female)	%	-	100	100	100	0
	Contract	%	-	0	0	0	0
GRI 102-8-c	<b>Total part-time employees (monthly and daily paid)</b>	number	-	-	-	13	22
	Male	number	-	-	-	5	17
	Female	number	-	-	-	8	5
	<b>Total daily paid employees (all locations)<sup>1</sup></b>	number	3,257	2,887	2,479	2,445	2,220
	Male	number	-	-	-	2,118	1,898
	Female	number	-	-	-	327	322
GRI 102-8-d	<b>Total subcontractor workers (all locations)<sup>2</sup></b>	number	10,690	13,381	12,342	11,773	13,521
	Mainland China <sup>3</sup>	number	-	-	146	180	191
	Macau	number	-	-	-	502	1,065
	Hong Kong	number	10,198	12,477	11,037	10,459	11,865
	Singapore	number	492	904	1,159	632	400
GRI 102-8 e&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.						

- Daily paid workers may also work for other contractors.
- Subcontractors are defined as workers providing services or labour to support construction works on site or at Pristine providing services and/or labour.
- Started reporting subcontractors at Pristine in 2018.

GRI Standard Performance Indicators Units 2016 2017 2018 2019 2020

**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	number	649	720	903	958	727	
By age group	Under 30 years old	number	332	344	414	432	338	
	30-50 years old	number	240	286	362	406	297	
	Over 50 years old	number	64	90	127	120	92	
	Under 30 years old	% of total employees	-	-	-	9.4	7.5	
	30-50 years old	% of total employees	-	-	-	8.8	6.6	
	Over 50 years old	% of total employees	-	-	-	2.6	2.1	
By gender	Male	number	-	-	-	758	573	
	Female	number	-	-	-	200	154	
	Male	% of total employees	-	-	-	16.5	12.8	
	Female	% of total employees	-	-	-	4.4	3.4	
By region	Male (% of total male employees)	employee rate	-	-	19	20	16	
	Female (% of total female employees)	employee rate	-	-	24	23	18	
	Mainland China & Rest of Asia	number	-	-	-	118	54	
	Singapore	number	-	-	-	78	49	
	Hong Kong & Macau	number	-	-	-	762	624	
	Mainland China & Rest of Asia	% of total employees	-	-	-	2.6	1.2	
	Singapore	% of total employees	-	-	-	1.7	1.1	
	Hong Kong & Macau	% of total employees	-	-	-	16.6	13.9	
GRI 401-1b	By age group	Under 30 years old	number	288	282	227	227	225
		30-50 years old	number	321	301	278	304	284
		Over 50 years old	number	55	55	66	53	48
		Under 30 years old	% of total employees	-	-	-	4.9	5
		30-50 years old	% of total employees	-	-	-	6.6	6.3
		Over 50 years old	% of total employees	-	-	-	1.2	1.1
	By gender	Male	number	-	-	-	449	448
		Female	number	-	-	-	135	106
		Male	% of total employees	-	-	-	9.8	10
		Female	% of total employees	-	-	-	2.9	2.4
	By region	Male (% of total male employees)	turnover rate	-	-	12	12	13
		Female (% of total female employees)	turnover rate	-	-	19	15	12
		Mainland China & Rest of Asia	number	-	-	-	479	43
		Singapore	number	-	-	-	48	49
		Hong Kong & Macau	number	-	-	-	57	462
	Mainland China & Rest of Asia	% of total employees	-	-	-	10.4	1	
	Singapore	% of total employees	-	-	-	1	1.1	
	Hong Kong & Macau	% of total employees	-	-	-	1.2	10.3	

GRI Standard Performance Indicators Units 2016 2017 2018 2019 2020

**PEOPLE - CARING**

**GRI 401 Employment (continued)**

**GRI 401-1b Staff turnover (continued)**

**Graduate and apprentice recruitment**

Hong Kong only. Includes both degree and higher diploma holders.

	number	65	70	97	96	149
Graduate recruitment	number	65	70	97	96	149
Technician apprentice recruitment	number	55	44	34	23	45

**GRI 404 Training and Education**

**GRI 404-1 Average training hours (monthly paid employees)**

Since 2017 data includes HK, Macau and Singapore, excludes Mainland China. 2016 and previous data includes HK and Macau only.

	hrs/employee	16.2	12.8	14.3	16	10.1
<b>GRI 404-1a i. Training by gender</b>						
Male <sup>1</sup>	%	84.9	83.8	88.9	86	84.4
Female	%	15.1	16.2	11.1	14	15.6
Male	hrs/employee	17.2	12.8	13.9	16.5	10.6
Female	hrs/employee	11.3	12.3	7.4	11.7	8
<b>GRI 404-1a ii. Training by management class</b>						
Director	%	1.1	1.3	1.6	0.4	1
Managerial	%	15.1	14.3	15.1	19	19.1
Professional	%	32.3	29	26.3	31.6	34.5
Supervisory	%	14.8	15.9	13.5	15.3	15.6
Technical	%	32.4	35.2	41.5	28.6	25.2
Others	%	4.3	4.2	2.1	5.1	4.1
<b>GRI 404-1a ii. Training hours by management class</b>						
Director	hrs/employee	37.6	36	52.8	16.4	21.2
Managerial	hrs/employee	16.1	14.3	15.7	24.2	14.8
Professional	hrs/employee	15.8	14.6	12.3	18.3	11.9
Supervisory	hrs/employee	9.6	8.8	8.8	13	8.3
Technical	hrs/employee	11.5	15	17.7	17.2	9.4
Others	hrs/employee	4.5	5	2.2	7.4	3.7
<b>GRI 404-3 Career &amp; performance review (monthly paid employees excluding Pristine)</b>						
<b>Performance review by gender</b>						
Male	%	-	79	83	92	98.2
Female	%	-	78	74	92	98.2
<b>Performance review by management class</b>						
Director	%	-	100	100	100	100
Managerial	%	-	64	59	79	92.8
Professional	%	-	80	77	93	98.5
Supervisory	%	-	93	92	95	98.1
Technical	%	-	70	86	96	99.2
Others	%	-	82	78	91	99.8

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

GRI Standard Performance Indicators Units 2016 2017 2018 2019 2020

**PEOPLE - CARING**

**(GRI 405) Diversity and equal opportunity**

*(GRI 405-1) Diversity of governance bodies and employees<sup>1</sup>*

*(GRI 405-1a) Diversity of governance bodies*

*Includes Executive Directors only - excludes shareholder board members. Data reported since 2017.*

Employees in governance bodies by gender						
Male	%	-	88.9	87.5	80	85.7
Female	%	-	11.1	12.5	20	14.3
<b>Employees in governance bodies by age group</b>						
Under 30 years old	%	-	0	0	0	0
30-50 years old	%	-	11.1	0	0	0
Over 50 years old	%	-	88.9	100	100	100
<b>Employees in governance bodies by nationality</b>						
Chinese	%	-	55.6	62.5	80	42.9
British	%	-	22.2	12.5	0	28.6
Singaporean	%	-	22.2	25	20	14.3
Irish	%					14.3
<i>Corporate social initiatives (HK and Singapore)</i>						
<b>Volunteer hours (preparation and participation time)<sup>2</sup></b>	hours		2,487	4,359	3,507	1,689
<b>Number of community activities<sup>3</sup></b>	number		102	147	88	70

1. Data reported since 2017.

2. Includes HK + Singapore. Activities during working hours: 499 hours; during non-working hours: 514 hours

3. Including SGP.

**GOVERNANCE**

**(GRI 307) Environmental compliance**

*(GRI 307-1) Non-compliance with environmental laws and regulations*

Environmental convictions	number	0	0	0	0	0
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**GRI 416 Customer health and safety**

*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 <sup>1</sup>	number	-	0	2	7	6
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**GRI 419 Socioeconomic compliance**

*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
<b>Total number of non-monetary sanctions</b>	number	-	-	1	0	0

1. Data reported from 2017 only. In 2020 there were 6 conviction cases related to construction site safety issues for GCL (5) and GECCL (1). Each fine was less than HKD50,000.

# Appendix B – 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 2020

**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 2020 (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 2020 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 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020.

**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.

**FINDINGS AND CONCLUSIONS**

**ASSURANCE/VERIFICATION 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



Miranda Kwan  
Director  
Knowledge  
1 November 2021

WWW.SGS.COM



**AA1000**  
Licensed Assurance Provider  
000-8

Registered Reference No. of Assurance Statement:  
000-8/V3-8PM0C



Statement HK21/00095

The inventory of greenhouse gas emissions in  
1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020 of

**Gammon Construction Limited**

Verification addresses are listed on the subsequent page

has been verified in accordance with ISO 14064-3:2006 as meeting the requirements of

**ISO 14064-1:2018**

From the RESPONSIBLE PARTY:

Direct GHG Emissions  
**50,699.58 tonnes of CO<sub>2</sub>e**  
Indirect GHG Emissions from Imported Energy  
**15,209.79 tonnes of CO<sub>2</sub>e**  
Indirect GHG Emissions from Transportation  
**886.41 tonnes of CO<sub>2</sub>e**  
Indirect GHG Emissions from Products Used by the RESPONSIBLE PARTY  
**45,691.12 tonnes of CO<sub>2</sub>e**  
Total Direct and Indirect GHG Emissions  
**112,486.90 tonnes of CO<sub>2</sub>e**  
CO<sub>2</sub> Emissions from Combustion of Biomass  
**2,053.87 tonnes of CO<sub>2</sub>**



Authorised by



Date: 12<sup>th</sup> May 2021

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.sgs.com.hk

This Statement is not valid without the full Greenhouse Gas Statement from the RESPONSIBLE PARTY and the verification scope, objectives, criteria and findings available on pages 2 to 6 of this Statement

Page 1 of 6



Statement HK21/00095, continued

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 14064-3:2006

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 2020 (dated 26<sup>th</sup> April 2021, revision 2)* covering GHG emissions of the period 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020.

#### Roles and Responsibilities

The management of the RESPONSIBLE PARTY 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.

It was SGS's responsibility to express an independent GHG verification opinion on the GHG Statement as provided by the RESPONSIBLE PARTY for the period 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020.

SGS conducted a third party verification of the provided GHG Statement in the period 25<sup>th</sup> February 2021 to 29<sup>th</sup> April 2021 against the principles and requirements of agreed criteria. The verification was based on the verification scope, objectives and criteria as agreed between the CLIENT and SGS on 2<sup>nd</sup> March 2021.

#### Level of Assurance

The level of assurance agreed was that of reasonable assurance.

#### Scope

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

- The organizational boundary was established following equity share approach.
- Location/boundary of the activities:
  - Office
    - Gammon Ex-Head Office:
      - 28/F, Devon House, Taikoo Place, Quarry Bay, Hong Kong;
      - Suites 2707-2713 on 27/F Devon House, Taikoo Place, Quarry Bay, Hong Kong;



Statement HK21/00095, continued

- 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;
- Ex-Zero Harm Induction Centre:
  - Flat A, 12/F, Hoover Industrial Building, 26-38 Kwai Cheong Road, Kwai Hing, Hong Kong;
- Gammon Macau Hac Sa Wan Office:
  - Avenida do Almirante Magalhães Correia, No 105, Centro Industrial Furama, 12<sup>o</sup> 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;
- Ex-Gammon Singapore Office:
  - 29 International Business Park #06-05, Acer Building, Tower B, Singapore 609923;
- 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)





Statement HK21/00095, continued

- Dongguan Pristine Metal Works:
  - Fu Lu Sha Region, Sha Tian Town, Dongguan, China (Postal code 523990);
- 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;
  - Ex-Ping Che Warehouse:
    - DD 77 Lot 924-931 932RP & 1531 Ping Che Village, Ta Kwu Ling, Fanling, 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
  - 95 sites (address details refer 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, waterworks and box culverts);
  - 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, percussive 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, non-driven steel sheet piles and steel tubular piles);
  - The carrying out of design and construction of buildings;



Statement HK21/00095, continued

- The carrying out of design and construction of landslip preventive and remedial works to slopes and retaining walls;
  - The carrying out of building activities to keep, restore and improve the facilities of buildings and surroundings;
  - 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 concrete supply services;
  - The carrying out of plant and equipment maintenance;
  - The carrying out of project and design management;
  - The carrying out of calibration services & testing services of construction materials;
  - The carrying out of design, supply, installation and manage contracting of facade system;
  - 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 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 2020 (dated 26<sup>th</sup> April 2021, revision 2)* of the RESPONSIBLE PARTY.
  - Types of GHGs included: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HF<sub>3</sub>, SF<sub>6</sub> and other appropriate GHG groups.
  - GWP adopted: IPCC Fifth Assessment Report (AR5).
  - GHG information for the following period was verified: 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020.

#### 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.





Statement HK21/00095, continued



**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 and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong, 2010 Edition.

**Materiality**

The materiality required for the verification was considered by SGS to 5%, based on the needs of the intended user of the GHG Statement.

**Conclusion**

The RESPONSIBLE PARTY provided the GHG Statement based on the requirements of agreed criteria. The GHG information for the period 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020 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 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020 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 document review, interview, observation and site visit 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.

This Statement shall be interpreted with the GHG Statement of *Greenhouse Gas (GHG) Report Year 2020 (dated 26<sup>th</sup> April 2021, revision 2)* of the RESPONSIBLE PARTY as a whole.

Note: The findings recorded hereon are based upon a verification performed by SGS. This Statement does not relieve Client from compliance with any bylaws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.

# Appendix C - 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.
3. \* indicates that the topic has been identified as a material issue in the stakeholder engagement process
4. A copy of Sustainability Report 2019 referred to in the table below can be found online here: [www.gammonconstruction.com/en/sustainability-report.php](http://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
<b>Foundation</b>				
GRI 101	101		1 24	Introduction to the report Our company: Report content
<b>General Disclosures</b>				
<b>Organisational Profile</b>				
GRI 102	102-1	Name of the organization	Cover page Inside front cover 26 Back cover	Gammon company logo Our Brands Who we are: Organisation and report coverage Gammon company logo
	102-2	Activities, brands, products, and services	Inside front cover 26	Our Brands Who we are: Organisation and report coverage
	102-3	Location of headquarters	Back cover	Headquartered in Hong Kong
	102-4	Location of operations	8 26 Back cover	Project Spotlight Who we are: Organisation and report coverage Location of offices
	102-5	Ownership and legal form	Back cover  28	Statement "Jointly and equally owned by Jardines and Balfour Beatty" Who we are: Organisation and report coverage, Scale of organisation
	102-6	Markets served	8 26	Project Spotlight Who we are: Organisation and report coverage
	102-7	Scale of the organisation	8 22 26 29 70	Project Spotlight Performance at a Glance Who we are: Organisation and report coverage, Scale of the organisation Who we are: Organisation and report coverage, Market position and project awards Appendix A: Key Performance Indicators (KPI table)
	102-8	Information on employees and other workers	70	Appendix A: Key Performance Indicators (KPI) table [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	66 70	How we manage: Our supply chain Appendix A: Key Performance Indicators (KPI) table
	102-10	Significant changes to the organization and its supply chain	Inside front cover 28 Back cover	Our Brands Who we are: Report content Location of offices  [Gammon Construction (Shanghai) Limited was closed down.]
	102-11	Precautionary Principle or approach	54	How we manage: Managing Risk
	102-12	External initiatives	65	How we manage: External commitments and initiatives
<b>Strategy and Analysis</b>				
	102-13	Membership of associations	31 65 87	Who we are: In the pursuit of excellence How we manage: Association memberships Appendix F: Membership of associations and industry bodies

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s)	Content reference and remark
<b>General Disclosures (continued)</b>				
<b>Strategy and Analysis</b>				
GRI 102	102-14	Statement from senior decision-maker	4-5	Message from the Chief Executive
<b>Ethics and Integrity</b>				
GRI 102	102-16	Values, principles, standards, and norms of behaviour	53	How we manage: Values and norms of behaviour
<b>Governance</b>				
GRI 102	102-18	Governance structure	52	How we manage: Governance Structure
<b>Stakeholder Engagement</b>				
GRI 102	102-40	List of stakeholder groups	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-41	Collective bargaining agreements	68	How we manage: Employee rights - collective bargaining agreements
	102-42	Identifying and selecting stakeholders	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-43	Approach to stakeholder engagement	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues
	102-44	Key topics and concerns raised	31 53 70 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues How we manage: Values and norms of behaviour Appendix A: Key Performance Indicators (KPI) table Appendix D - Stakeholder engagement and materiality assessment summary report
<b>Reporting Practice</b>				
GRI 102	102-45	Entities included in the consolidated financial statements	26	Who we are: Organisation and report coverage
	102-46	Defining report content and topic Boundaries	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-47	List of material topics	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-48	Restatements of information	--	Any restatement of data in the report are highlighted individually with relevant explanation.
	102-49	Changes in reporting	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report  [No significant changes from previous reporting period in the list of material topics and topic boundaries.]
	102-50	Reporting period	3 26	Introduction Who we are: Organisation and report coverage
	102-51	Date of most recent report	26	Who we are: Organisation and report coverage
	102-52	Reporting cycle	26	Who we are: Organisation and report coverage
	102-53	Contact point for questions regarding the report	3 Back cover 31	Introduction Description under the list of office addresses Materiality assessment results  [sustainability@gammonconstruction.com]
	102-54	Claims of reporting in accordance with the GRI Standards	3 30	Alignment to GRI Standards Our company: Report content
	102-55	GRI content index	30 87	Who we are: Report content Appendix C - GRI content Index
	102-56	External assurance	3 30 79	Structure of the report Who we are: Report content Appendix B - Verification Statement

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s)	Content reference and remark
<b>General Disclosures (continued)</b>				
<b>Management Approach</b>				
GRI 103	103-1	Explanation of the material topic and its boundary	31 65 [Sustainability Report 2019]	Who we are: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	103-2	The management approach and its components	52-68	See How we manage for our management approach and its comment in each section for details
	103-3	Evaluation of the management approach	52-68	See How we manage for our management approach and its comment in each section for details
<b>Economic Topics</b>				
<b>Procurement Practices</b>				
(GRI 103)	(103-2, 103-3)	Management Approach	66	Value chain - Co-creation: Our supply chain
(GRI 204)	(204-1)	Proportion of spending on local suppliers	70 66	Appendix A: Key Performance Indicators (KPI table) Value chain - Co-creation: Local supply chain spending
<b>Anti-corruption*</b>				
GRI 103	103-2, 103-3	Management Approach	54	How we manage: Anti-corruption
GRI 205	205-1	Operations assessed for risks related to corruption	54	How we manage: Anti-corruption - Corruption risk assessment
<b>Environmental Topics</b>				
<b>Materials*</b>				
GRI 103	103-2, 103-3	Management Approach	47 59	Table: Progress on Responsible Growth - 25 by 25: Co-creation targets How we manage: Materials
			70 61	Appendix A: Key Performance Indicators (KPI table) Environment Zero Waste: Steel and concrete
GRI 301	301-1	Materials used by weight or volume	70 61	Appendix A: Key Performance Indicators (KPI table) Environment Zero Waste: Steel and concrete
			70 61 62	Appendix A: Key Performance Indicators (KPI table) How we manage: Other materials How we manage: Low carbon ready-mix concrete
<b>Energy*</b>				
GRI 103	103-2, 103-3	Management Approach	41 42 60 63	Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets Zero Emission Construction Site How we manage: environmental management How we manage: energy
			7 12 41 70	Award Highlights: Renewable energy Environment Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets Appendix A: Key Performance Indicators (KPI table)
GRI 302	302-1	Energy consumption within the organisation	7 12 41 70	Award Highlights: Renewable energy Environment Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets Appendix A: Key Performance Indicators (KPI table)
			7 70	Award Highlights: Renewable energy Appendix A: Key Performance Indicators (KPI table)
			70	Appendix A: Key Performance Indicators (KPI table)
GRI 302-5	302-5	Reductions in energy requirements of products and services	6, 7 40, 41 64	Award Highlights: Maintaining environmental excellence and Renewable energy Environment: Zero Waste: Award-winning construction and Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets How we manage: energy efficiency

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s)	Content reference and remark
<b>Environmental Topics (continued)</b>				
<b>Water</b>				
(GRI 103)	(103-2, 103-3)	Management Approach	---	Not a material issue but data available and historically reported
(GRI 303)	(303-1)	Water withdrawal by source	13 41 70	Environment Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets Appendix A: Key Performance Indicators (KPI table)
	(303-3)	Water recycled and reused	33 41 70	Green & Site Caring Programme Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets Appendix A: Key Performance Indicators (KPI table)
<b>Emissions</b>				
(GRI 103)	(103-2, 103-3)	Management Approach	---	Not a material issue but data available and historically reported
(GRI 305)	(305-1)	Direct (Scope 1) GHG emissions	70	Appendix A: Key Performance Indicators (KPI table)
	(305-2)	Energy indirect (Scope 2) GHG emissions	70	Appendix A: Key Performance Indicators (KPI table)
	(305-3)	Other indirect (Scope 3) GHG emissions	70	Appendix A: Key Performance Indicators (KPI table)
	(305-4)	GHG emissions intensity	70	Appendix A: Key Performance Indicators (KPI table)
<b>Effluent and Waste*</b>				
GRI 103	103-2, 103-3	Management Approach	13 39 40 62	Environment Environment - Zero Waste: Concrete savings Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets How we manage: Effluent and waste
GRI 306	306-2	Waste by type and disposal method	13 21 38, 39 70	Environment Innovation: Digital ESSW Environment - Zero Waste: Recycling, All the way with DfMA Appendix A: Key Performance Indicators (KPI table)
<b>Environmental Compliance</b>				
(GRI 103)	(103-2, 103-3)	Management Approach	--	Not a material issue but data available and historically reported
(GRI 307)	(307-1)	Non-compliance with environmental laws and regulations	70	Appendix A: Key Performance Indicators (KPI table)
<b>Social Topics</b>				
<b>Employment*</b>				
GRI 103	103-2, 103-3	Management Approach	51 67	Table: Progress on Responsible Growth - 25 by 25: Caring targets People - Caring: Employment
GRI 401	401-1	New employee hires and employee turnover	17 51 67 70	People Table: Progress on Responsible Growth - 25 by 25: Caring targets People - Caring: Employment, Training and Education Appendix A: Key Performance Indicators (KPI table)
<b>Occupational health and Safety (2018)*</b>				
GRI 103	103-2, 103-3	Management Approach		
GRI 403	403-1	Occupational health and safety management system	55	How we manage: Occupational health and safety management system
	403-2	Hazard identification, risk assessment, and incident investigation	10, 11 32, 33 34 35 56	Safety Green and Caring Site Commitment Safety - Zero Harm: Getting more from 4D Safety - Zero Harm: A different outlook, Accelerating behavioural change How we manage: Hazard identification, risk assessment and incident investigation

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s)	Content reference and remark
<b>Social Topics (continued)</b>				
GRI 403	403-1	Occupational health and safety management system	55	How we manage: Occupational health and safety management system
	403-2	Hazard identification, risk assessment, and incident investigation	10, 11 32, 33 34 35 56	Safety Green and Caring Site Commitment Safety - Zero Harm: Getting more from 4D Safety - Zero Harm: A different outlook, Accelerating behavioural change How we manage: Hazard identification, risk assessment and incident investigation
	403-3	Occupational health services	32,33 56	Green and Caring Site Commitment How we manage: Occupational health services and worker health promotion
	403-4	Worker participation, consultation, and communication on occupational health and safety	58	How we manage: Worker participation, consultation and communication on occupational health and safety
	403-5	Worker training on occupational health and safety	37	Safety - Zero Harm: The big picture
	403-6	Promotion of worker health	10 17 22,23 36 48 56	Safety People Green and Caring Site Commitment Safety - Zero Harm: Protecting our workers, Behind the masks People - Caring: A focus on heart, health and happiness 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	58	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	55 57	How we manage: Commitment to safety How we manage: Employee assistance programme
<b>Training and Education*</b>				
GRI 103	103-2, 103-3	Management Approach	17 51 67	People Table: Progress on Responsible Growth - 25 by 25: Caring targets How we manage: Training and education
GRI 404	404-1	Average hours of training per year per employee	49 70	People - Caring: Training, educating and upskilling Appendix A: Key Performance Indicators (KPI table)
	404-2	Programs for upgrading employee skills and transition assistance programs	49 67 68	People - Caring: Training, educating and upskilling How we manage: Employment; Training and education How we manage: Development and support
	404-3	Percentage of employees receiving regular performance and career development reviews	68 70	How we manage: Development and support Appendix A: Key Performance Indicators (KPI table)
<b>Diversity and Equal Opportunity</b>				
(GRI 103)	(103-2, 103-3)	Management Approach	---	Not a material issue but data available and historically reported
(GRI 405)	(405-1)	Diversity of governance bodies and employees	50 68 70	People - Caring: Women in Gammon and Allies Network How we manage: Diversity and inclusion Appendix A: Key Performance Indicators (KPI table)
<b>Customer Health and Safety*</b>				
GRI 103	103-2, 103-3	Management Approach	31 58	Who we are: Stakeholder engagement and material issues How we manage: Customer health and safety and compliance of products and services
GRI 416	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	xx	Appendix A: Key Performance Indicators (KPI table)
<b>Socio-economic Compliance (Quality/compliance of products and services)*</b>				
GRI 103	103-2, 103-3	Management Approach	58	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	70	Appendix A: Key Performance Indicators (KPI table)

## Appendix D – Other Initiatives – Awards

Date	Name of Award	Issued by	Name of Project / Division
23-May-20	Smoke-Free Leading Company Awards -Gold	Hong Kong Council on Smoking and Health	Gammon Construction Limited
23-May-20	Smoke-Free Leading Company Awards - Outstanding Smoke-Free Community Involvement	Hong Kong Council on Smoking and Health	Gammon Construction Limited
01-Jun-20	10 Year Plus Caring Company Logo in Caring Company 2019/2020	Hong Kong Council of Social Service	Gammon Construction Limited
03-Jul-20	Hong Kong Awards for Environmental Excellence 2019 Construction Industry - Gold	Environmental Campaign Committee	Main Contract for Medical Complex Extension at No. 21 Sassoon Road for The University of Hong Kong
03-Jul-20	Hong Kong Awards for Environmental Excellence 2019 Construction Industry - Merit	Environmental Campaign Committee	Tuen Mun - Chek Lap Kok Link - Northern Connection Tunnel Buildings, E&M Works (Contract No.: HY/2017/10)
03-Jul-20	Hong Kong Green Certification	Environmental Campaign Committee	Concrete Technology Department
09-Oct-20	Contractor Hiring the Most Number of Graduates - Silver	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
09-Oct-20	Contractor Hiring the Most Number of Trades - Gold	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
09-Oct-20	Employer Offering Outstanding Apprenticeship Training - Gold	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited



**Our Central Kowloon Route – Kai Tak West project won an Outstanding Award for Volunteering Excellence (photo by Gammon Senior Construction Supervisor Lunggy Kwok Lung Fung)**

Date	Name of Award	Issued by	Name of Project / Division
09-Oct-20	A Good Employer Offering Semi-Skilled Workers Training - Commended	Construction Industry Council and Hong Kong Institute of Construction	Gammon Construction Limited
27-Oct-20	26th Considerate Contractors Site Award Scheme Non-Public Works - New Works - Group B - Gold	Development Bureau and the Construction Industry Council	Proposed Residential Development at KIL 11257, Sheung Shing Street
27-Oct-20	26th Considerate Contractors Site Award Scheme Non-Public Works - New Works - Group B (Outstanding Environmental Management and Performance Awards) - Silver	Development Bureau and the Construction Industry Council	Proposed Residential Development at KIL 11257, Sheung Shing Street
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Worker	Development Bureau and the Construction Industry Council	Mr Wong Hei-mui
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Frontline Supervisor	Development Bureau and the Construction Industry Council	Mr Pang Hui-fung
27-Oct-20	26th Considerate Contractors Site Award Scheme - Non-Public Works - RMAA Works - Gold	Development Bureau and the Construction Industry Council	Medical Complex Extension at No. 21 Sasson Road for The University of Hong Kong
27-Oct-20	26th Considerate Contractors Site Award Scheme - Non-Public Works - RMAA Works (Outstanding Environmental Management and Performance Awards) - Gold	Development Bureau and the Construction Industry Council	Medical Complex Extension at No. 21 Sasson Road for The University of Hong Kong
27-Oct-20	26th Considerate Contractors Site Award Scheme - Non-Public Works - Model Subcontractor - Gold	Development Bureau and the Construction Industry Council	Entasis Limited Medical Complex Extension at No. 21 Sasson Road for The University of Hong Kong
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Worker	Development Bureau and the Construction Industry Council	Mr Chan Pik-kwan
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Frontline Supervisor	Development Bureau and the Construction Industry Council	Mr Suen Chun-chung
27-Oct-20	Outstanding Award for Volunteering Excellence and Activeness	Development Bureau and the Construction Industry Council	Central Kowloon Route - Kai Tak West
27-Oct-20	26th Considerate Contractors Site Award Scheme Non-Public Works - New Works - Group B - Bronze	Development Bureau and the Construction Industry Council	Sai Sha Road Widening Works
27-Oct-20	26th Considerate Contractors Site Award Scheme Non-Public Works - New Works - Group B (Outstanding Environmental Management and Performance Awards) - Silver	Development Bureau and the Construction Industry Council	Sai Sha Road Widening Works
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Worker	Development Bureau and the Construction Industry Council	Mr Ng Kim-hung
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Frontline Supervisor	Development Bureau and the Construction Industry Council	Mr Cheung Kai-hung

Date	Name of Award	Issued by	Name of Project / Division
27-Oct-20	26th Considerate Contractors Site Award Scheme - Model Subcontractor Frontline Supervisor	Development Bureau and the Construction Industry Council	Mr Cheung Wai-shing
27-Oct-20	Innovative Safety Initiative Award 2020 - Health and Welfare - Merit	Hong Kong Construction Association	Innovative technology development healthy and safe work spaces
27-Oct-20	Innovative Safety Initiative Award 2020 - Safety Management System, Training and Promotion - Merit	Hong Kong Construction Association	GamBot-Safety Inspection Analysis
27-Oct-20	Innovative Safety Initiative Award 2020 - Safety Operational Device - Gold	Hong Kong Construction Association	The way we build
27-Oct-20	Innovative Safety Initiative Award 2020 - Safety Operational Device - Silver	Hong Kong Construction Association	An Innovative & Safe Way of Tree Transplant
27-Oct-20	Innovative Safety Initiative Award 2020 - Safety Operational Device - Merit	Hong Kong Construction Association	ELS System with DfMA Skidding Mega Trusses
27-Oct-20	Lifting Safety Management System - Merit	Development Bureau and the Construction Industry Council	Gammon Construction Limited
10-Nov-20	Celebration of BIM Achievement 2020 - BIM Project 2020	Construction Industry Council	Advanced Manufacturing Centre
10-Nov-20	Celebration of BIM Achievement 2020 - BIM Project 2020	Construction Industry Council	Global Switch Data Centre (Design and Build)
10-Nov-20	Celebration of BIM Achievement 2020 - BIM Organisation 2020	Construction Industry Council	Gammon Construction Limited
13-Nov-20	Contractor in New Works in CIC Sustainable Construction Award - Gold	Construction Industry Council	Sai Sha Road Widening Works
13-Nov-20	Contractor in RMAA Works in CIC Sustainable Construction Award - Silver	Construction Industry Council	Medical Complex Extension at No. 21 Sassoon Road for the University of Hong Kong
13-Nov-20	Construction Manager in CIC Sustainable Construction Award - Excellent	Construction Industry Council	Michael Wong, Sai Sha Road Widening Works
13-Nov-20	Young Practitioner in CIC Sustainable Construction Award - Outstanding	Construction Industry Council	Wong Chun Kit, Medical Complex Extension at No. 21 Sassoon Road for the University of Hong Kong
17-Nov-20	Workplace Safety & Health Performance Award 2020 - Silver	Workplace Safety and Health Council	Gammon Construction Limited Singapore Branch
17-Nov-20	Safety and Health Award Recognition for Projects (SHARP) Award	Workplace Safety and Health Council	J268 Mayflower MRT Station Project
27-Nov-20	BIM Awards 2020 - Award Winner	Autodesk Hong Kong	Global Switch Hong Kong - A Real Project Example - BIM for Design for Manufacturing and Assembly
15-Dec-20	Renewable Energy (Corporate/Government Bodies) in CLP Smart Energy Award 2020 - Grand Award	CLP	Gammon Technology Park

## Appendix E – Green Building Projects

G4 - CREB



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:

Project	Rating	Client
<b>BEAM Plus NB V2.0 Pilot Project – Hong Kong</b>		
HKU Medical Complex Extension	BEAM Plus NB V2.0 Pilot Provisional Platinum (2019)	The University of Hong Kong
<b>BEAM Plus NB V1.2 Projects – Hong Kong</b>		
eResidence, Ma Tau Wai	BEAM Plus NB V1.2 Final Platinum (2020)	Urban Renewal Authority
Monterey, Tseung Kwan O	BEAM Plus NB V1.2 Final Gold (2020)	Precise Treasure Ltd. (Wheelock Properties Ltd.)
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.)
Global Switch Data Centre Buildings 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 Silver (2019)	Chinachem Group
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.
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.
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.
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.

Project	Rating	Client
<b>BEAM Plus NB V1.2 Projects – Hong Kong</b>		
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.
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 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.
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.
Proposed Residential Development at NKIL No. 6563, Kai Tak Area 1L, Site 2, Kai Tak, Kowloon	BEAM Plus NB V1.2 Provisional Gold (2018)	Milway Development 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.
ONTOLO, Pak Shek Kok	BEAM Plus NB V1.2 Provisional Gold (2017)	Great Eagle Holdings 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.
Construction of Pile Cap for Proposed Residential Development at Site N of TKO TL 60PR, Lohas Park Package 6	BEAM Plus NB V1.2 Provisional Gold (2016)	MTR Corporation Ltd. / Great Team Development 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
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.
M+ Museum, West Kowloon Cultural District	BEAM Plus NB V1.2 Provisional Gold (2015)	West Kowloon Cultural District Authority
Yan Tin Estate, Tuen Mun	BEAM Plus NB V1.2 Provisional Gold (2014)	Hong Kong Housing Authority



Mount Nicholson

Project	Rating	Client
<b>BEAM Plus NB V1.2 Projects – Hong Kong</b>		
Property Development at No. 1 Plantation Road, The Peak	BEAM Plus NB V1.2 Provisional Bronze (2014)	Wharf Peak Properties Limited
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) Limited
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
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 (TKOIE)	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 ELS (Stage 1) Works for Proposed Residential Development at Lot No 560RP Strawberry Hill, 36 Plantation Road, The Peak	BEAM Plus NB V1.2 Ongoing	Jardine Matherson & Co Ltd
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 Commercial Development at KIL 240, 98 How Ming Street, Kwun Tong	BEAM Plus NB V1.2 Ongoing	Turbo Result Ltd, KT Real Estate 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, Hong Kong	BEAM Plus NB V1.2 Ongoing	Jardine Matheson & Co. Ltd.
Foundation and Site Formation for Public Housing Development at Lei Yue Mun Phase 4 at Yan Wing Street, Yau Tong	BEAM Plus NB V1.2 Ongoing	Hong Kong Housing Authority
Design and Construction of Immigration Headquarters in Area 67, Tseung Kwan O, Subcontract for Bored Pile Works	BEAM Plus NB V1.2 Ongoing	HKSAR Immigration Department/Architectural Services Department
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 Ongoing	Kam Sheung Property Development Limited
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 20190526	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

Project	Rating	Client
<b>BEAM Plus NB V1.1 Projects – Hong Kong</b>		
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-level (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 Limited)

Project	Rating	Client
<b>BEAM Plus NB V1.1 Projects – Hong Kong</b>		
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 Limited)
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 V1.1 Provisional Unclassified (2013)	Hong Kong Land Ltd



CIC Zero Carbon Building

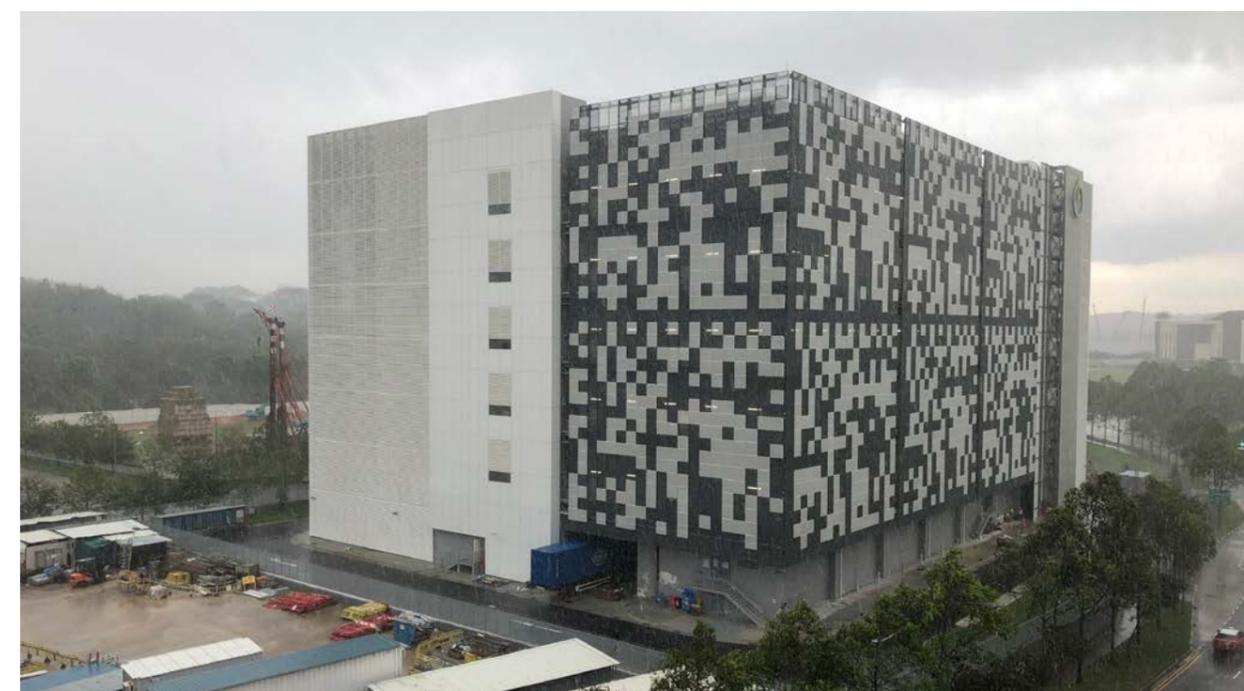


The Murray

Project	Rating	Client
<b>HK BEAM Projects – Hong Kong</b>		
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
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

<b>LEED Projects – Hong Kong</b>		
Central Plaza Annex, Wan Chai	LEED BD+C Core & Shell v4 – Ongoing	Cheer City Properties Limited & 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
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

Project	Rating	Client
<b>LEED Projects – Hong Kong</b>		
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 Limited
Lee Garden Three, Causeway bay	LEED BD+C: Core & Shell v2009 – Final Gold (2018)	Sino Land Co. Ltd
	Hysan Development Co Ltd	Sun Hung Kai Properties Ltd
Foundation Works for Sha Tin Communication and Technology Centre (SCTC)	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
HSBC Project Bridge, Central	LEED CI v2.0 – Gold	The Hong Kong and Shanghai Banking Corporation Ltd



Global Switch Singapore

Project	Rating	Client
<b>WELL Building Standard Projects – Hong Kong</b>		
One Taikoo Place, Quarry Bay	WELL V1 Core & Shell Certified Platinum (2019)	Swire Properties Ltd
The Quayside, Kwun Tong	WELL V1 Core & Shell Ongoing	Link Properties Ltd/ Nan Fung Development Ltd
Gammon Head Office at The Quayside, Kwun Tong	WELL V1 New and Existing Interiors	Hongkong Land Ltd
Pre-certified Gold	Gammon Construction Ltd	Swire Properties Ltd
Proposed Residential Development at 139-147 Argyle Street, Kowloon (Clubhouse and residential towers)	WELL V2 Core & Shell Ongoing	Sino Land Co. Ltd
<b>LEED Projects – Singapore</b>		
Diaphragm wall and Piling works to Singapore Innovation Centre (SglC)	LEED New Construction v2009 – Gold	CH2M Hill Singapore Pte Ltd
P&G Singapore Innovation Centre (SglC)	LEED Commercial Interior v2.0 - Gold	P&G
Design and Construction of 6-Storey Data Centre at Woodlands, Singapore	LEED - Gold	Global Switch
<b>Green Mark Projects – Singapore</b>		
Arkema Symphony Project - Design & Build Building Package 01	Green Mark – Gold	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
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 (SglC)	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 F – Membership of Associations and Industry Bodies

GRI 102-13

### 1. Hong Kong Government

Association/ Body	Group/ Committee	Appointment
<b>A. Statutory Bodies</b>		
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	Audit Committee	Member
	Panel of Enquiry-Site Safety	Member
Town Planning Board	Registered Contractors' Disciplinary Board Panel (Planning and Lands Branch)	Member
	Metro Planning Committee	Member
<b>B. Permanent Non Statutory Bodies</b>		
The Hong Kong Construction Association, Limited (HKCA)	-	Member
	Young Members Society	Chairman
	Civi Engineering Committee	Vice Chairman
	Piling Contractors Committee	Vice Chairman
	Site Investigation Committee	Vice Chairman
	Environmental Committee	Vice Chairman
<b>C. Tertiary Institution</b>		
Vocational Training Council	Building Civil Engineering & Built Environment Training Board	Member
	Electrical and Mechanical Services Training Board	Member
	Engineering Discipline Advisory Board	Member

### 2. Non Government Organization

Association/ Body	Group/ Committee	Appointment
Business Environment Council	Board of Directors	Director
	BEC Executive Committee	Member
	Climate Change Business Forum Advisory Group	Ordinary Member
	Circular Economy Advisory Group	Steering Committee Member
	Sustainable Living Environment Advisory Group	Steering Committee Member

2. Non Government Organisation (continued)		
Association/ Body	Group/ Committee	Appointment
Hong Kong Green Building Council	-	Patron Member
	Sustainable Development Committee	Co-opted Member
	Industry Standards and Practices Committee	Co-opted Member
Hong Kong Institution of Engineers	Building Division	Committee Member
	Civil Division	Committee Member
	Structural Division	Committee Member
	Safety Specialist Committee	Committee Member
Chartered Institute of Building (Hong Kong)	-	Council Member
Chartered Institution of Highways and Transportation, HK Branch	Committee Member	Council Member
Hong Kong E&M Contractors' Association	-	President
Construction Workers Registration Authority	Appeal Board Panel	Committee Member
Hong Kong Federation of Electrical and Mechanical Contractors Ltd	-	Vice President
	Government Liaison Committee	Member
The Hong Kong General Chamber of Commerce	Real Estate & Infrastructure Committee	Vice-Chairman
	Manpower Committee	Member
	Environment & Sustainability Committee	Member
The Hong Kong Management Association	The HKMA Operations Management Committee	Member
The Hong Kong Retirement Schemes Association	-	Member
British Chamber of Commerce in Hong Kong	-	Corporate Member
	General Committee	Member
	Construction Industry Group	Chairman
	Construction Industry Group	Member
	Innovation and Technology Committee	Member
	Environment and Energy Committee	Vice-Chairman
	CSR Steering Group	Member
	Future Leaders Committee	Member
	International Infrastructure Forum	Member
Lighthouse Club	Safety Committee	Chairman
English Schools Foundation	Audit Committee	Member
Society of Operations Engineers (HK Region)	Executive Committee	Past President
	Council Board	Vice Chairman
Hong Kong Council for Accreditation of Academic & Vocational Qualifications	Construction and Building Service	Subject Specialists
Hong Kong Computer Society	-	Board Member
	Council of Talent Cultivation	Director
The Singapore Contractors Association Limited	-	SCAL's Young Leaders



## 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](mailto:sustainability@gammonconstruction.com)

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