



**Powering up for progress**

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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

Front cover: Our 200kWp solar photovoltaic system at the Gammon Technology Park in Tseung Kwan O is connected to the electricity grid as part of the Feed-in-Tariff programme



# INTRODUCTION TO THE REPORT

## POWERING UP FOR PROGRESS

Welcome to the 18th edition of our sustainability report! We have titled our report for 2019 Powering up for progress as we have made substantial progress towards our goal of becoming the 'Smart and Digital Contractor of Choice' and working towards the targets 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)).

'Powering up' also refers to new green initiatives in powering both sites (through mass battery energy storage systems, see page 10) and electricity generation in Gammon (with solar photovoltaic panels linked to the electricity grid and receiving a feed-in tariff, see cover and page 11).

Achieving the goal of being not only smart and digital but also sustainable is, particularly for a contractor, a long game – especially when many of our construction methods and energy sources remain quite traditional. However, the key is to ensure we keep pushing forward together with our industry partners, subcontractors and suppliers and continue to make progress. And progress is definitely being made. More and more of our digital tools and applications are showing real results with some being adopted by all parties in projects, including client, consultant, and subcontractors. (e.g. Inspecto, see page 21). These tools have now been brought together for easy access on all projects on an integrated digital project delivery (IDPD) platform we call the IDPD Wheel (see page 20).

We are also seeing pleasing momentum gathering behind off-site methods with the Government and industry promotion slowly being echoed or encouraged in contract requirements. We are hopeful the sustainability benefits being seen overseas where off-site methods are more widely adopted will eventually materialise in Hong Kong to help our industry reduce risks, waste and carbon footprint and improve overall programme surety.

This progress has been set against the sometimes-challenging backdrop of social unrest in Hong Kong in 2019 but we have still been able to demonstrate some good practices in the cases and stories of this year's sustainability report. We hope you enjoy the read!



### STRUCTURE OF THE REPORT

Our report is divided into two parts: our Highlights and the Main Report. Throughout the Highlights and the Main Report, you will find progress, case studies and innovations from across the business organised under the four focus areas of our sustainability strategy. The Appendices include details of this year's stakeholder engagement process, formal disclosures, and external verification in line with the requirements of the Global Reporting Initiative (GRI), Standards of the Global Sustainability Standards Board and AA1000 (AS). The GRI required management approaches remain unchanged from 2018 and can be found on our website as a separate document.

### ALIGNMENT TO GRI STANDARDS

This report has been prepared in accordance with the GRI Standards: Core option. Limited copies of the Highlights are printed and circulated to some of our key stakeholders while the Main Report is only available online through our website. The full report with all our detailed performance data is available at [www.gammonconstruction.com/en/sustainability-report.php](http://www.gammonconstruction.com/en/sustainability-report.php). There are a limited number of hard copies of our Highlights section available for key clients, partners, and other stakeholders. Should you wish to have a hard copy or 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 views.

# MESSAGE FROM THE

At Gammon, our sustainability strategy aligns with our key business priorities, focusing our efforts across the company. We have also set ambitious targets to achieve by 2025, giving ourselves added pressure to develop better and more sustainable work practices. Practices that support our vision of being a 'smart and digital contractor of choice'.

One of our most exciting sustainability achievements in 2019 was the development, with a local start-up, of a viable alternative to diesel generators for high peak-demand equipment such as tower cranes. One that emits zero direct emissions, has a reduced carbon footprint of up to 80% and zero maintenance downtime (page 10).

We were also awarded two major contracts we understand were won largely through the strength of our design for manufacture and assembly (DfMA) and digital management approaches that provide safer, more productive and less wasteful ways of working. These projects – the Advanced Manufacturing Centre (AMC) for long-standing client Hong Kong Science & Technology Parks Corporation (HKSTP), and the Sentosa Merlion redevelopment project in Singapore – will provide a further platform to showcase our DfMA capabilities.

I was delighted that Gammon won a Grand Award at the Hong Kong Management Association Quality Awards 2019. The stringent evaluation process provided us with an opportunity for self-examination, to think deeply about our procedures and to be judged by respected captains of industry.

Tragically, and despite our respected procedures, we had two fatalities on our construction sites during the year. We responded immediately, inviting an independent consultant to carry out a safety culture assessment and implementing a number of changes. We will continue to expand upon the recommendations of the consultant, as well as ensure we have the right mindset and that our staff are encouraged to challenge norms and be more aware and forthright on site so we can achieve our aim of a 'zero harm' workplace.

Our performance throughout 2019 in terms of financial targets was satisfactory. Our Buildings and Foundations Divisions continue to do very well, while the civil infrastructure market remains highly competitive. However, it is precisely within these competitive markets that our strength in DfMA, digital processes and off-site construction can have the most impact. We also expanded our presence in Macau through two important refurbishment projects, and further opportunities are expected in the region. Repeat clients including Sino Group, HKSTP and Wheelock demonstrate that the Gammon brand and reputation remain strong.

Thomas Ho,  
Chief Executive,  
Gammon  
Construction  
Limited



Quality remains an industry concern and, as we observed from scandals involving our peers in 2018, has the potential to damage reputations. Strong relationships with clients founded on trust and transparency are of great importance and we launched a digital innovation during the year that supports this working atmosphere. Called Inspecto (page 21), it provides secure and transparent site inspection processes between clients, consultants and contractors and I am excited by the confidence it brings to all parties.

Waste reduction is also a priority for us and in December we formed a taskforce, with each director given a focus area to benchmark and develop ways to improve. Increasing our renewable energy generation is an additional target and we installed two further solar photovoltaic panel systems during the year – at our Central Kowloon Route – Kai Tak West project, and on the roof of our Tseung Kwan O Technology Park. Both installations are taking advantage of CLP's Feed-in-Tariff scheme. We will also continue, via our DigitalG division, to seek opportunities to collaborate with young and exciting start-ups to bring new products and processes to the market, such as the diesel generator alternative and concrete sensors.



# CHIEF EXECUTIVE

Looking ahead to the next few years, we will be focusing on increasing our off-site pipeline of work and building a supply eco-system that supports this within the Greater Bay area. We have already established relationships with a number of fabrication centres, the most recent of which is an exclusive arrangement with a factory in Dongguan whose production capacity we will manage for the supply of mechanical, electrical and plumbing (MEP) modules.

We will also seek to increase our percentage of 'digital contracts', those that have a strong focus on digital management and delivery, and simultaneously enhance the competency of our people to cater for this increase. This is a challenge facing the entire construction industry and addressing it needs buy-in from all stakeholders, as identified in Construction 2.0<sup>1</sup>. The Singapore government sets a good example with its plans to train 80,000 construction personnel in new technology by 2025. Within Gammon, we have set our own target of establishing a DfMA specialist within each of our divisions who will then be responsible for ongoing training and expansion of knowledge.

Our decision to sell Gammon Capital, our public private enterprise project in Singapore, has streamlined the business to support our focus on increasing our digital skill sets and expanding our off-site capabilities.

We experienced some turbulent times throughout the year, with periods of significant social unrest. But whatever our individual beliefs, we can unite in a common goal to look after the world we live in by improving the way we deliver the buildings and infrastructure of tomorrow.

**Thomas Ho** JP

*Chief Executive*

*Gammon Construction Limited*

<sup>1</sup> Construction 2.0 from Development Bureau, HKSAR Government, released September 2018 [www.hkc2.hk/en/](http://www.hkc2.hk/en/)



Lighting incense during the bai san for our new offices at The Quayside



Attending the media launch of Inspecto, our digital solution for site inspection processes, with Sammy Lai (Director), Alan Yan (Contracts Manager) and Horace Chu (Director and Chief information Officer)

# AWARDS

## QUALITY

After a rigorous judging process, Gammon was selected as a Grand Award winner in the Hong Kong Management Association Quality Awards 2019.

The top award recognises the achievement of exceptional standards of quality and a lasting commitment to the process of quality management. Judges commented that our processes and systems were considered to be well-deployed, enabling us to “optimise the construction process and excel in the construction industry”.



*A progressive company that demonstrates effective leadership with passion and a clear focus on safety and innovations.*

**Judging panel, Hong Kong Management Association Quality Awards**

## GREEN BUILDING LEADERSHIP

We were presented with the Pioneer Award for Contractors in the Green Building Leadership category of the Green Building Awards in November. The 2019 awards aimed to recognise nominations that went beyond conventional practice, stretched boundaries in advancing sustainability, and were capable of inspiring the next generation.

Our clients also won accolades for four projects delivered by Gammon: One Taikoo Place, Tai Kwun, Lee Garden Three and The Quayside.







## SAFETY

Michael Wong of our Sai Sha Road Widening Project received the Lighthouse Club's top safety leadership award – the Construction Manager Safety Award – at the charity's Hong Kong Contractors Safety Awards 2019. Michael impressed the judges with his visible leadership and adoption of technology.

## RENEWABLE ENERGY

Our Sai Sha Road Widening Project became the first construction site to win an Excellence Award for Renewable Energy (Corporate/ Government Bodies sector) at the CLP Smart Energy Awards. The project invested in an array of solar photovoltaic panels in late 2018 and added more panels in 2019, becoming the first temporary site office to sell power under CLP's feed-in tariff scheme.



## TRAINING AND DEVELOPMENT

For the second year running, we received four awards from the Construction Industry Council (CIC) for our endeavours in training workers and nurturing young practitioners.

Gold – most apprenticeship contracts offered by an employer in 2018

Gold – most trades employed in 2018

Gold – most graduates employed in 2018

Contractors active participation in collaborative training in 2018

## ENGINEERING EXCELLENCE

Our Tuen Mun-Chek Lap Kok Link – Southern Viaduct Connection project won a Grand Award at the Hong Kong Institute of Engineers (HKIE) Structural Excellence Awards (Infrastructure and Footbridges category). The project team applied a number of award-winning innovations on the contract, including the K-Frame family of bridge deck erection machines, and match-cast precast shell modules for pile cap construction.



## SUSTAINABLE MATERIALS

A sustainable high-performance concrete developed by our Concrete Technology Department won the Grand Award in the HKIE Materials Division Innovative Construction Materials Award 2019. The new series of concrete cuts down carbon emissions and embodied energy per unit of concrete strength by over 40%.



# PROJECTS &

## 2019 NEW PROJECTS AND HIGHLIGHTS WITH PROGRESS ON OUR PRIORITY SUSTAINABLE DEVELOPMENT GOALS

### HONG KONG



New fabrication centre in Dongguan



### HONG KONG



Bridges in Yuen Long



TM-CLK Tunnel – 15,232 E&M modules installed in a 9-month period



Batching plant for airport expansion



#### LEGEND



Electrical & mechanical



Concrete



Foundations



Interiors & façades



Buildings



Steel



Civil



New project

### MACAU



St Regis hotel and podium refurbishment projects



### SINGAPORE



Neste civil works contracts



Redevelopment project on Sentosa



# PROGRESS



- Key2Wellness programme (p15)
- Working with university students on a study of site electrification to avoid diesel generator use



Investment in 200kWp solar photovoltaic system at Gammon Technology Park facility (p11)



Promoting safe and secure work environments through Fatal Risk Working Groups (p8)



Sino-CLP residential & conservation development



Foundations for Prince of Wales Hospital Redevelopment



Wheelock residential project



Central Kowloon Route noise barrier steel work



HKSTP Advanced Manufacturing Centre



Kai Tak West – skidding modular struts, a Hong Kong first



Hang Seng Bank façade and fit-out work



Project Blue demolition project



Ground investigation term contract for Urban and Island areas



Expanding digital applications such as Inspecto and use of sensors with integration into the IDPD wheel (p21)



Promoting DfMA and offsite construction to reduce waste on site and allow better management at the factory



- Working together with clients in a common data environment (p21)
- Investigating options for formal partnership



# SAFETY

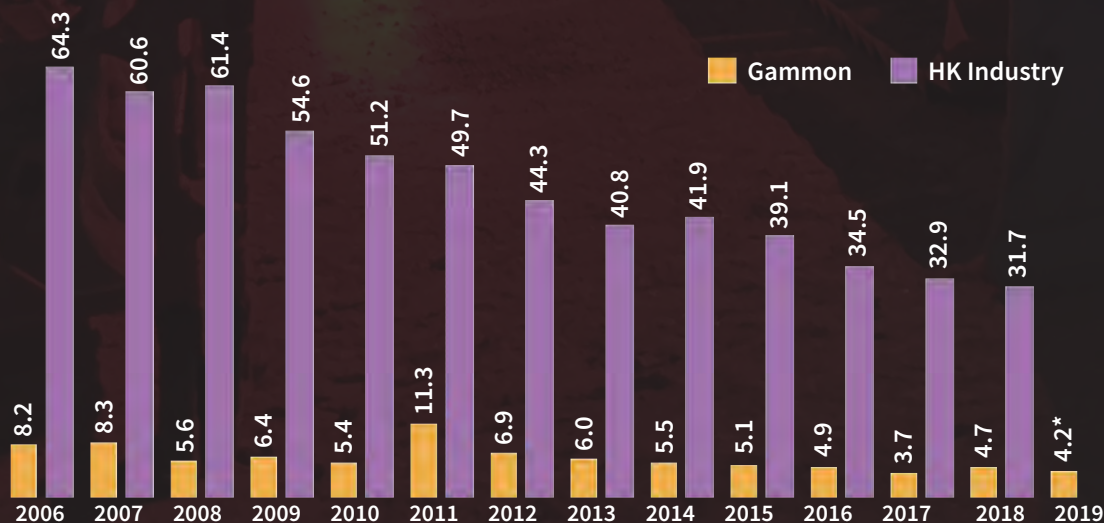
## OUR GOAL IS ALWAYS ZERO HARM

Despite our leading role in improving construction safety across the industry, tragically we had two fatal accidents on our Hong Kong project sites in 2019. In response, we engaged an external consultant to carry out an independent appraisal of our culture and identify areas where we might improve. This led to the establishment of a number of fatal risk working groups, each headed by a director, which were tasked with challenging and refreshing our current work practices in managing specific risks.

In July, we also began weekly safety core briefs as a way of disseminating information more rapidly throughout the project sites. Held directly after our weekly Safety and Environmental Action Committee (SEAC) meeting which reviews our performance over the previous seven days and any Zero Harm and Zero Waste plans, the core briefs are carried out via the communication and collaboration platform Office 365 Teams. This enables us to share safety information to all projects sites for further cascading to the work front within 90 minutes. **GRI 403-2**

We report other safety-related actions during the year in the main report.

### ACCIDENT AND INCIDENT RATE GRAPH COMPARED WITH INDUSTRY **GRI 403-2**



\* Labour Department, HKSAR Government industry figure for 2019 not available

Main picture: Trials on the use of LED lights to enhance awareness of mobile fatal zones on larger and faster moving plant began on our Central Kowloon Route – Kai Tak West project. The lights provide workers with clear visual warnings that moving plant is in the vicinity.





**Progress on our Responsible Growth – 25 by 25 strategy:**  
We achieved an annual Accident Incident Rate for 2019 of **4.2** vs the **4.3** target.



Super high-definition CCTV cameras integrated with Gambot™ (Gammon's in-house software robot) have been installed on tower cranes on all projects for intelligent surveillance including safety zone monitoring. The images can be accessed from any device by authorised personnel on or off site.



We were awarded Gold in the International Design for Safety Awards for our weldless MEP plant room and riser installations at the Lighthouse Club Health and Safety Awards 2019.



Tony Small (Director – Health & Safety, Sustainability, Systems and Audit) was made an honourable advisor to the Hong Kong branch of the Institution of Occupational Health and Safety and continued his role as Chairman on the Lighthouse Club Safety Committee.

# ENVIRONMENT

## ASPIRING FOR ZERO WASTE IN ENERGY, WATER AND RESOURCES



Andy Wong, Unit Head of Gammon's Digital G, and Chief Executive Officer of local start-up Ampd Energy, Brandon Ng, describe the key features of the Enertainer. The first of its kind in Hong Kong, it is a mass battery storage system ideally suited to high peak-demand equipment on construction sites.

At our AMC project, the team installed an Enertainer to power the 24-tonne tower crane. Subsequent analysis of data showed great financial and environmental benefits from using the technology (see below).

### 78%

lower OPEX  
(vs a  
350/400kVA  
generator)

### 81%

less CO<sub>2</sub>  
footprint  
(vs a  
350/400 kVA  
generator)

### 15

decibels\*  
quieter than  
quietest type  
of generators  
used

(\*in terms of sound power level)



Diagram of the connection between the utility mains, Enertainer and the load.

## “

*From a site perspective, the Enertainer was a great fit for AMC. We put it through its paces and it responded to everything we threw at it. It was very simple to set up and operate with almost no downtime to site operations.*

*We're particularly excited about the lower noise levels which will really help us get government approval to continue working at noise-sensitive hours.*



**Sammy Lai**  
Director – Building Projects



In January, we signed Pathway 1 of the Business Environment Council's Low Carbon Charter, pledging to step up our decarbonisation endeavours. Our action plan focuses on reducing carbon in power use, in particular by early electricity connection to reduce diesel use on site, and also includes working to change environmental assessment processes to ensure early grid connection before construction mobilisation.

We have already co-developed and begun using an alternative to diesel generators on site (see the Entertainer, left). Internal 'Shall we Talk' sessions were also held to discuss the Hong Kong

government's long-term decarbonisation strategy, with comments provided to the Council for Sustainable Development on electricity generation, energy efficiency in buildings, green transport, low carbon living and, of course, construction sector opportunities.

We commissioned our third and largest (200kWp) solar photovoltaic (PV) renewable energy project, this time on the roof of Gammon Technology Park in Tseung Kwan O. Sophisticated sensors and monitoring equipment create an extremely advanced and efficient system that will generate around HK\$1 million a year through the Feed-in-Tariff scheme.



### Progress on our Responsible Growth – 25 by 25 strategy:

Our fuel and electricity carbon footprint reduced but our landfill waste intensity is still an area requiring further action.



Solar panels were installed on the roof of our Central Kowloon Route – Kai Tak West project site offices, taking advantage of the Feed-in-Tariff Scheme.

### Electricity Consumption

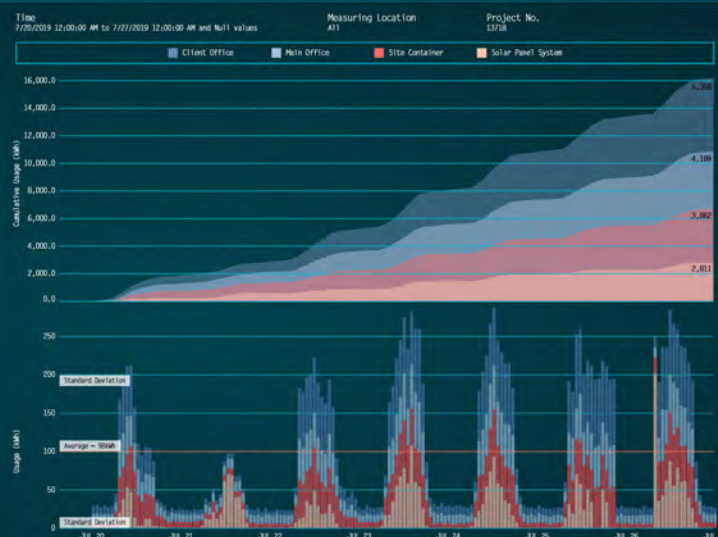
Time: All values  
Area: 0  
Measuring Location: Client Office  
Number of staff: 0

Usage/area  
**162.7 kWh/m<sup>2</sup>** (1,384m<sup>2</sup>)

Usage/head  
**2,251 kWh/head** (100 people)

Usage/head/area  
**1.627 kWh/head/m<sup>2</sup>**

Built by Digital Transformation:  
<digitaltransformation@gammonconstruction.com>  
Data collected by Meter Sensor  
Last Update: 1/23/2020 10:50:14 AM



We developed a smart energy meter linked to a bespoke dashboard that allows project teams to monitor their offices and use the data to identify areas for improvement. The meters also support behavioural change, enthusing staff to strive for greater savings.



# VALUE CHAIN

## WE COLLABORATE UP AND DOWN OUR VALUE CHAIN

The IDPD Wheel is available to all members of staff, with customisation possible to meet individual project needs



We have formalised our strategy to be the 'smart and digital contractor of choice' and established a 'digital triangle' that incorporates teams dedicated to the three core disciplines of engineering, digital and integrated data technologies.

During the year, we rolled out a specially developed portal that allows project staff to access all integrated digital project delivery (IDPD) tools from a single location. Called the IDPD Wheel, it standardises the way we access and use data, paving the way for a more interconnected approach to the flow of information through all Gammon's systems and beyond our clients and supply chain.

We also launched a digital solution for site inspection processes (see page 21) that will provide a greater degree of governance and transparency within the industry, and further developed our digitalised ordering system, DiMart, to include the electronic receiving of goods on site.

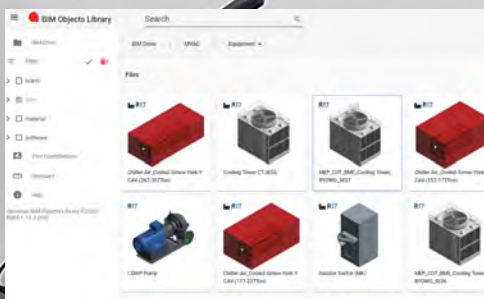
See the main report for further information.





## Progress on our Responsible Growth – 25 by 25 strategy:

In 2019, we have been developing relationships for the delivery of more offsite fabrication and began working on our AMC project which will showcase some of the latest design thinking for DfMA.



Our BIM objects library went live across all projects. Engineers can pull from a catalogue of objects that will constantly evolve and update with new content as projects progress.



Following a series of trials initiated by Gammon and Converge, the Development Bureau gave its public backing to the use of Converge concrete strength sensors in the Hong Kong construction industry.



Our Central Kowloon Route – Kai Tak West project BIM team received recognition as an exemplar BIM user at the Construction Industry Council's BIM Competition 2019.

*Reflecting on 2019, I think what is distinguishing is the increase in DfMA solutions applied throughout Gammon. Seeking to maximise the work we carry out off site is an automatic reflex, and this mindset is key to achieving our 25 by 25 goals because the vast majority of them can be met simply by moving more of our operations into controlled factory environments.*

*We're also seeing our focus reflected in construction industry trends such as changing customer demands and 'green shoots' of policy change in favour of digitally enabled modern methods of construction.*

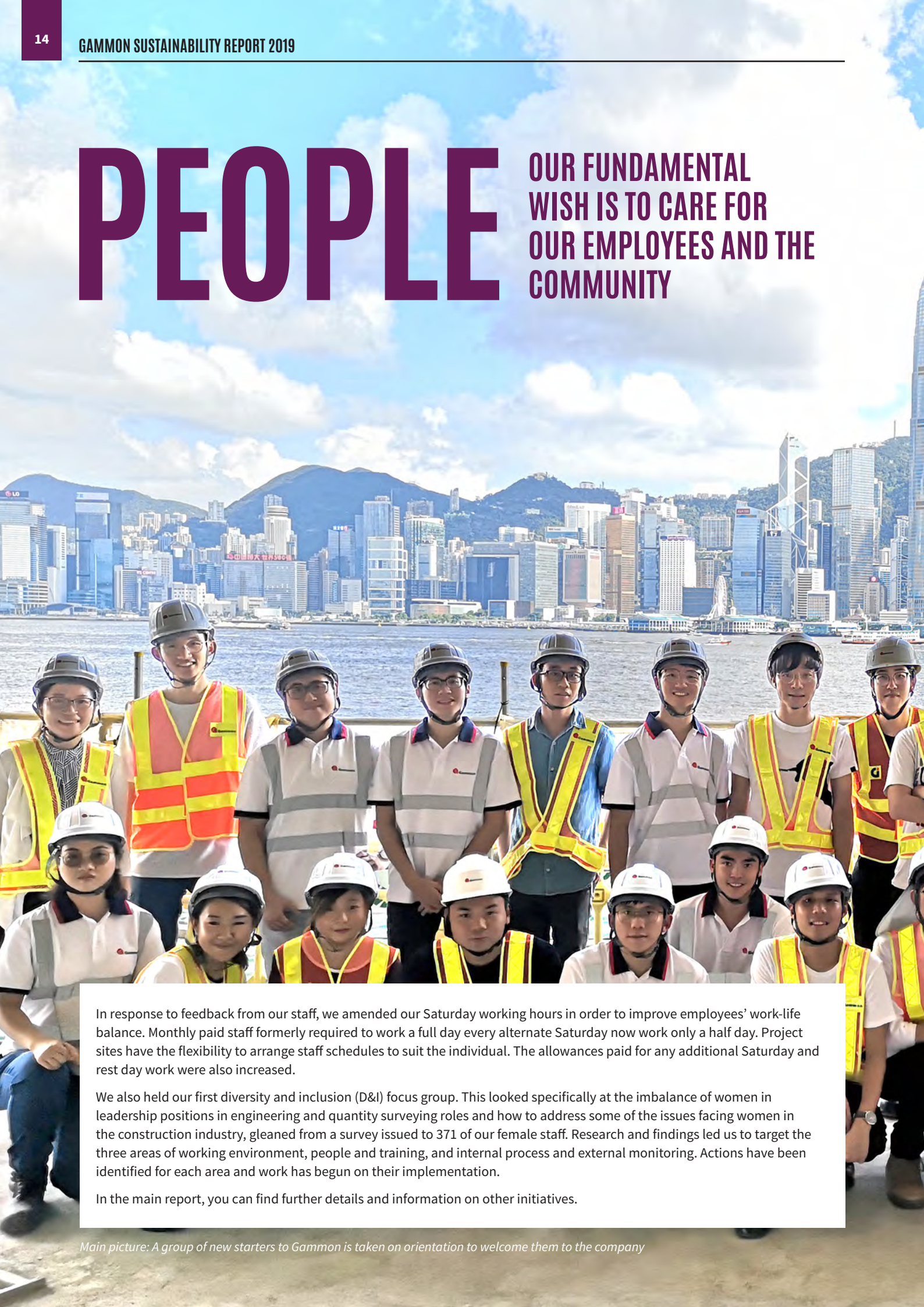


**Ian Askew**  
Director – Lambeth, Innovations, Virtual Design and Construction



# PEOPLE

## OUR FUNDAMENTAL WISH IS TO CARE FOR OUR EMPLOYEES AND THE COMMUNITY



In response to feedback from our staff, we amended our Saturday working hours in order to improve employees' work-life balance. Monthly paid staff formerly required to work a full day every alternate Saturday now work only a half day. Project sites have the flexibility to arrange staff schedules to suit the individual. The allowances paid for any additional Saturday and rest day work were also increased.

We also held our first diversity and inclusion (D&I) focus group. This looked specifically at the imbalance of women in leadership positions in engineering and quantity surveying roles and how to address some of the issues facing women in the construction industry, gleaned from a survey issued to 371 of our female staff. Research and findings led us to target the three areas of working environment, people and training, and internal process and external monitoring. Actions have been identified for each area and work has begun on their implementation.

In the main report, you can find further details and information on other initiatives.

*Main picture: A group of new starters to Gammon is taken on orientation to welcome them to the company*





### Progress on our Responsible Growth – 25 by 25 strategy:

Made good progress on RG 25 by 25 objectives especially with the change in working hours and the studies on gender diversity.



We celebrated our female staff through a series of videos communicated to stakeholders, and Gammon Project Manager Phyllis Chen also featured in a *South China Morning Post* article on women in engineering.

# 136




We welcomed 136 graduates, technician apprentices and craft apprentices to the company throughout 2019. Each new starter has a mentor to support them through their first year. **GRI 401-1**



New initiatives for employee wellbeing included a Key2Wellness Programme, a new Healthline and Employee Assistance Programme, and adoption of the WELL Building Standard for the new office fit-out.



# COMMUNITY



*Our Central Kowloon Route – Kai Tak West and Concrete Technology Services teams ran a Young Concrete Engineers Workshop for pupils from S.K.H. Holy Carpenter Primary School in July. Pupils designed, molded, polished and decorated craftwork made of sand, cement and water. STEM-related topics were covered during the workshop which was thoroughly enjoyed by all and which we hope will inspire some pupils to consider engineering as a future career.*



Gammon employees volunteered more than 1680 hours and participated in around 80 community-related events in 2019. Our donations and sponsorships amounted to around HK\$1.22 million in areas including: relief for victims of construction accidents, nature conservation,

food donation, STEM education, and care for the elderly and those with disability or mental health issues. Throughout the year, our staff engaged in activities ranging from beach clean-ups and educational events, through to fun days out for the elderly and young families.



Five Gammon runners completed 519 laps of an athletic track in five hours during the Lighthouse Club Lap Dog Challenge, raising HK\$66,000 for charity.



Our Tuen Mun-Chek Lap Kok Link Southern Viaduct Connection project volunteers and the Tung Wah Group of Hospitals organised a visit to the Xiqu Centre for 150 people from four elderly centres. The visitors enjoyed a selection of short excerpts, as well as traditional tea and dim sum.



Gammon and the Construction Charity Fund Integrated Service Center joined forces to take 136 children and adults whose lives have been affected by construction accidents on an afternoon boating trip.



Gammon's mixed relay team tore up 49 floors in a time of 00:03:34 to place 2nd runner-up in the annual Walk Up Jardine House fundraising event. The team also raised HK\$44,000.



# GREEN AND CARING

Launched in 2011, our Green and Caring Site Commitment (G&CSC) scheme is designed to promote sustainability on our construction sites. Bronze, Silver or Green Flags are awarded to sites based on the level of implemented measures that demonstrate care for the welfare of our workers, reduced environmental impacts, provide the highest level of safety, engage

proactively with the community, and innovate for better performance.

In 2019, 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.

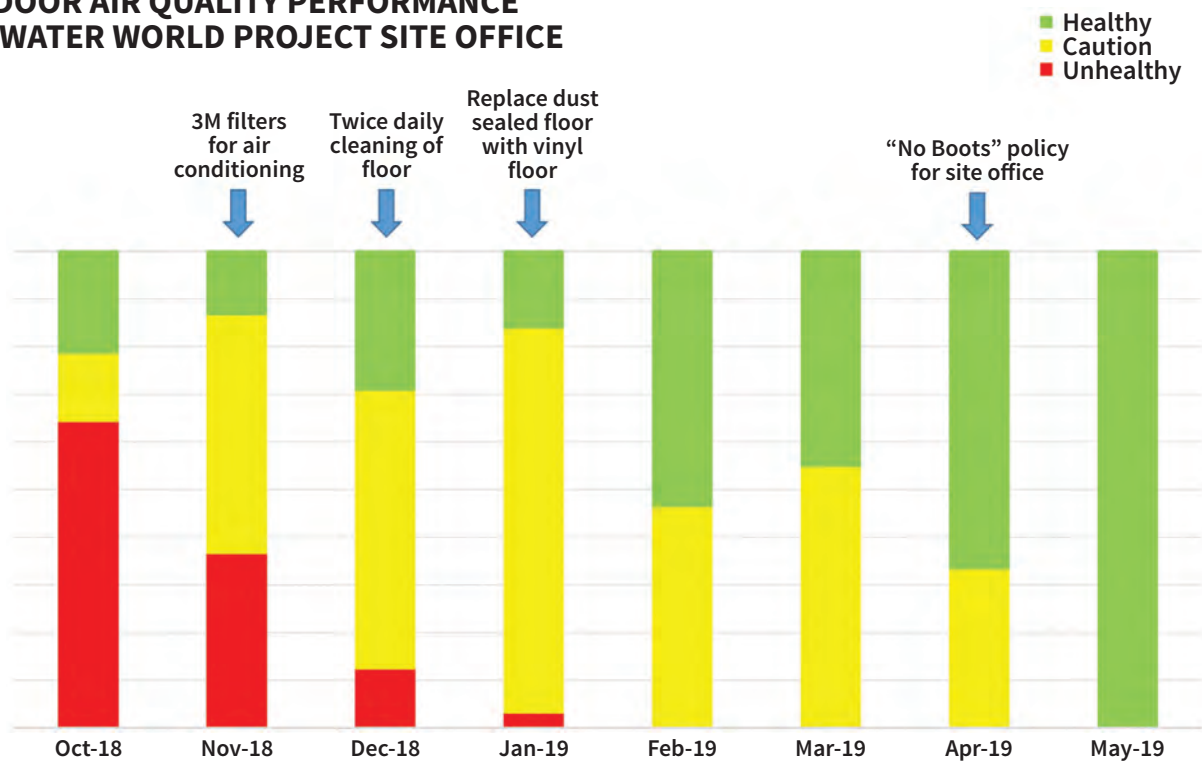
Check out some of the initiatives from sites in 2019.



The Sha Tsui Road Foundations team impressed our Green Flag examiners through initiatives such as additional noise barrier screening, opening up the meeting room for workers at lunch time, and optimising electricity use. They've also maintained good relationships with directly adjacent commercial and residential neighbours.



## INDOOR AIR QUALITY PERFORMANCE IN WATER WORLD PROJECT SITE OFFICE



As well as leading the way on 4D BIM integrated with photogrammetry, our Ocean Park Tai Shue Wan Water World project also showed continuous improvement in staff and worker welfare. A simple but effective initiative to improving indoor air quality was implementing a bootless site office policy. Staff now leave their boots at the door and wear a pair of slippers instead which provided surprising results (see graph above).



By carrying out a DfMA study on the curtain wall system, our Central Plaza Extension team were able to merge two unitised panels into one for installation of the façade from the third to the fifth floor. This improved productivity and safety by reducing hoisting requirements, installation time and work at height.



Visits to the elderly by the Sai Sha Road Widening project team.



Replacing styrofoam with reusable boxes for lunch meetings at AMC, LOHAS Park 9 and Global Switch projects.



Saving the pond fish before demolition works take place on our Hong Kong University Medical Complex Extension project.



Reusing stanchion followers on the Murray Road foundations project to reduce the need for 50 tonnes of steel plate.

# INNOVATION

## SMART AND DIGITAL CONTRACTOR OF CHOICE

In 2019, we began company-wide use of our integrated digital project delivery (IDPD) Wheel, a user interface that centralises digital tools and platforms, making them easily accessible to staff. These tools and platforms form part of our strategy to become the 'smart and digital contractor of choice' and provide us with connected data that drives better informed decisions, allowing us to better manage our projects and improve efficiency of our processes.

We take a closer look below at a few innovations from 2019 that can also be accessed via the IDPD Wheel.





## COMMON DATA ENVIRONMENTS

Common data environments (CDE) were established on our Lyric Theatre and AMC projects during the year to provide a 'single source of truth' that brings efficiency to the sharing and using of data to all project stakeholders. The configuration is compliant with international BIM standard ISO 19650 for the organisation and digitisation of information.

A CDE has been essential for both projects, as their scale and complexity have required input from virtual teams in

different offices within Hong Kong and even internationally. With a CDE, however, all team members are able to work within a single BIM model environment. Access has also been provided to both clients and their design teams to further expand the model in a collaborative approach.

As the software can be used on a tablet, we have also been able to share the BIM model with on-site operatives, further ensuring all the good work carried out in the office makes it the last 100m to the front line.

## INSPECTO

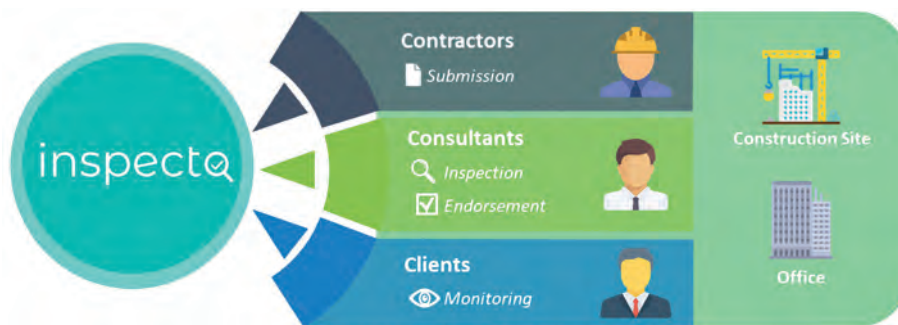
In May, we held a media launch for Inspecto – our digital solution for site inspection processes between contractors, consultants and clients that provides a greater degree of governance and transparency.

Designed for easy viewing as well as reliable and consistent record keeping, the system integrates a mobile app, dashboard, web portal, calendar and real-time notifications,

resulting in shorter inspection turnaround time, fewer disturbances on site and significantly reduced paper use. In particular, it addresses the challenges in the Hong Kong Request for Inspection and Survey Check (RISC) form system, with all RISC forms, supporting documents and inspection photos smartly amalgamated.

Advice and input was sought from clients and contractors

during the development stage to ensure the system would meet the needs of all parties using it. By year end, Inspecto had been rolled out to 13 projects and the process of integrating blockchain technology had also begun to ensure all records are real and protected from tampering.



## SUBCONTRACTOR AUTOMATED REPORTS

Greater visibility of the workforce and improved productivity will be achieved through the use of our new subcontractor automated reports (SCAR). The SCARs take daily arrival and departure information from handkeys for each subcontractor personnel to provide a scattergraph and time-keeping score for each group. This data is sent automatically to each

subcontractor on a weekly basis, providing them with useful information on the best and worst performers in their team and giving them the opportunity to address any issues to ultimately improve productivity and lower their costs. These improvements then impact positively on project progress.

A few more examples of the knowledge available at our fingertips are provided below.



**Sustainability:** Data from tree sensors, PV system performance and smart energy meters



**Procurement and manufacturing:** Information from our in-house supply chain management (STAMP) and digital purchasing (DiMart) systems



**Safety:** Analysis of iDRA and safety observations submitted via our software robot Gambot™



**Planning:** Access to digital twins, programme, 4D BIM for selected projects





M+ Museum at the West Kowloon Cultural District



# MAIN REPORT





# OUR COMPANY

## ORGANISATION AND REPORT COVERAGE

GRI 102-1

GRI 102-2

GRI 102-4

GRI 102-6

GRI 102-45

GRI 102-50

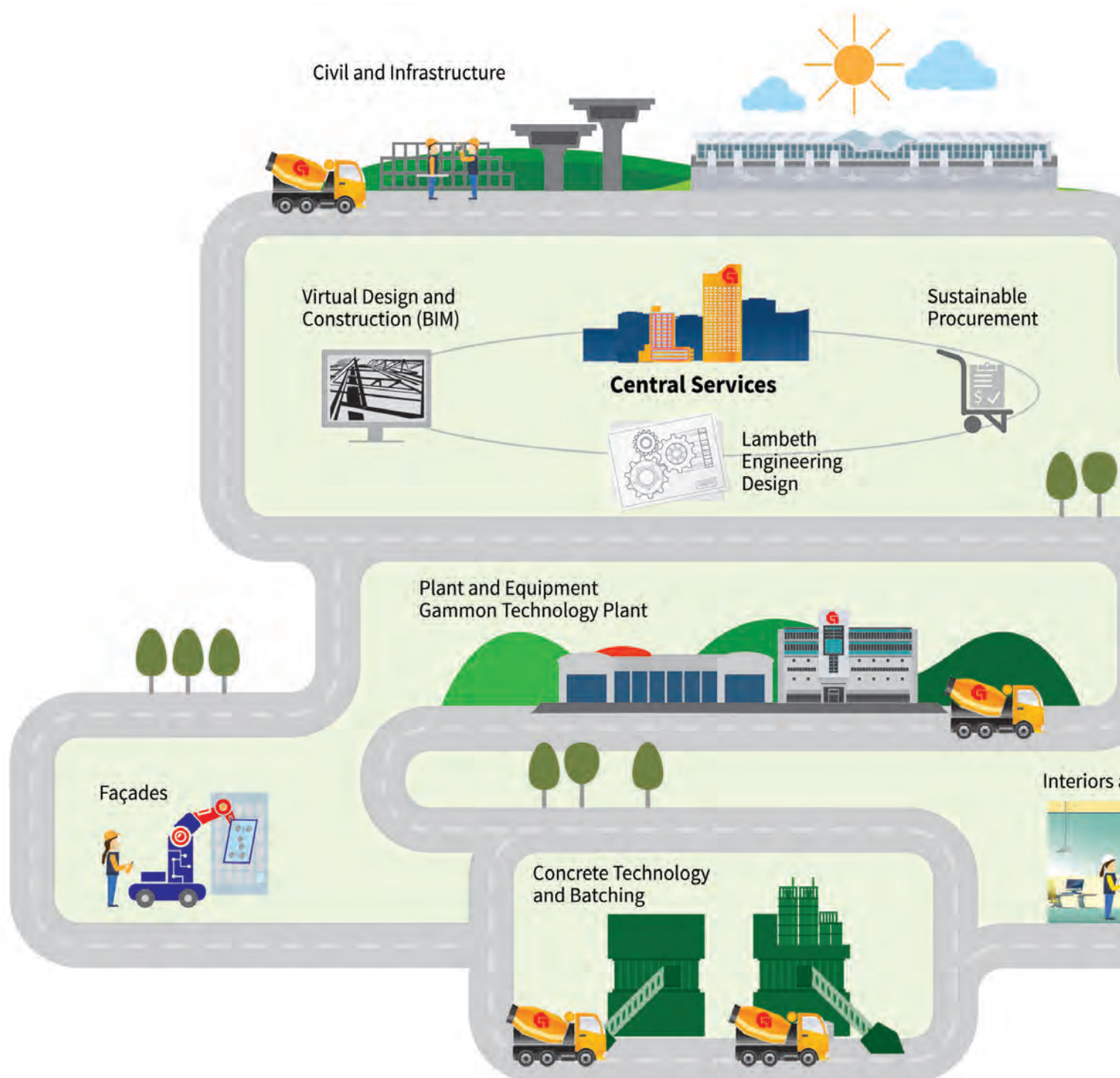
GRI 102-51

GRI 102-52

This annual sustainability report covers the operations of Gammon Construction Limited, its subsidiaries and associated companies in the construction business (the Gammon Group) in Hong Kong and Macau, Mainland China and Singapore for the 2019 calendar year. The previous report for 2018 was issued in the second quarter of 2019.

### 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 below.





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 business

GRI 102-5 GRI 102-7

In 2019, we had around 150 active projects across the business. The group turnover and workforce data broken down by region is presented to the right and overleaf.

### Scale of the organisation –

total employees by region (as at end December 2019) GRI 102-7

Total employees by region

**7,035**

Mainland China



**429**

Singapore



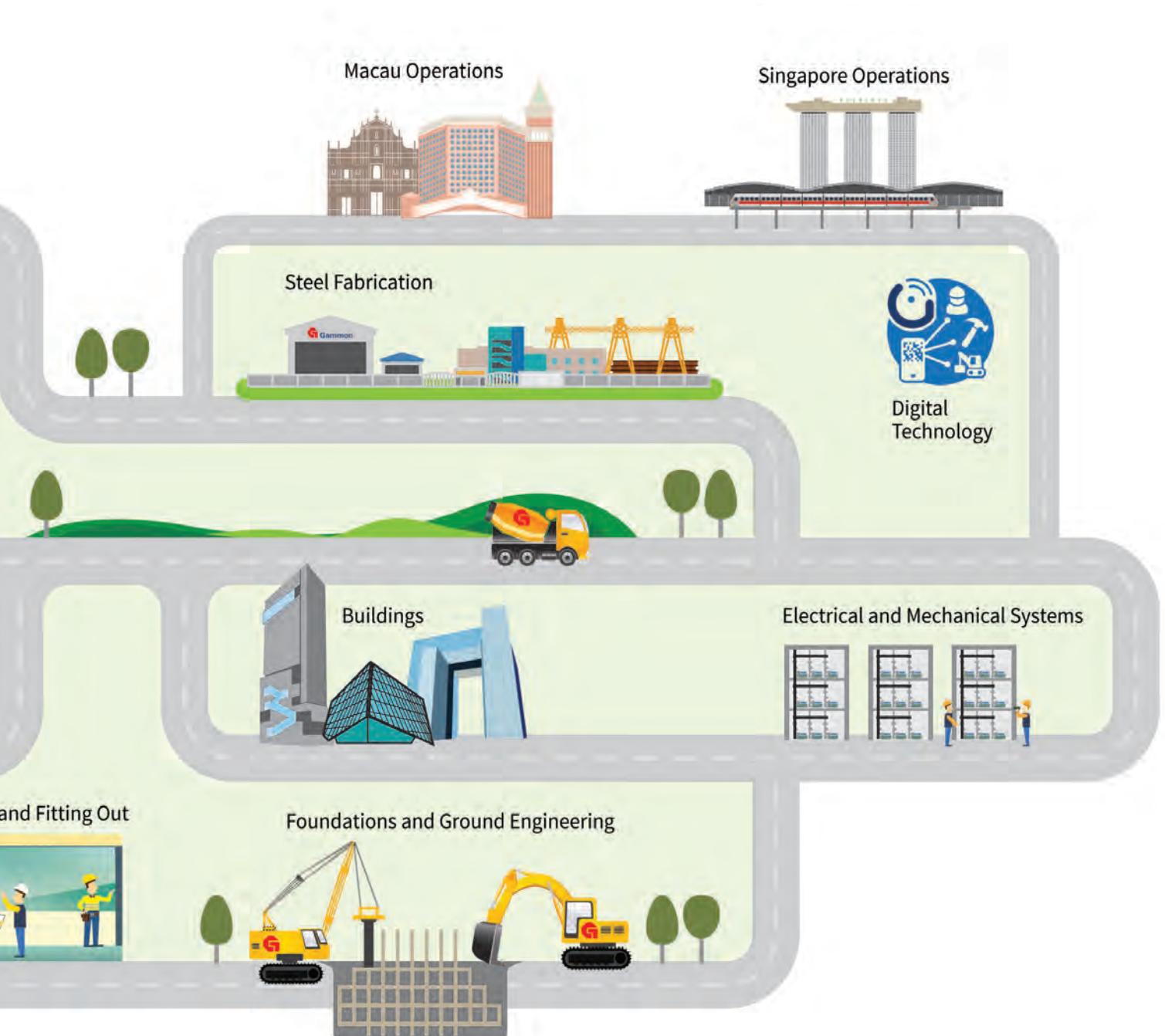
**418**

Hong Kong & Macau SARs

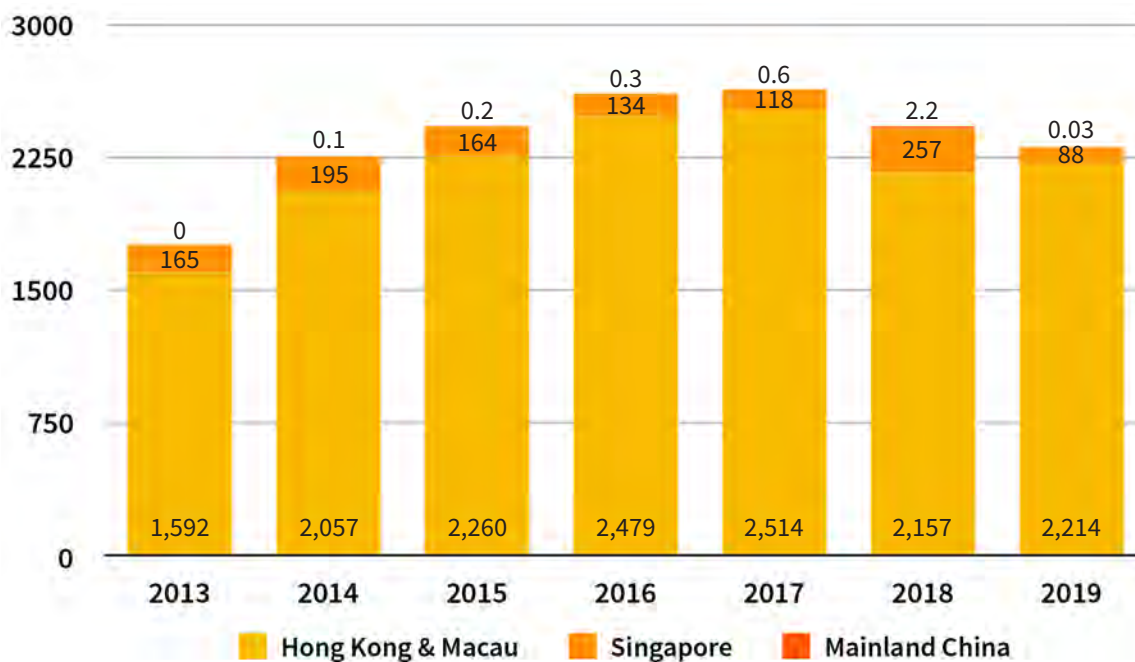


**6,188\***

\*HK & Macau figures include one employee in Vietnam



Group turnover by region (US\$ millions) GRI 102-7



We describe major project completions and new projects during 2019 below. Details of our operations, as well as the number of active projects and employee information, is in our 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

GRI 102-7

Our performance during 2019 was satisfactory, with a pleasing number of contract awards coming from repeat clients, including the noteworthy Advanced Manufacturing Centre. We highlight some of our new key projects in all divisions on pages 6-7 and a complete list is to the right.

### Report content GRI 101 GRI 102-10 GRI 102-54 GRI 102-55 GRI 102-56

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 (2008) 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 a separate document online. The GRI Content Index (Appendix C) references the required general and material topic disclosures and locations where they can be found in the report.

The Gammon Capital company along with its public-private partnership project (the Institute of Technical Education College West in Singapore) was sold in 2019. We also sold our 25% share in Vietnamese construction company, COFICO (Construction Joint Stock Company No.1). These two interests made up less than 1% of our normal business operations and therefore it is considered there were no significant changes during the reporting period regarding Gammon's size, structure or supply chain. Since COFICO was not under our direct operational control, it had not been included in previous reports anyway. All remaining active entities within the Gammon Group have been included in the coverage of this report. They include the following subsidiaries:

- Gammon Building Construction Limited (GBCL)
- Gammon Engineering & Construction Company Limited (GECCL)
- Gammon E&M Limited (GEM)
- Gammon Pte. Limited (GPL)
- Gammon Construction Limited – Singapore Branch (GCL – Singapore)
- Dongguan Pristine Metal Works Ltd. (Pristine)
- Lambeth Associates Limited (Lambeth)
- Gammon Plant Limited (Gammon Plant)
- Into G Limited (Into G)
- Entasis Limited (Entasis)
- Digital G Limited (Digital G)



Projects awarded in 2019
<b>Civil</b>
Management Contract for U-Turn Bridge and Footbridge FB4 for West Rail Yuen Long Station Property Development
<b>Building</b>
Proposed Residential Redevelopment at No. 36 Severn Road, Hong Kong
Retail, Public Circulation and Hotel Check-in of P5&6 Venetian Refurbishment, Macau
St. Regis Serviced Apartments, Macau – Main Works
Development of IE 2.0 Project C Advanced Manufacturing Centre at Tseung Kwan O Industrial Estate – Main Works Contract
Main Contract for the Proposed Residential Development at NKIL 6564, Kai Tak, Kowloon
Proposed Residential Development at 139-147 Argyle Street, Kowloon
<b>Façade (Entasis)</b>
Hang Seng Headquarters (Long Term Facade Strengthening Works)
<b>Foundations</b>
Ground Investigation Works for Proposed Industrial Building at Lot T6, EcoPark, Tuen Mun Area 38
Contract No DP 08/2019, Ground Investigation Works for Drainage Improvement Works in Kwun Tong - Investigation
Advance Works Contract for Project Blue – Proposed Development at 281 Gloucester Road
Ho Man Tin Station Package Two Property Development at KIL No 11264 - Ground Investigation Works
Design, Construction and Operation of Kai Tak Sports Park - Ground Investigation, Soil Testing and Monitoring Instrument Works (Part C - Site N1 Area) - Subcontract to Hip Hing Engineering Co Ltd
Contract No. GE/2019/19, Provision of Soil and Rock Testing for Public Works Laboratories – NT West
Hoarding and Demolition Works for Proposed Residential Development at Lot No. RBL 560 R.P., Strawberry Hill, 36 Plantation Road
Yuen Long Station (YLTL 510), FB4 P1 Steel Sheet Pile Works
Proposed Mixed Use Development on NKIL 6568, Kai Tak Area 1F, Site 1
Sub-Contract for Driven Steel H-Pile Works for Construction of Hong Kong Post Headquarters Building at Wang Chin Street, Kowloon Bay (ASD Contract No. SS F508)
Subcontracts for Land Piling Works for Design, Construction and Operation of Kai Tak Sports Park
Foundation Contract for Proposed Commercial Development at No 1-9 Sha Tsui Road, Tsuen Wan, New Territories
Contract No GE/2019/07, Ground Investigation – Urban and Surrounding Islands
Purchase Order No 4501225762 for Offshore Site Investigation Works for the Black Point Power Station CCGT D2 Unit Project
Contract No. 3/WSD/18, Water Supply to New Housing Developments in Sheung Shui and Fanling – Construction of Tong Hang No. 3 Fresh Water Service Reservoir and Associated Mainlaying Subcontract for Ground Investigation

Projects awarded in 2019
Main Contract for West Rail Yuen Long Station Property Development at Yuen Long Town Lot No. 510, Subcontract for U-Turn Bridge Piling and FB4 Piling Works
Pile Foundation and Soldier Pile Wall Works for Footbridge, Noise Barrier and Pile Wall for The Sai Sha Road Widening Works for the Comprehensive Development at Shap Sz Heung, Sai Kung North
Ground Investigation Works for Redevelopment of No. 2 University Drive and IT Building for The University of Hong Kong
Foundation and Site Formation for Public Housing Development at Lei Yue Mun Phase 4 at Yan Wing Street, Yau Tong
Contract No 20190066, Ground Investigation Term Contract C (2019-2021)
Design and Construction of Immigration Headquarters in Area 67, Tseung Kwan O, Subcontract for Bored Pile Works
Demolition and Foundation Works at Prince of Wales Hospital for Redevelopment of Prince of Wales Hospital, Phase 2 (Stage 1)
Contract No 19-83225, Ground Investigation Works at Transformer Bays of Heung Yip Road Station
Foundation and ELS (Stage 1) Works for Proposed Residential Development at Lot No 560 RP Strawberry Hill, 36 Plantation Road
<b>E&amp;M</b>
Murray Hotel Damper Checking
Hennessy Road - EL & MVAC
19/F Half Floor Fitting Out Works at Hang Seng Headquarters, 83 Des Voeux Road Central
Links 20-21/F Electrical Fitting
<b>Interiors (IntoG)</b>
Minor Works Agreement for Wynn Club Cafe (S20100-0473), Macau
Wynn Macau Pool Deck, Pool Deck Remedial
Sheung Shing Street Residential Development
Sheung Shing Street Clubhouse Contract
<b>Steel Fabrication (Pristine)</b>
HKDLSSP-2847 Solar Panel and Feed in Tariff Initiative For Hong Kong Disneyland Resort (HKITP Limited) Structural Installation and Maintenance for Solar Panel System
Structural Steelwork for Proposed Commercial Development at New Kowloon Inland Lot No. 6556, Kai Tak Area 1F Site 2, Kai Tak, Kowloon
Contract No. HY/2014/20, Central Kowloon Route Yau Ma Tei West, Subcontract for Noise Barrier Works (S/C No. 1826/6038)
<b>Singapore</b>
01037P TS12, Beach Rd - Bored Piling Works
Neste Singapore Expansion – Services Culvert Engineering & Construction Work
Neste Singapore Expansion – Civil Works (Greenfield)
QX19-021 - Mandai Depot (MDD) Mechanical and Electrical Installation Work
Contract R1012 – Design & Construction of Stabling and Maintenance Workshop Extension at Bishan Depot
DTSS2, T-07 – Secant Bored Piling Works
Construction for the Redevelopment of North-South Link Precinct, Sentosa

Major projects completed during the period included the Tuen Mun–Chek Lap Kok Link Southern (TMCLKL-S) Connection Viaduct Section, an HK\$8 billion design and build contract that was the largest solo contract ever awarded to Gammon at the time. Works included design and construction of a dual two-lane sea viaduct about 1.6km long and nine approach viaducts. We also finished The Quayside commercial development in Kwun Tong to which we moved our head office operations. The residential development Parc City was concluded, with its seven towers bringing about 900 residential flats onto the market.

Looking ahead, opportunities in the civils and building sector continue to be strong in Hong Kong despite the protest movement and US trade war, although filibustering has made the market very competitive. In particular, there remains a number of major contracts to be tendered or awarded for the Airport Authority's Third Runway System, the Hospital Authority has a substantial 10-year development plan, and West Kowloon Cultural District has an ongoing programme of construction. We are also well-placed to build on our recent successes in Macau, and Singapore has a variety of opportunities in all disciplines.



**The completed Parc City near Tsuen Wan West station**



**The Advanced Manufacturing Centre, awarded in 2019, will provide advanced and scalable manufacturing facilities in Hong Kong**



**The completed TMCLKL-S project connecting North Lantau Highway and the Boundary Crossing Facilities**



## STAKEHOLDER ENGAGEMENT AND MATERIAL ISSUES

GRI 102-40

GRI 102-42

GRI 102-43

GRI 102-44

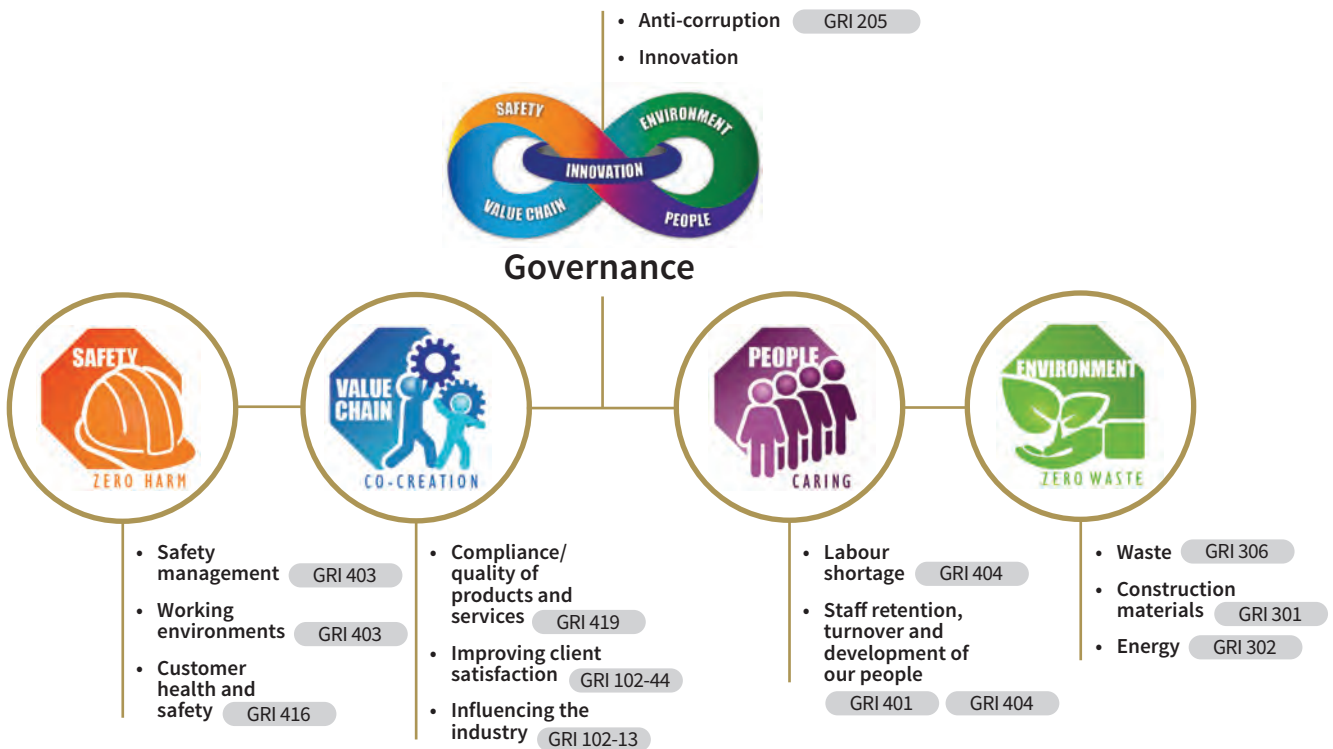
GRI 102-46

GRI 102-47

GRI 102-49

GRI 103-1

A formal stakeholder engagement exercise was conducted for this report with both internal and external stakeholders. The material issues, after validation, remained largely unchanged from the last formal exercise in 2017, with the exception of supply chain engagement which, while still considered important, had moved below the materiality threshold. Our material issues were identified as the following:



Appendix C details where content on the material issues can be found based on the GRI Standards disclosure requirements and Appendix D provides details of the stakeholder engagement exercise and how we determined our material issues.

## IN THE PURSUIT OF EXCELLENCE

GRI 102-13

Influencing the industry was identified as one of our material issues and given the need for modernisation within the sector, we view engagement with clients, Government, industry associations, consultants 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 E) as well as celebrate achievements. We also make sure we have the in-house expertise and capabilities to help our clients achieve their sustainability aspirations for their projects. For example, we are proud to have been involved in some of the greenest and healthiest buildings in Hong Kong (see Appendix F for an updated list). Appendix G contains the list of memberships of associations and relevant industry bodies that form part of our interaction with key industry players to help shape the future of the industry.





# SAFETY - ZERO HARM

## 2019 ACTIVITIES AND CASE STUDIES

GRI 403



CCTV footage from a site tower crane shows site movements being monitored by Gambot™ to provide early warning if fatal zones are breached. Gambot™ is our software robot with artificial intelligence that collects, stores and analyses site-related data to improve safety and productivity.



### TOOLBOX TALKS WITH A DIFFERENCE

Following research undertaken with the University of Hong Kong, we recognised it is critical for formal safety training to be followed up at more frequent intervals with workers on site, to reinforce and drive home key health and safety messages, especially when there is potential for an accident to occur.

“Traditional toolbox talks address this need,” says Tony Small, Gammon’s Director for Health and Safety, Sustainability, Systems and Audit, “but their effectiveness relies to a degree on who presents the information, their skill as a trainer, the enthusiasm with which they teach and the quality of visual material used.”

Gammon therefore jointly developed with construction and engineering specialists NewtonLowe, a virtual reality toolbox talk innovation.

Called the VR Tool Box Talk Training, it delivers critical safety messages consistently and directly to workers, in a compelling virtual-reality experience in any language, using off-the-shelf consumer-level technology. No classrooms are required, as the training is designed to take place on site in augmented reality for a more engaging experience.

“The talks are delivered using consumer-level headsets that combine live-action 360 video with hyper-realistic augmented-reality backdrops of authentic site situations,” explains Tony.

“Participants are prompted to take a 360-degree look and identify what might go wrong and trainers and participants can then have on-going discussions.”



**In September, Michael Wong received the Construction Manager Safety Award (Champion) at the Lighthouse Club's Contractors Safety Awards 2019. He shares some of the initiatives he has implemented that are having a positive effect on safety on his project site.**

Technology is definitely a major influencer when it comes to improving safety and Gammon's goal of being the smart and digital contractor of choice means we are implementing a lot of digital measures that help us construct more safely.

On the Sai Sha Road Widening project, we've been using a hybrid reality platform that presents all digital data in one location. Photogrammetry technology forms a 3D digital twin of the site which is updated regularly and fully integrates with both the permanent and temporary design using BIM. This allows my project team to better plan safe work, and it reduces the amount of time surveyors need to be out on site taking readings.

We still need the right safety culture, though, technology isn't enough on its own. This is where leadership is important. I believe I need to be on site frequently and that caring for the safety of my team and all our workers means being critical and vocal if I feel there can be improvements in methods or actions.

And if you ask the frontline to do something, you and your management team should also be doing it. I believe strongly in leading by example – actions speak louder than words.

I have the frontline's use of Gambot™ for safety reporting monitored, to ensure they are using it to maximum benefit, but I also do the same for site management's use, including my own! Each week the safety team presents a summary of our statistics. This creates positive peer pressure that is helpful for developing mindful habits and a strong safety culture. **GRI 403-1**



“

***The talks are delivered using consumer-level headsets that combine live-action 360 video with hyper-realistic augmented-reality backdrops of authentic site situations.***



**Tony Small**  
**Director for Health and Safety, Sustainability, Systems and Audit**

Five topics have so far been developed: working at height, heat stress, gloves, eye protection and pinch points. As it is experience based, the innovation is an excellent catalyst for broader discussion on individual and group experiences on health and safety which more directly links training messages with on-site behaviour and actual work practices. The VR Toolbox Training was demonstrated at the 2019 Safety Conference and planning has begun to roll out gradually onto all our project sites.

#### **IDENTIFYING AND MANAGING RISK** **GRI 403-1**

Fatal risk working groups were established to refresh and challenge our current work practices in managing specific risk. During 2019, the groups concentrated on the areas of cable pulling, lifting operations, fatal zones, temporary works and service risers.

Actions ranged from improving current standards or developing new ones,

to carrying out peer reviews of new methods and equipment, improving methods for categorising risk and increasing expectations of safe behaviour.

One particularly noteworthy outcome was the development of a cable pulling solution that was initiated through the joint effort of Gammon project engineers and foremen and two cable-pulling subcontractors. Consisting of roller accessories quickly bolted to the side of cable trays, the innovation takes the force of the cables and helps them to be pulled by workers more easily.

The innovation has become mandatory to use within Gammon, as its benefits include the reduction of forces on trays which could put them at risk of collapse, as well as the physical effort required by workers. In fact, it's been so successful we've applied for a patent.

Further fatal risk working groups on different areas of operations will be carried out so that we may continue to challenge both ourselves and the inherently risky trade practices that still exist within the industry.

### MORE THAN JUST A HELMET GRI 403-2

We also trialled an early version of a smart helmet on our Central Kowloon Route – Kai Tak West project. The helmets use internet of things technology to provide data to the project team including worker location, body temperature and automatic alerts if the wearer is detected to have tripped or fallen.

Following feedback from workers, the team began working closely with suppliers to develop a lighter smart helmet that could integrate worker location with site demarcation to provide automatic notification and alert should the wearer accidentally enter prescribed fatal zones.

### SAFETY BY DESIGN GRI 416

A DfMA approach with full off-site fabrication maximised site safety for installation of the chilled-water thermal-energy storage tanks at our Global Switch Data Center (Phase 2) project in Tseung Kwan O.

The project team opted to design four 50 tonne tanks, with every element – such as steel works, fencing, cat ladders and even maintenance provisions – manufactured, preassembled and tested off site in a DfMA factory. E&M General Manager KC Lau explains why this was important.

“Taking this approach meant we eliminated the need for extensive scaffolding associated with high-level works, as well as the tremendous amount of on-site welding and painting activities, heavy lifting with complicated vertical operations and confined space work

inside the tank. From a safety perspective, it was hugely beneficial.”

Once complete in the factory, the tanks were shipped by barge, hoisted to the roof and slid into final position in one action – no hot works and no high-level assembly required.

“To our knowledge,” adds KC, “they are also the heaviest DfMA thermal tanks installed in Hong Kong.”



One of the 50-tonne off-site fabricated tanks is prepared for hoisting to the roof



**NO EXCEPTION**

GRI 403-2

Since Gambot™ was rolled out in 2017 to provide staff and workers with the ability to quickly and easily submit safety reports, we have seen



a year-on-year decrease in incidents. Upon closer investigation, our safety data showed an increase in these types of submissions correlated to a decrease in accidents on our sites.

'Exception reports' were therefore introduced to alert project management of staff and workers not undertaking sufficient dynamic risk assessments and safety observations via Gambot™.

The daily exception reports allow project management to follow up with those personnel not fulfilling reporting expectations to ensure we can continue to experience further safety improvements on our sites.

**2018****2100% increase**

in iDRA and safety observations over 2017 (year of Gambot™'s launch)

**29% decrease**

in accidents

**2019****75% increase**

in iDRA and safety observations over 2018

**17% decrease**

in accidents

**PROGRESS ON RESPONSIBLE GROWTH - 25 BY 25: ZERO HARM TARGETS**

GRI 403-1

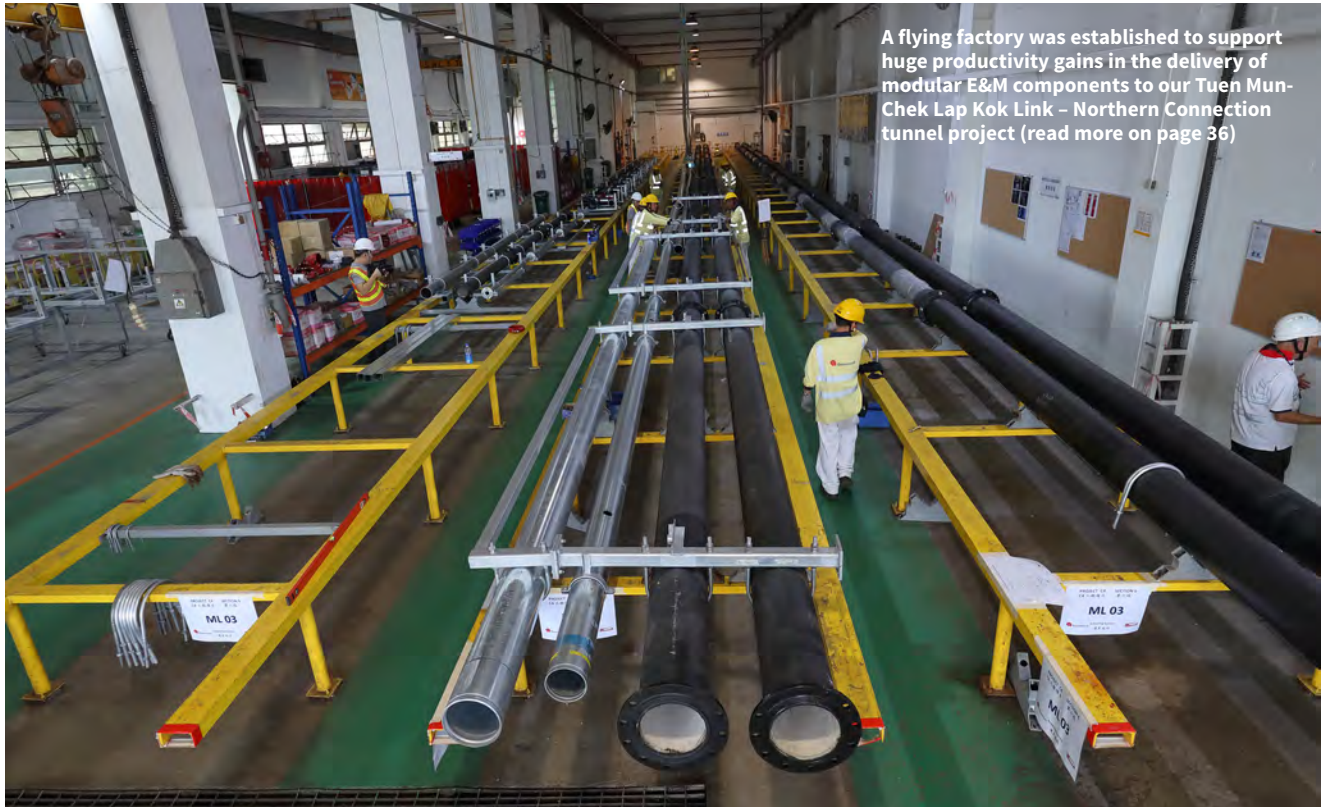
GRI 403-2

	Objectives	Target by 2025	Status	Progress in 2019
1	Improve safety on our sites and our methods to reduce the number of accidents	25% reduction in the number of reportable accidents on site/ HK\$ billion of turnover		Independent safety review, safety culture assessment, focused mentoring, Fatal Risk working groups.  Group AIR target = 4.3 Achieved
2	Achieve zero fatalities	Zero		
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		

Legend: = on track to meet target = further improvement needed

# VALUE CHAIN - CO-CREATION

## 2019 ACTIVITIES AND CASE STUDIES



A flying factory was established to support huge productivity gains in the delivery of modular E&M components to our Tuen Mun-Chek Lap Kok Link – Northern Connection tunnel project (read more on page 36)

### PUSHING THE BOUNDARIES OF BIM

To help drive our digital aspirations, we welcomed David-John (DJ) Gibbs, who has a doctorate in building information modelling (BIM), to the company in September 2019.

One of DJ's responsibilities is to ensure we don't just meet, but exceed, the 4D and 5D requirements set out by our clients.

"4D and 5D modelling involve linking time and cost information to our 3D models," explains DJ. "Used correctly, they offer tremendous value to everyone on the project. We are looking to push the boundaries of BIM to show our clients what it is really capable of."

"At the same time, we need to make sure we embed what we develop so it becomes business as usual. We are in the process of establishing standards and setting up training to help everyone get the most out of our digital environments."

Our ultimate goal is to integrate 3D, 4D and 5D so they all work together. It's an approach that is currently being trialled on our AMC project.

"We are also receiving increasing requests from our clients to submit payment applications using BIM. Many of these requirements are more comprehensive than anything I have seen, in the UK or around the world. Gammon is well positioned to deliver and our integrated approach goes one step further to generate extra value."

By pushing beyond basic BIM requirements, we will be able to give our clients better outcomes in areas that range from safety, planning, commercial and project management all the way through to delivery of DfMA.



## DIGITAL PRODUCTIVITY BOOSTERS

Our BIM programmers developed a series of Revit plug-ins during the year to enhance the productivity of digital modelling on our project sites.

These include an 'auto re-routing' function that automates the process of redirecting MEP pipework that crosses paths in the 3D model. Previously a process that took up a considerable amount of time, the automation means modellers now need only a single click to achieve the desired result.

Further productivity-enhancing plug-ins include that for the automatic calculation and creation of correctly sized openings for MEP services.

A data-manager plug-in was also developed that addressed the difficulty of inputting and updating data inside Revit. Using the data manager, large quantities of data can be quickly exported to an Excel spreadsheet where it is updated or amended, then subsequently imported back to Revit. Our BIM modellers have reported that a day's worth of data input can be reduced to around one hour by using the plug-in.

Our BIM objects library also went live, as mentioned on page 13.

## ROBOTIC PROCESS AUTOMATION

Gammon began using robotic process automation (RPA) in 2018 to reduce tedious processes prone to human error and increase productivity. We talk to two members of the Integrated Data Technologies team about a couple of RPA solutions developed in 2019.

### KENNY LAU, SYSTEMS MANAGER



*We designed a couple of RPA workflows to improve efficiency for our concrete department. Previously, whenever they created a new concrete mix design, the technical, sales and marketing team had to carry out a number of administrative tasks to get it ready for sale. Things like creating an item code, associating a cost, inputting mix proportion, sale price, preparing submission documents, and so on.*

*Now, the RPA workflows automate these activities to save time and also eliminate the potential for human error, as the tasks were fairly tedious. We've calculated the concrete department saves around five minutes per design mix. That may not sound*

*like much on its own, but when you take into account there are 1,200 design mixes created each year, that comes to around 100 hours. Which is about 90% faster than previously.*

### YU TANG NG, BUSINESS APPLICATION MANAGER



*On our Lyric project, there were a limited number of licences available for the client's document submission system, Aconex. This meant a Gammon document controller had to manually monitor the latest request for information (RFI) status in the client's system, then distribute it via our internal project document management system. This wasn't exactly efficient, as you can imagine!*

*So we developed an RPA solution that logs in to the client's Aconex system and uploads the latest status in our internal document management system for further distribution. The RPA saves the document controller time and gets information*

*on the latest status to the project team promptly. We calculate about ten minutes is saved for each RFI. Cumulatively, that amounts to hundreds of hours saved during the year.*

## SINGAPORE OFFICE RECEIVES MAS ACCREDITATION

Our Singapore office successfully obtained recognition in the Manufacturer Accreditation Scheme (MAS) for prefabricated modular MEP.

Launched in 2018, the accreditation assessment emphasises the capabilities, processes and specific quality criteria required for production of prefabricated MEP modules and helps to ensure quality assurance and control in their design, production, and installation. It

also helps to validate the processes used by prefabricated MEP manufacturers to produce high-quality systems and maintain good-quality standards.

Accreditation was achieved after evaluation of the Gammon Singapore office's quality management system, plant and design capabilities, human resources, and quality control in production, as well as storage, protection, delivery, and maintenance.

## TWO SIZES FIT ALL GRI 403-2

In order to achieve benefits including improved productivity, quality and safety, we have taken a modular approach to at least 70% of E&M works on our Tuen Mun-Chek Lap Kok Link – Northern Connection tunnel project.

To achieve this high percentage, E&M works inside the tunnel were divided into about 7,000 modules which were designed in a few different types that could be easily fabricated in our off-site E&M factory and installed in a routine manner.

“The project includes about 100km of E&M service pipes, so taking a modular approach had a huge impact on productivity,” said Director Banson Lam.

“At the peak in 2019, the project team was installing 50-60 modules per 10-hour day. In total, all modules, together with associated connections, were completed over a nine-month period. That’s quite an achievement!”

Achieving this impressive result relied on a focus on planning and design at the early stages.

“We carried out 3D scanning of the tunnel to check for any as-built deviation or interfacing elements so the requirements for fine adjustment were known in advance and well prepared before installation on site,” added Banson. “A step-by-step virtual trial of installation was also carried out to better understand and mitigate any logistics, delivery and handling issues. Data extracted from BIM was then sent direct to the factory for precise manufacturing.”

A typical module – potentially made up of elements including fire services and drainage pipes – was then combined into one unit in the factory, quality checked and delivered to site for straightforward installation in a single lift. From a safety point of view, the benefits are considerable. Not only were lifting activities reduced but there was also significantly less hot works and traffic inside the congested working environment and a reduced workforce requirement on site.

The off-site fabrication and delivery of the modules was monitored through our in-house digital solution STAMP, giving the team greater control over the entire process.

### MODULAR VS TRADITIONAL IN-SITU

(Using tunnel service gallery as an example)

- **50%** less site labour
- **50%** less deliveries
- **15%** less labour days



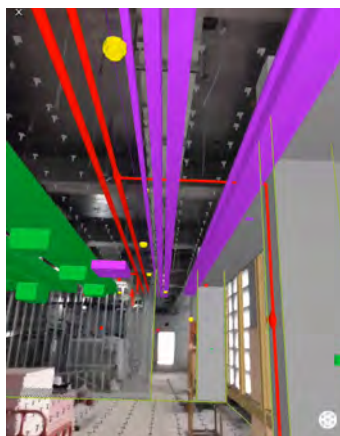
A digital twin allows a virtual practice run of the delivery and installation procedure








## BRIDGING THE GAP BETWEEN WORLDS

Augmented reality (AR) is being used on our M+ project to bridge the gap between the BIM model developed in the office and on-site works. Overlaying 3D information onto a real-world position on site aids setting out, installation verification and inspections.

Taking the inspection process as an example, when compared with traditional paper-based methods, AR requires no paper copies of reference material, the digital cloud model is reliably up to date, less time is required in the field, and accuracy is improved.



## PROGRESS ON RESPONSIBLE GROWTH - 25 BY 25: CO-CREATION TARGETS

	Objectives	Target by 2025	Status	Progress in 2019
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		Increasing adoption of offsite DfMA approaches on projects and for tenders. Expanded capability in house with Gammon E&M fabrication facility
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 Common Data Environment (CDE)) with digital progress monitoring		IDPD Wheel tools rolled out for all projects. Increasing CDE competencies – around 10% active projects using CDEs
3	Increase production and use of more sustainable materials to reduce pressure on finite natural resources	25% of procurement spend on more sustainable materials <sup>1</sup> GRI 301-1		Slightly behind target. More engagement required to ensure specifications encourage more sustainable materials
		25% of concrete quantity produced is certified or equivalent to the 'Outstanding / Platinum' grade of the CIC Carbon Labelling Scheme <sup>2</sup> GRI 301-2		Ahead of target. Additional mixes being added to Green Product Certification renewal
4	Collaborate with the value chain to support SDGs	To launch a collaborative programme with our value chain and CSI partners in 2020. 2025 target to be confirmed		Considering various opportunities under SDGs 3, 8, 9 and 12

Legend:  = on track to meet target  = further improvement needed

<sup>1</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>2</sup> Now changed to CIC Green Product Certification Scheme

# ENVIRONMENT - ZERO WASTE

## 2019 ACTIVITIES AND CASE STUDIES



Two giant trees that had merged into one 'twin' were safely moved from our Sai Sha Road Widening project, helped by the novel use of a remote-controlled Goldhofer. Honey bees were also moved from the site to a new home on a bee farm.

### “EXCELLENT” ENERGY IMPROVEMENTS GRI 302-1

While we have no shortage of experience in helping our clients achieve BEAM Plus credits for new builds, we were keen to ‘walk the talk’ and achieve a BEAM Plus certificate for our own premises.

Improving energy efficiency in old building stock is key to reducing Hong Kong’s overall carbon footprint so adopting the new BEAM Plus Existing Buildings (EB) Version 2.0 was important to demonstrate its feasibility. We were therefore excited when our Technology Park in Tseung Kwan O was awarded an ‘Excellent’ rating under the Energy Use aspect of the BEAM Plus EB Selective Scheme. Environmental Engineer Rex Wong, who helped the committee specifically tasked with evaluating energy-saving measures, explains some of the improvements made.

“A concerted effort went into achieving the certification, with a dedicated energy committee meeting bi-monthly to review energy improvements that could be made. Green features that we introduced ranged from the simple – shutting down lifts and escalators during non-peak hours – to the more involved, such as replacing electrical equipment at the end of its lifecycle with higher efficiency models.

“What’s also great is the BEAM Plus application process has made staff at the Park significantly

more energy aware, and that’s going to have a positive knock-on effect in the future.”

A final score of 86% was awarded by the BEAM Plus assessors, well beyond that required to achieve an excellent rating.

Subsequent to the BEAM Plus Excellent certification, our Technology Park was also certified as achieving ‘outstanding building energy efficiency performance (existing building)’ under the Hong Kong Energy Efficiency Registration Scheme for Buildings, which is run by the Electrical and Mechanical Services Department of the Government of Hong Kong SAR.



Gammon Technology Park is the headquarters for our plant, steel fabrication and concrete departments, featured here showing the new solar system



## HEAD OF DIGITAL ENGINEERING JAMES THOMPSON EXPLAINS SOME OF THE OFFICE TOOLS THAT ARE SUPPORTING OUR ZERO WASTE ASPIRATIONS

GRI 302-1

Following the roll out of Yammer in 2018, one of our biggest changes during 2019 was the roll out of Office 365 across the company, as part of our drive to become a more agile business and the 'smart and digital contractor of choice'. This had a profound effect on the way we work. Putting all our information in the cloud means we can access it from anywhere, at any time, and work remotely when required. This was particularly beneficial during the social unrest in 2019, as the accessibility helped us to maintain productivity.

Using the Teams communication and collaboration platform also allows staff to join meetings without the need to travel. We carried out a three-month study on one of our large civil projects and found that hundreds of travel hours were saved by using the video conferencing facility. That translates as a reduction in wasted working hours as well as carbon emissions related to transport.

Staff also no longer need to email or print documents individually to share with colleagues, they can simply access them via the cloud without being constrained by a physical location or medium.

Our new office at The Quayside also has features that help us operate in a leaner manner. It's such a flexible space we can merge rooms to create an area large enough to now hold major briefings in-house. Anyone can access the audio-visual equipment in meeting rooms via wi-fi so, again, there's no need for paper print-outs or hundreds of physical adaptors to connect to different equipment.

Without doubt these tools are impacting positively on our operations. What's also great is the way they have been embraced by staff. Everyone can see the benefits.



**James Thompson,**  
Head of Digital  
Engineering



**Meetings without  
the travel using  
Microsoft Teams**

## A NOVEL SOLUTION TO OPTIMISING OPERATIONS

GRI 302-1

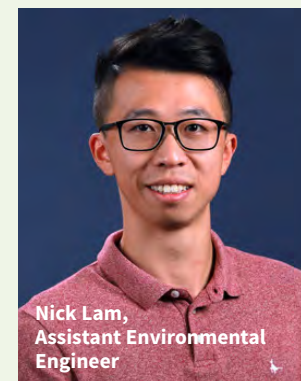
Good ventilation in the basement of building projects is a must to provide an acceptable working environment. At our Sheung Shing Street residential development project, numerous air blowers were installed to achieve this aim, however they presented a couple of problems for the team, as Assistant Environmental Engineer Nick Lam, who works on the project, explained.

"Energy was being wasted, as the blowers ran all the time during working hours, regardless of whether they were needed or not. And when the blowers were operating under full load, they were very noisy. We weren't happy about that either, as prolonged exposure to noise obviously could have affected the hearing of our workers."

The team addressed the problem with the novel solution of installing a variable frequency drive and CO<sub>2</sub> sensor to the air blowers.

"The sensors automatically change the speed of the air blower by measuring the value of indoor CO<sub>2</sub> levels," says Nick. "Energy is not being wasted, as the blowers only operate as needed in direct response to the surrounding conditions. During 2019, this approach alone saved us almost 9000kWh."

"The adjustable speed also means we significantly reduced the noise level generated in the basement, by 10.1dB(A). That created a much better environment to work in."



**Nick Lam,**  
Assistant Environmental  
Engineer

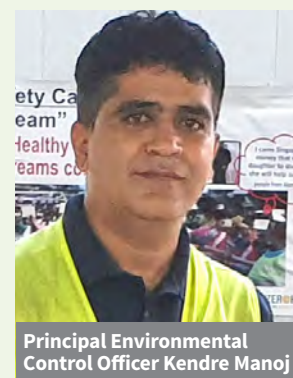
## UP CLOSE AND PERSONAL GRI 403-2

Construction of our Havelock MRT station for the Thomson-East Coast Line project in Singapore is carried out in the surrounds of hotels, residential blocks, a Chinese temple, commercial buildings, busy roads and a shopping mall. With so many stakeholders in close proximity, environmental management, in particular control of dust and noise, is of high importance.

That task is the responsibility of the project's Principal Environmental Control Officer, Kendre Manoj, who leads a three-pronged approach consisting of substitution, engineering and administration control, the last of which involves a focus on communication.



Artist's impression of Havelock MRT Station in downtown Singapore



Principal Environmental Control Officer Kendre Manoj

“Establishing good lines of communication with stakeholders was key. It’s really important to give them advance notice of any noisy activity and how long it will last for, then give them the opportunity to ask questions and provide feedback. We take every opportunity to improve noise mitigation measures following their feedback. For example, we installed localised noise barriers, sometimes up to 12m high, and rescheduled certain works.”

Traditional methods were substituted for quieter approaches such as cutting bored pile using a cable saw method instead of an excavator breaker, and replacing the use of Vibro machine sheet pile driving with a silent piler option. A double layer of noise shield enclosure was also placed at ventilation fan blowers and inflated noise-reduction wall barriers were installed against the engines of machinery.

Air pollution control measures included using angle grinders with built-in vacuums, bobcats that had mechanical sweepers attached, manual mechanical sweepers and industrial vacuums.

“Basically, we were vacuuming the site to ensure both the workers and nearby stakeholders were not subjected to degraded air quality. Workers were also given N95 standard masks to wear.”

Singapore’s reliance on imported manual labour also meant culture management of the working crew was an important issue.

“We have lot of different nationalities, from Chinese, Indian and Bangladeshi to Burmese and Thai. People come with different ideas of what is and what isn’t acceptable from an environmental point of view, depending on their background. Roadshows, toolbox talks and campaigns are used to educate everyone about the standards Gammon as a company and Singapore as a country requires.

“Relationship management, both within the project team and with stakeholders, is certainly key to the smooth running of the project. I’m pleased with what we achieved in 2019 and we will continue with this focus throughout 2020.”

## GHG EMISSIONS INVENTORY VERIFICATION

Gammon achieved another first in Hong Kong by becoming the first company to have its greenhouse gas emissions inventory verified against the new ISO14064-1:2018 version of the standard for Greenhouse gases (Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals). The assessment was undertaken by SGS and was the first verification completed with HKAS accreditation. The new standard departs from the previous approach of Scope 1-3 emissions and considers a much broader range and the significance of indirect emissions, giving us confidence in the accuracy of the data as the basis for considering meaningful carbon reductions. The new ISO14064-1:2018 verification statement is presented in Appendix B.



## SUSTAINABILITY MONTH

Every two years we hold Sustainability Month, an awareness and engagement campaign with activities and actions for projects and permanent facilities. For 2019, we looked at the four focus areas of our sustainability strategy, Responsible Growth - 25 by 25: safety, environment, value chain and people. Each week had a different theme, with actions related to the objectives and targets of the strategy.

Company-wide, events were held throughout the month, ranging in diversity from lunchtime walks and talks on the importance of a healthy diet, through to a canned food collection for the charity Feeding Hong Kong and plastic-free team lunches. Some of the more popular activities included the World Wide Fund for Nature (WWF) annual Walk for Nature in Mai Po wetlands and a Fair Trade market held in head office.

This year, our use of the communication and collaboration platform Teams allowed even more people to enjoy seminars and workshops by 'attending' remotely. Examples of some of the events held via Teams include a live presentation from one of our construction sites by our Digital G Unit Head Andy Wong on our co-developed battery storage solution, the Enertainer (see page 10). Andy was also able to respond to questions from viewers. Senior Environmental Manager Eddie Tse also gave a live presentation on solar power implementation and CLP's Feed-in-Tariff scheme.






## DIGITAL BUSINESS CARDS

A new digital business card feature was added to the Gammon Employee app, allowing contact information to be quickly scanned by anyone with a phone. Not only do the digital cards save paper, they don't run out! **GRI 306-2**

## RECYCLING

We began recycling our lead acid batteries, as part of an initiative run by the Hong Kong Battery Recycling Centre. In 2019, we sent 596kg to the Centre for local recycling and processing. **GRI 306-2**

## PROGRESS ON RESPONSIBLE GROWTH - 25 BY 25: ZERO WASTE TARGETS

	Objectives	Target by 2025	Status	Progress in 2019
1	Reduce carbon emissions to mitigate the impacts of climate change (2016 as a baseline) <b>GRI 305-4</b>	25% reduction in the number of reportable accidents on site/ HK\$ billion of turnover 25% reduction in carbon intensity (kg CO <sub>2</sub> e / days worked)		Signed up to BEC Low Carbon Charter. Developed and commenced Decarbonisation Action Plan
2	Pursue zero waste to landfill / incinerator to minimise resource wastage <b>GRI 306-2</b>	25% reduction in landfill (or incinerator) waste intensity tonnes / HK\$1 million turnover (HK & Macau) (2016 baseline) 25% reduction in incinerator waste intensity tonnes / HK\$1 million turnover (SGP) (2018 baseline)		Zero Waste Plans for all projects with various waste reduction initiatives. Promotion of offsite construction in HK and Singapore and looking into reusable protection materials and lunchbox waste reduction
3	Pursue zero wasted energy to reduce air quality impacts and carbon emissions <b>GRI 302-1</b>	25% reduction in energy intensity MJ / HK\$ 1 million turnover (2016 baseline)		Promoted smart energy meters for site offices, early electrification of sites and use of Enertainers
4	Pursue zero wasted water to avoid resource wastage	25% reduction in water intensity (m <sup>3</sup> ) / 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 <b>GRI 302-1</b>	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)

Legend:  = on track to meet target  = further improvement needed

# PEOPLE - CARING

## 2019 ACTIVITIES AND CASE STUDIES



Solar energy: Gammon and EcoSmart staff give a celebratory jump among the photovoltaic panels installed on top of Gammon's Tseung Kwan O Technology Park roof in 2019 (left to right: Stephen Ma (EcoSmart) and Gammon's Jacky Yang, Ophelia Po Chu Ng, Rex Wong and Willis Kim Ting Yip). See page 11 for further details of the installation.

### OFFICE MOVES

GRI 302-1

GRI 306-2

After 26 years at Devon House in Quarry Bay, on 13 December we packed our bags and relocated to new head office premises at The Quayside, built by Gammon, in Kowloon.

Occupying the entire 22nd floor of both towers, our new open-plan space has been designed to meet the seven concepts of the WELL Building Standard that focuses on occupant health and wellness: air, water, nourishment, light, fitness, comfort and mind. Some of the features include green walls, a mothers' room, high-quality filtration for water dispensers, low VOC materials, outstanding acoustic performance in meeting rooms, touch-free security access with face recognition, greater choice of meeting and working

spaces, and automatically adjusted desks that can be pre-programmed with personal settings to reduce the amount of time spent sitting.



A Bai San ceremony is held in the social hub at The Quayside



Considerable emphasis has been placed on spaces dedicated to collaboration and communication. This includes our 'BIM lab' which will be used for digital model reviews and virtual reality walkthroughs by colleagues, business partners and clients. The flexible space contains a four-screen array and Surface Hub television which will enable greater interaction with our digital information.

Individual storage space throughout the office has also been considerably reduced to support our aspiration for paperless working. In addition to adopting WELL, we have also included many energy-saving devices for the control of LED lighting and equipment with high power demands. These have included:

- Movement and light sensors to switch off lights when not required;
- Operation of lighting and equipment based on timers; and

Emphases has been placed on spaces dedicated to collaboration and communication



- Switching to energy saving modes after shorter idling times.

We also continue our Zero Waste Office programme through recycling of office paper and centralised recycling of card, plastics and cans. And, of course, no single-use disposables are provided in the office. See box out (below) for further information on the WELL Building Standard process.

## WELL DONE

**Sustainability Manager Ivan Chiu, who was part of the working group established to support achievement of the WELL Building Standard, provides a little background into the process of achieving certification.**

WELL was launched in 2014 and is grounded in a body of medical research that explores the connection between buildings, where we spend most of our time, and the health and wellness impacts on us as occupants. The premise is that a WELL-certified space can help create a built environment that improves nutrition, fitness, mood and performance of occupants.

To begin the process of meeting the WELL standards, we developed a working group comprised of different in-house technical teams and supporting departments that met regularly. We also had an external WELL consultant and an in-house WELL-Accredited Professional to ensure the design and certification process was interdisciplinary and collaborative.

WELL provides guidelines but there is also flexibility to implement initiatives that meet the specific needs of your building and company. Through our working group discussions, we identified measures such as real-time air-quality sensors and the provision of steamers in pantries, as an example.

We've submitted our documentation online and once it is reviewed and approved, there will be an onsite performance verification. This verification from a third party will provide evidence and confidence to staff that they work in a healthy and safe building.



Ivan Chiu,  
Sustainability  
Manager

## COMMUNITY CARE

Gammon employees have always been quick to support the community. In 2019, we volunteered more than 1680 hours (see also Highlights, page 16). Senior Project Manager Brian Ho, a particularly active volunteer over the years, explains why he feels it's especially important for project staff to get involved with and support the local community.

The construction industry brings huge economic and social benefits to society but let's face it, most of us don't want to live next door to an active construction site. It's beneficial for everyone if we establish good relationships with the community so we can explain the construction process and get their input when we are programming works so that we can address their concerns and minimise potential disturbance to them.

Some of the ways we've established good relationships on projects have been recycling surplus project material to upgrade the living standards of some older village homes and refurbishing buildings damaged by a typhoon. This makes a particular impact on the elderly and they've always been very appreciative.

These kinds of actions really shine a positive light on the project team and that in turn enhances daily liaison with surrounding residents when we are implementing actual construction works.

It's not just about your direct neighbours though. It's important not to be insular in your outlook. It's worth joining forces with local charity groups, as they know best who is in most need of assistance. On the Tuen-Mun Chek Lap Kok Link Southern Viaducts Connection project, which I work on, we've developed a special relationship with the Tung Wah Group of Hospitals and by working together we've held some really special community events. [In 2019, Gammon received a certificate of appreciation from Tung Wah Group of Hospitals].

It's also important to build up good relationships and communication channels with district councilors so you can receive support from them when dealing with government authorities.

Nothing bad ever comes of being considerate to your neighbours supporting local community events. And that doesn't just apply to construction!



Brian helps take members of the Tung Wah Group of Hospital's Elderly Centre to an expo at Victoria Park in 2019

Representatives from all divisions came together at the end of 2019 to carry out visits to our Greater Bay area strategic supply chain that is supporting our drive to deliver more modern methods of construction for our clients, in particular off-site design for manufacture and assembly





## PROVIDING REAL-WORLD WORK EXPERIENCE TO STUDENTS GRI 302-1

In addition to the regular internships we have each year, for the second time, we provided the opportunity for students from the Hong Kong University of Science and Technology to work with us on a 'Capstone' project for the final year of their Environmental Management and Technology Degree.

Under the leadership and guidance of Gammon's Senior Environmental Manager, Eddie Tse, they have been tasked to consider how Gammon can electrify our construction sites earlier to reduce the use of diesel

generators. This type of programme is a great win-win for both businesses and students. We get valuable insight and a fresh look at an environmental challenge we have, and the students get to experience what it's like working in a real-world context on a real project and gain confidence for their future careers.

The project covers several months, spanning 2019 and 2020, and the students started by looking at energy profiles for different project types and consulting on the ground with project teams.

## LOOKING AFTER THE MIND AND THE BODY

In April, we began running the Key2Wellness programme which promotes physical and mental health practices in the workforce. Established by our shareholder Jardines, we have a number of workshops to choose from and can also create our own to suit the specific needs of our operations.

Throughout the year, around 8,000 attendees took advantage of workshops ranging from emotional management, positive psychology and Tao Yin body and mind unity exercises, through to dental health, sleep apnea and smoking cessation.

"The link between mental and physical wellbeing is well established," explains our Healthcare Leader Jo Ling. "Over the years, we have been running increasingly more courses that address mental wellbeing. In 2019, the courses available on the two subjects were almost evenly split.

"I think the social disruptions during 2019 gave some staff a sense of unease, so workshops focusing on subjects like emotional management were well received."

One of the more unusual workshops was 'mindful coffee', run by Hong Kong charity Mindset which aims to raise awareness of mental health issues. Attendees learned to practice mindfulness while making coffee to induce a feeling of calm and relaxation.

There were also opportunities for staff to receive a flu shot, have their blood pressure taken and cholesterol levels checked.

Finally, we established a formal Employee Assistance Programme with an independent provider so staff can talk to trained professionals confidentially around mental health issues such as stress and anxiety through the Care Line.

## YOUNG PROFESSIONALS OUT AND ABOUT GRI 404

Our Young Professionals Group (YPG) committee, which leads the professional development and social engagement activities of the YPG, organised a great variety of tours and leisure activities throughout the year. YPG Chairperson Amee Tong explains what the members got up to during the year.

"Tours took place to projects in the Greater Bay Area and factories in Singapore to see examples of modularisation. We also visited Huawei's headquarters in mainland China to understand how the company's is adopting innovative technology and to check out its European-styled research and development centre which has enough living and working space for 25,000 employees. That was impressive!



“Construction innovation also formed the theme of a number of locally organised visits, to our own projects as well as to the Construction Innovation and Technology Application Centre, the Gammon-constructed MiC demonstration building, and the innovation office of the Electrical & Mechanical Services Department.”

Personal development and social activities included workshops on effective presentations, photography, calligraphy, and sake tasting with managers.



## PROGRESS ON RESPONSIBLE GROWTH - 25 BY 25: CARING TARGETS

Objectives		Target by 2025	Status	Progress in 2019
<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		Change in working hours on site, WELL Building Standard for new office, Office 365 roll-out to allow remote working
2	Attract, retain and support life-long careers for workers and apprentices GRI 404-1	25% increase in the % of workers who have been upskilled from unskilled to semi-skilled and semi-skilled to skilled		Several promotions to schools. Support for new apprenticeship programme for non-diploma holders to become skilled workers
		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		Next survey scheduled for 2021, no survey conducted in 2019
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 Champions have started by investigating gender equality (two surveys, focus group). Unconscious bias briefing on Inclusive Leadership for directors
<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		Achieved annual target for volunteering. Volunteer support and matching fund proposals developed. Further action required in 2020
		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		Actions to be undertaken in 2020
3	Create shared value (using skills and expertise to address a social need while enhancing competitiveness)	25% increase in newly recruited workers from districts with the highest levels of poverty		Further consideration of proposals required. Slightly behind annual target

Legend: = on track to meet target = further improvement needed



# APPENDICES

Experiencing virtual reality at The Quayside

# Appendix A – Key Performance Indicators

## General Notes

All GRI Standards used are 2016 versions. GRI numbers in parenthesis '(GRI XXX)' indicate that this has not been identified as a material issue in the stakeholder engagement exercise but data is available, has historically been disclosed, and is therefore reported. Whilst data are generally reported according to GRI Standards they may not fully comply with disclosure requirements.

Gammon-only projects follow an operational control approach to data reporting. Joint Venture (JV) projects are included and follow an equity share approach. For all data, subcontractors' are excluded where data is not available.

GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
<b>ORGANISATION</b>								
<b>GRI 102</b>	<b>General disclosures</b>							
<i>GRI 102-7</i>	<i>Scale of the organization, product labelling</i>							
	<b>Active project sites</b>	number	109	116	129	139	136	150
	<b>Total employees (by region)<sup>1</sup></b>	number	9,062	8,334	7,835	7,268	6,924	7,035
	Mainland China	number	517	530	524	474	397	429
	Singapore	number	1,322	1,158	1,027	595	488	418
	Hong Kong & Macau	number	7,223	6,643	6,281	6,196	6,036	6,187
	Vietnam	number	0	3	3	3	3	1
	<b>Group turnover (by region)</b>	US\$ millions	2,252	2,425	2,613	2,633	2,417	2,301
	Mainland China & Rest of Asia	US\$ millions	0.10	0.20	0.30	0.60	2.20	0.03
	Singapore	US\$ millions	195	164	134	118	257	88
	Hong Kong & Macau	US\$ millions	2,057	2,260	2,479	2,514	2,157	2,214
<i>G4-CRE8</i>	<i>Product and service labelling</i>							
	<b>Sustainability certification, rating and labelling schemes for new construction (HKBEAM, BEAM Plus, LEED and Green Mark)<sup>2</sup></b>	number of projects, cumulative	62	75	87	98	128	149

1. Includes monthly and daily paid employees.

2. Cumulative count of number of projects joined HKBEAM, BEAM Plus, LEED, Singapore Green Mark scheme.

## SAFETY-ZERO HARM

<b>GRI 403</b>	<b>Occupational Health and Safety</b>							
<i>GRI 403-2</i>	<i>Types of injury and rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities</i>							
	<b>Fatalities (employees) (location)</b>	number	0	1 (HK) <sup>+</sup>	2 (SGP) <sup>+</sup>	0	0	1(HK) <sup>+</sup>
	<b>Fatalities (subcontractor workers) (location)</b>	number	1 (HK) <sup>+</sup>	0	1 (HK) <sup>+</sup>	1 (HK) <sup>+</sup>	0	1(HK) <sup>+</sup>
	<b>Accident Incident Rate<sup>1</sup></b>							
	<b>Group operations – all workforce</b>	per 1,000 workers	5.5	5.1	4.9	3.7	4.7	4.2
	<b>Employees</b>	per 1,000 workers	3.0	3.7	4.0	2.5	2.3	2.2
	<i>by region</i>							
	HK & Macau	per 1,000 workers	3.2	4.1	4.0	2.6	2.5	1.9
	Singapore	per 1,000 workers	1.8	1.0	4.4	1.9	0	0
	Mainland China & Rest of Asia	per 1,000 workers	0	0	0	0	0	0
	<i>by gender</i>							
	male	per 1,000 workers	3.1	3.3	3.8	2.5	2.5	2.3
	female	per 1,000 workers	0	9.9	8.4	3.2	1.1	1.8
	<b>Workers (excludes employees)</b>	per 1,000 workers	8.8	6.9	5.9	4.6	6.2	5.5
	<i>by region</i>							
	HK & Macau	per 1,000 workers	10.0	7.4	6.2	4.9	6.7	5.8
	Singapore	per 1,000 workers	0.8	0	0	0	1.7	1.6
	Mainland China & Rest of Asia	per 1,000 workers	0	0	0	0	0	0
	<i>by gender</i>							
	male	per 1,000 workers	10.6	7.5	6.3	4.4	6.6	6.1
	female	per 1,000 workers	0	5.9	3.7	15	3.1	2.7
	<b>Occupational disease rate<sup>2</sup></b>	rate	0	0	0	0	0	0

+ Gender: male

1. AIR is total number of reportable accidents / average workforce \* 1000 (excluding first aid cases).

2. No data available as reported directly to local governments.



GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
SAFETY-ZERO HARM								
GRI 403	Occupational Health and Safety (continued)							
GRI 403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities							
Lost day rate <sup>1</sup>								
Group operations – all workforce		rate	2.9	3.3	4.5	4.7	4.6	4.8
Employees		rate	2.3	3.3	4.9	7.6	2.1	2.5
by region	HK & Macau	rate	2.6	3.8	5.6	8.3	2.3	2.6
	Singapore	rate	0.2	0.1	0.4	0.2	0	0
Mainland China & Rest of Asia		rate	0	0	0	0	0	0
by gender	male	rate	2.8	3.7	6.1	9.8	2.3	2.8
	female	rate	0.3	1.8	2.0	2.4	0.6	1.1
Absentee rate (all employees) <sup>2</sup>		rate	-	0.98	1.07	1.06	1.07	1.11
by gender	male	rate	0.25	0.07	0.16	0.98	1.02	1.08
	female	rate	-	1.39	1.53	1.45	1.32	1.28
by region	HK & Macau	rate	-	0.97	1.06	1.05	1.03	1.13
	Singapore <sup>3</sup>	rate	-	1.02	1.15	1.30	1.78	1.05
	Mainland China & Rest of Asia	rate	-	1.04	0.99	0.99	1.10	0.84
G4-CRE6	Health & Safety Management System Verification							
% of Gammon operations (projects) operating with ISO 45001 or OHSAS 18001 certifications <sup>4</sup>		%	100.0	99.3	98.9	98.4	91.9	95.6

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. Daily paid workers to be included starting from 2020.

4. HK Projects certified with ISO 45001 since Jul 2019 while SGP Projects will be certified in Aug 2020. ISO 45001 or OHSAS 18001 certification does not include JV projects (except Sai Sha Road Widening Works). Calculation on the basis of project numbers. Digital G and Macau operate in accordance with our HSEQ policy and procedures, but are not yet certified.

## ENVIRONMENT-ZERO WASTE

Minor changes in some previous years' data largely due to 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	86,841	99,700	151,230	111,376	120,956	113,156
	Major materials used (concrete)	m³	-	1,026,718	991,747	682,040	582,394	550,020
GRI 301-1	Materials used - renewable materials							
	Major materials purchased (timber formwork)	m³	3,220	2,271	5,796	1,484	2,814	1,641
	% of timber purchases that were Forest Stewardship Council (FSC) certified	% of spend	99	98	98	100	100	100
GRI 301-2	Recycled input materials used							
	Cement replacements	% of cement replaced	27.9	29.2	27.8	26.8	24.2	23.6
GRI 302	Energy							
GRI 302-1	Energy consumption within the organisation							
	Fuel Consumption - non renewable sources¹							
	Total fuel consumption	gigajoules	883,699	843,399	841,758	581,309	774,296	765,076
	Diesel consumption	gigajoules	298,705	127,056	141,458	135,681	62,309	16,109
	B5 Biodiesel²	gigajoules	584,924	716,014	700,214	445,367	711,966	748,968
	Petroleum consumption³	gigajoules	71	329	86	262	22	0
	Electricity Consumption	gigajoules	190,855	157,252	128,830	147,985	129,246	109,898
	Other energy use⁴	gigajoules	122,410	102,220	78,717	77,573	78,396	71,947
	Energy Consumption - renewable sources⁵							
	Renewable energy including solar and wind power⁶	kWh	4,549	5,487	5,833	10,622	10,349	11,528
		gigajoules	16	20	21	38	37	42

1. 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'.

2. Used in HK only.

3. Petrol used for construction purposes only.

4. Reported from 2019. Mainly includes propane, butane, acetylene and other mobile fuel use.

5. Excludes grid connected renewables making use of the HK Feed-in Tariff.

6. Solar power includes PV panel and solar water heater. Estimated based on equipment specification and local conditions.

GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
<b>ENVIRONMENT – ZERO WASTE</b>								
<b>GRI 302</b>	<b>Energy (continued)</b>							
<i>GRI 302-1</i>	<i>Energy consumption within the organisation</i>							
	<b>Energy Consumption - total within organisation</b>							
	Total energy consumption within the organisation <sup>1</sup>	<b>gigajoules</b>	1,196,981	1,102,890	1,049,326	806,905	981,976	946,963
		<b>MWh</b>	-	-	-	-	-	263,045 <sup>2</sup>
	<b>Energy productivity<sup>3</sup></b>	<b>Revenue/gigajoules</b>	0.147	0.172	0.195	0.255	0.192	0.190
<i>GRI 302-2</i>	<i>Energy consumption outside the organisation</i>							
	<b>Business air travel - aircraft fuel<sup>4</sup></b>	<b>Litres</b>	-	-	-	49,940	67,680	63,684
	<b>Staff cars - petrol consumption<sup>5</sup></b>	<b>Litres</b>	-	-	667,080	595,896	534,081	459,947
	<b>Staff cars - diesel consumption</b>	<b>Litres</b>	-	-	8,394	9,970	5,379	838
	<b>Staff cars - B5 biodiesel consumption</b>	<b>Litres</b>	-	-	1,334	155	0	0
	<i>Renewable energy generation under FiT<sup>6</sup></i>							
	<b>Renewable energy supplied to grid<sup>7</sup></b>	<b>kWh</b>	-	-	-	-	1,987	306,921

1. Additional data collected, principally due to addition of 'Other energy use'.
2. Reported from 2019.
3. Revenue unit = HK\$100k.
4. 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.
5. Staff car use reporting moved from direct (Scope 1) to indirect (Scope 3) from 2016.
6. FiT= Feed in Tariff offered by electricity utilities in Hong Kong.
7. 2 project sites (Kai Tak West and Sai Sha Road) + Gammon Technology Park.

<b>(GRI 303)</b>	<b>Water</b>							
<i>(GRI 303-1)</i>	<b>Municipal water consumption</b>	<b>m<sup>3</sup></b>	1,541,394	1,362,646	1,118,242	1,387,742	1,408,404	927,366
	<b>Municipal water intensity</b>	<b>m<sup>3</sup>/HK\$1m turnover</b>	87.7	72.1	54.7	67.6	74.7	51.7
<i>(GRI 303-3)</i>	<b>Recycled water</b>	<b>m<sup>3</sup></b>	1,338,533	436,636	5,523,201	1,788,216	2,989,052	1,534,787
	<b>% of water recycled based on total demand<sup>1</sup></b>	<b>%</b>	46	24	83	56	68	63
	<b>% of water recycled of total water withdrawal</b>	<b>%</b>	87	32	494	129	212	165

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

(GRI 305)		Emissions						
<i>The 2019 greenhouse gas emission inventory for 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: HK20/00132 dated 3rd September 2020. Calculation methodology follows ISO 14064 standard and IPCC AR5 report for Global Warming Potential, including greenhouse gas type (CO2, CH4, N2O, HFCs).</i>								
(GRI 305-1)	Direct (Scope 1) GHG emissions							
	Carbon dioxide equivalent (CO2e) emissions (Scope 1) <sup>1</sup>	tonnes	75,254	69,413	68,684	49,130	64,271	62,242
	Direct emission from Towngas stoves combustion <sup>2</sup>	tonnes	-	-	-	-	36	36
	Biogenic CO2e emissions (from B100) <sup>3</sup>	tonnes	2,093	2,565	2,527	1,627	2,582	2,717
(GRI 305-2)	Energy indirect (Scope 2) GHG emissions							
	Carbon dioxide equivalent (CO2e) emissions (Scope 2) <sup>4</sup>	tonnes	37,988	26,778	21,184	23,194	20,634	16,861
	Indirect emission from purchased Towngas <sup>5</sup>	tonnes	-	-	-	-	-	8
	Scope 1 & 2 GHG emissions	tonnes	113,242	96,191	89,868	72,324	84,904	79,103

1. Staff car use reporting moved from direct (Scope 1) to indirect (Scope 3) from 2016.
2. Starting from 2019, TKO Canteen Towngas direct emission reported under scope/ category 1.
3. Emissions from B100 biodiesel (contained in B5 used).
4. 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.
5. Starting from 2019, TKO Canteen Towngas indirect emission reported under scope/category 2.



GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
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## ENVIRONMENT-ZERO WASTE

### (GRI 305) Emissions (continued)

#### (GRI 305-3) Other indirect (Scope 3) GHG emissions<sup>1</sup>

<b>Total reported carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 3)<sup>2</sup></b>	<b>tonnes</b>	56,955	66,676	77,618	24,118	22,637	29,309
CO <sub>2</sub> e from business air travel <sup>3</sup>	<b>tonnes</b>	245	256	297	268	354	531
Landfill disposal (Hong Kong) <sup>4</sup>	<b>tonnes</b>	56,685	66,377	75,777	22,017	20,264	27,251
Waste incineration (Singapore) <sup>5</sup>	<b>tonnes</b>	25	43	3	8	221	86
Water consumption (Hong Kong) <sup>6</sup>	<b>tonnes</b>	-	-	-	443	419	363
Water consumption (Singapore) <sup>7</sup>	<b>tonnes</b>	-	-	-	-	150	26
Water consumption (Mainland China) <sup>7</sup>	<b>tonnes</b>	-	-	-	-	2	2
Water consumption (Macau) <sup>8</sup>	<b>tonnes</b>	-	-	-	-	-	2
Sewage from restaurants and catering services <sup>9</sup>	<b>tonnes</b>	-	-	-	-	0.7	0.4
Staff cars use <sup>10</sup>	<b>tonnes</b>	-	-	1,541	1,381	1,228	1,047

#### (GRI 305-4) GHG emissions intensity

<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 1)</b>	<b>kg/HK\$1m turnover</b>	4,284	3,670	3,370	2,392	3,410	3,468
<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 2)</b>	<b>kg/HK\$1m turnover</b>	2,162	1,416	1,039	1,129	1,095	939
<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 1 &amp; 2)</b>	<b>kg/HK\$1m turnover</b>	6,446	5,086	4,409	3,521	4,504	4,407
<b>Carbon dioxide equivalent (CO<sub>2</sub>e) emissions (Scope 3)<sup>1,2</sup></b>	<b>kg/HK\$1m turnover</b>	3,277	3,554	3,829	1,176	1,199	1,633

- Only significant Scope 3 emissions for which data is available are included e.g. excludes fuel supplied by subcontractors.
- Starting from 2019, more Scope 3 items added.
- Emission factor from 'WBCSD Greenhouse Gas Protocol Mobile Combustion GHG Emission Calculation Tool' version 2.6.
- Starting from 2019, landfill waste includes an assumed 50% sent to sorting facilities.
- Emission factor from: 'NEA Singapore's Fourth National Communication and Third Biennial Update Report 2018' under UNFCCC, (emission factor derived from wet weight - Table 6C, CO<sub>2</sub> only). Methodology changed in 2018 to include N<sub>2</sub>O and CH<sub>4</sub> emissions.
- Emission factor source: 'Hong Kong Water Supplies Department Annual Report 2017/2018'.
- Data reported from 2018. Based on Hong Kong emission factor for water processing.
- Reported since 2019. Based on Hong Kong emission factor for water processing.
- Source: 'Drainage Services Department Annual Report 2017-18', electricity emission factor from 'Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong 2010 Edition'.
- Staff car use reporting moved from direct (Scope 1) to indirect (Scope 3) from 2016.

### GRI 306 Effluent and Waste

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

#### GRI 306-2 Waste by type and disposal method

##### GRI 306-2a Hazardous Waste Disposal (Disposal by licensed contractor. Disposal method determined based on compliance with local government requirements.)

Chemical waste disposal - liquid <sup>1</sup>	<b>litres</b>	306,326	202,889	283,429	260,920	264,730	257,060
Chemical waste disposal - liquid <sup>2</sup>	<b>kg</b>	294,073	194,774	272,092	250,483	254,141	246,778
Chemical waste disposal - solid <sup>3</sup>	<b>kg</b>	9,985	9,963	8,840	7,833	8,519	192,207

##### GRI 306-2b: i Non Hazardous Waste Reuse (Inert wastes generated in Hong Kong and Singapore only.)

Total inert material to public fill (Public fill banks are managed by local Governments and materials are reused for backfill / land formation etc.)							
Hong Kong and Singapore	<b>tonnes</b>	1,100,769	1,746,608	1,447,808	932,318	937,071	813,937
Direct inert material reused <sup>4</sup>	<b>%</b>	42	29	9	31	44	55
Total quantity	<b>tonnes</b>	790,636	730,029	148,125	410,833	724,645	1,009,453
Hong Kong	<b>tonnes</b>	722,192	702,774	112,542	191,833	724,110	1,009,078
Singapore <sup>5</sup>	<b>tonnes</b>	68,444	27,255	35,583	219,000	535	375

- The majority is spent lubricant oil.
- 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.
- In 2019, solid chemical waste mainly came from asbestos at a demolition project. The remaining is mainly absorbent material from cleaning machinery.
- Direct reuse and reception site arrangement initiated by Gammon.
- Limited excavation work in Singapore during 2018 and 2019.

GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
<b>ENVIRONMENT-ZERO WASTE</b>								
<b>GRI 306</b>	<b>Effluent and Waste (continued)</b>							
<b>GRI 306-2b: ii</b>	<b>Non Hazardous Waste Recycling (diverted from landfill)</b>							
	Total waste recycled excluding rebar/steel	tonnes	3,880	1,819	3,373	1,792	1,252	4,477
	Recycling rate (excluding rebar / steel) <sup>1</sup>	%	7.9	2.9	4.7	2.3	2.0	7.2
	Total waste recycled including rebar/steel	tonnes	22,932	16,429	40,139	34,394	11,112	10,948
	Recycling rate (including rebar / steel) <sup>1</sup>	%	32	21	36	30	15	15
	Rebar/steel recycled	kg/HK\$1m Turnover	1,085	773	1,804	1,587	523	361
		tonnes	19,052	14,610	36,767	32,602	9,860	6,471
<b>GRI 306-2b: iv</b>	<b>Non Hazardous Waste Incineration (waste to energy)</b>							
	Total construction site waste incinerated							
	Singapore <sup>2</sup>	tonnes	-	-	241	675	260	102
<b>GRI 306-2b: vii</b>	<b>Non Hazardous Waste Landfill Disposal</b>							
	Total construction site waste landfilled							
	Hong Kong <sup>1</sup>	tonnes	48,791	61,569	70,843	78,375	60,786	61,246

1. Starting from 2019, total waste to landfill includes 50% of the waste disposed of at Government sorting facilities.

2. Incineration data represents food waste only. Other incinerated waste will be included in the future.

## VALUE CHAIN-CO-CREATION

<b>GRI 102</b>	<b>General disclosures</b>							
<b>GRI 102-9, (GRI 204-1)</b>	<b>Supply chain/Procurement practice</b> Subcontractors are taken to be external parties providing services and/or labour. Suppliers are taken to be external parties supplying equipment or materials							
	<b>Active subcontractors and suppliers</b>	number	-	1813	1708	1677	1819	1912
	<b>Location of suppliers by country or region</b>							
	Hong Kong & Mainland China (Local)	% by number	-	96	97	95	97	96
	Overseas	% by number	-	4	3	5	3	4
	<b>Payment to suppliers by country or region</b>							
	Hong Kong & Mainland China (Local)	HK\$1M	-	-	-	2634	3171 <sup>1</sup>	3262
	Overseas	HK\$1M	-	-	-	75	105 <sup>1</sup>	214
	<b>Supply chain category</b>							
	Subcontractors	number	-	967	905	919	939	990
	Distributors/Traders/Stockists	number	-	674	645	621	753	776
	Manufacturers	number	-	106	101	85	69	78
	Licensees	number	-	31	28	26	32	23
	Professional	number	-	34	13	2	2	3
	Contractors	number	-	1	2	1	3	3
	Service companies	number	-	-	12	23	21	39
	NGO/Charitable organisations <sup>2</sup>	number	-	-	2	0	0	0
<b>GRI 102-44</b>	<b>Key topics and concerns raised</b>							
	<b>Yearly customer satisfaction survey</b>							
	Very satisfied	%	14	13	20	17	20	To be updated later in 2020
	Satisfied	%	77	77	60	66	55	
	Neutral	%	8	5	17	11	11	
	Dissatisfied	%	2	4	3	6	13	
	Very dissatisfied	%	0	1	0	0	2	

1. The payment value for 2018 was adjusted due to reallocation of supplier / subcontractor location and year end accounting.

2. Excludes company events.



GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
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## PEOPLE – CARING

### GRI 102 General disclosures

#### Employees and workers

The level of detail of the data has gradually improved since 2017 with some data reporting started in 2019

#### GRI 102-8 Information on employees and other workers

GRI 102-8 a&b	<b>Total monthly-paid staff (by location, contract type and gender)</b>	number	5,397	4,915	4,578	4,381	4,445	4,590
	<b>Mainland China</b>	number	517	530	524	474	397	429
	permanent	%	-	-	-	100	100	100
	Male	number						270
	Female	number						159
	contract	%	-	-	-	0	0	0
	<b>Singapore</b>	number	494	424	368 <sup>1</sup>	336	297	262
	permanent	%	-	-	-	92	93	96
	Male	number						204
	Female	number						48
	contract	%	-	-	-	8	7	4
	Male	number						9
	Female	number						1
	<b>Hong Kong &amp; Macau</b>	number	4,386	3,958	3,683	3,568	3,748	3,898
	permanent	%	-	-	-	89	87	85
	Male	number						2714
	Female	number						617
	contract	%	-	-	-	11	13	15
	Male	number						520
	Female	number						47
	<b>Vietnam</b>	number	-	3	3	3	3	1
	permanent (Female)	%	-	-	-	100	100	100
	contract	%	-	-	-	0	0	0
GRI 102-8-c	<b>Total part-time employees (monthly and daily paid)</b>	number						13
	Male	number						5
	Female	number						8
	<b>Total daily paid employees (all locations)<sup>2</sup></b>	number	3,665	3,419	3,257	2,887	2,479	2,445
	Male	number						2,118
	Female	number						327
GRI 102-8-d	<b>Total subcontractor workers (all locations)<sup>3</sup></b>	number	10,536	12,881	10,690	13,381	12,342	11,773
	Hong Kong	number	9,711	12,331	10,198	12,477	11,037	10,459
	Macau	number						502
	Mainland China	number	-	-	-	-	146 <sup>4</sup>	180
	Singapore	number	825	550	492	904	1,159	632

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.

1. Data adjustment, due to redefinition of staff location.

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

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

4. Started reporting subcontractors at Pristine in 2018.

GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
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## 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	<b>New employee hires</b>		<b>number</b>	-	-	649	720	903	958
	By age group	Under 30 years old	<b>number</b>	-	-	332	344	414	432
		30-50 years old	<b>number</b>	-	-	240	286	362	406
		Over 50 years old	<b>number</b>	-	-	64	90	127	120
		Under 30 years old	<b>%</b>	-	-	-	-	-	9.4
		30-50 years old	<b>%</b>	-	-	-	-	-	8.8
		Over 50 years old	<b>%</b>	-	-	-	-	-	2.6
	By gender	Male	<b>number</b>						758
		Female	<b>number</b>						200
		Male	<b>%</b>						16.5
		Female	<b>%</b>						4.4
		Male	<b>employee rate</b>	-	-	-	-	19% <sup>1</sup>	20%
		Female	<b>employee rate</b>	-	-	-	-	24% <sup>2</sup>	23%
	By region	Hong Kong & Macau	<b>number</b>						762
		Singapore	<b>number</b>						78
		Mainland China & Rest of Asia	<b>number</b>						118
		Hong Kong & Macau	<b>%</b>	-	-	-	-	-	16.6
		Singapore	<b>%</b>	-	-	-	-	-	1.7
		Mainland China & Rest of Asia	<b>%</b>	-	-	-	-	-	2.6
GRI 401-1b	<b>Staff turnover</b>								
	By age group	Under 30 years old	<b>number</b>	-	-	288	282	227	212
		30-50 years old	<b>number</b>	-	-	321	301	278	278
		Over 50 years old	<b>number</b>	-	-	55	55	66	58
		Under 30 years old	<b>%</b>						4.6
		30-50 years old	<b>%</b>						6.1
		Over 50 years old	<b>%</b>						1.3
	By gender	Male	<b>number</b>						449
		Female	<b>number</b>						135
		Male	<b>%</b>						9.8
		Female	<b>%</b>						2.9
		Male	<b>employee rate</b>	-	-	-	-	12% <sup>3</sup>	12%
		Female	<b>employee rate</b>	-	-	-	-	19% <sup>4</sup>	15%
	By region	Hong Kong & Macau	<b>number</b>						479
		Singapore	<b>number</b>						48
		Mainland China & Rest of Asia	<b>number</b>						57
		Hong Kong & Macau	<b>%</b>	-	-	-	-	-	10.4 <sup>5</sup>
		Singapore	<b>%</b>	-	-	-	-	-	1.0 <sup>5</sup>
		Mainland China & Rest of Asia	<b>%</b>	-	-	-	-	-	1.2 <sup>5</sup>
	<b>Graduate and apprentice recruitment<sup>6</sup></b>								
	Graduate recruitment		<b>number</b>	116	83	65	70	97	96
	Technician apprentice recruitment		<b>number</b>	58	34	55	44	34	23

1. Data adjusted due to revised formula. Calculation = new male employee / total monthly-paid male employees at year's end \*100%.

2. Data adjusted due to revised formula. Calculation = new female employee / total monthly-paid female employees at year's end \*100%.

3. Revised formula. Calculation = male employees resigned / total monthly-paid male employees at year's end \*100%.

4. Revised formula. Calculation = female employees resigned / total monthly-paid female employees at year's end \*100%.

5. Revised formula. Percentage based on total monthly-paid employee at year end.

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



GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
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## PEOPLE – CARING

### 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.

	<b>Training hours per employee</b>	<b>hrs/employee</b>	21.2	19.7	16.2	12.8	14.3	16.0
GRI 404-1a i.	<b>Training by gender</b>							
	Male <sup>1</sup>	%	85.7	82.1	84.9	83.8	88.9	86.0
	Female	%	14.3	19.9	15.1	16.2	11.1	14.0
	Male <sup>2</sup>	<b>hrs/employee</b>	-	-	17.2	12.8	13.9	16.5
	Female	<b>hrs/employee</b>	-	-	11.3	12.3	7.4	11.7
GRI 404-1a ii.	<b>Training by management class</b>							
	Director	%	0.6	0.5	1.1	1.3	1.6	0.4
	Managerial	%	13.6	14.6	15.1	14.3	15.1	19.0
	Professional	%	27.3	28.0	32.3	29.0	26.3	31.6
	Supervisory	%	16.7	13.9	14.8	15.9	13.5	15.3
	Technical	%	36.3	36.6	32.4	35.2	41.5	28.6
	Others	%	5.5	6.5	4.3	4.2	2.1	5.1
GRI 404-1a ii.	<b>Training hours by management class<sup>3</sup></b>							
	Director	<b>hrs/employee</b>	-	-	37.6	36.0	52.8	16.4
	Managerial	<b>hrs/employee</b>	-	-	16.1	14.3	15.7	24.2
	Professional	<b>hrs/employee</b>	-	-	15.8	14.6	12.3	18.3
	Supervisory	<b>hrs/employee</b>	-	-	9.6	8.8	8.8	13.0
	Technical	<b>hrs/employee</b>	-	-	11.5	15.0	17.7	17.2
	Others	<b>hrs/employee</b>	-	-	4.5	5.0	2.2	7.4
GRI 404-3	<b>Career &amp; performance review (monthly paid employees)<sup>4</sup></b>							
	<b>Performance review by gender</b>							
	Male	%	-	-	-	79.0	83.0	92.0
	Female	%	-	-	-	78.0	74.0	92.0
	<b>Performance review by management class</b>							
	Director	%	-	-	-	100.0	100.0	100.0
	Managerial	%	-	-	-	64.0	59.0	79.0
	Professional	%	-	-	-	80.0	77.0	93.0
	Supervisory	%	-	-	-	93.0	92.0	95.0
	Technical	%	-	-	-	70.0	86.0	96.0
	Others	%	-	-	-	82.0	78.0	91.0

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

2. Data reported since 2016. Most training in 2018 was for frontline employees who are predominantly male.

3. Data reported since 2016.

4. Excludes Pristine.

GRI Standard	Performance Indicators	Units	2014	2015	2016	2017	2018	2019
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## 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

Employees in governance bodies by gender								
Male	%	-	-	-	88.9	87.5	80.0	
Female	%	-	-	-	11.1	12.5	20.0	
Employees in governance bodies by age group								
Under 30 years old	%	-	-	-	0	0	0	
30-50 years old	%	-	-	-	11.1	0	0	
Over 50 years old	%	-	-	-	88.9	100.0	100.0	
Employees in governance bodies by nationality								
Chinese	%	-	-	-	55.6	62.5	80.0	
British	%	-	-	-	22.2	12.5	0	
Singaporean	%	-	-	-	22.2	25.0	20.0	

### Corporate social initiatives (HK and Singapore)

Volunteer hours <sup>2</sup>	hours	3,658	1,649	2,487	4,359	3,507	1,689
Number of community activities <sup>3</sup>	number	106	72	102	147	88	70

1. Data reported since 2017.

2. Includes HK + SGP preparation and participation time; Activities during working hours: 1259 hours; during non-working hours: 430 hours. Many volunteering opportunities were curtailed due to the social unrest in HK during the second half of 2019.

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	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<sup>1</sup>

Product and services non-compliance in terms of health and safety	number	-	-	-	0	2	7 <sup>2</sup>
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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	-	2	0	0	0	0
Total number of non-monetary sanctions	number	-	-	-	-	1	0

1. Data reported from 2017 only.

2. The 7 summonses related to construction site safety issues for GCL (3) and GECCL (4). Each fine was less than HKD60,000.



# Appendix B – Verification Statements GRI 102-56



## ASSURANCE STATEMENT

### SGS STATEMENT ON ASSURANCE Gammon Sustainability Report 2019

#### NATURE AND SCOPE OF THE ASSURANCE

SGS Hong Kong Limited (hereinafter referred to as "SGS") was commissioned by Gammon Construction Limited (hereinafter as "Gammon") to conduct an independent assurance of the Sustainability Report 2019 and associated Management Approach 2018-2019 of Gammon (hereinafter as the "Report"). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text and 2019 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, Singapore and Vietnam during the period from 1<sup>st</sup> January 2019 to 31<sup>st</sup> December 2019.

The information in the Report and its presentation are the responsibility 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 mentioned scope of assurance set out below with the intention to inform all Gammon's stakeholders.

This Report has been assured at a moderate level of scrutiny using our protocols for:

- Evaluation of content veracity;
- Evaluation of the Report in accordance with the Core option of the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards);
- AA1000 Assurance Standard (2008) Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles Standard (2008).

The assurance methodology comprised a combination of pre-assurance research, documentation and record review.

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

#### STATEMENT OF INDEPENDENCE AND COMPETENCE

SGS affirms 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 the members' knowledge, experience and qualifications for this assignment, and comprised Lead Auditor of ISO 37001, ISO 26000, ISO 14001 and ISO 45001, and nominated Tutor of GRI's Certified Training Partner.

#### ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within the Report are accurate and reliable. The Report provides a fair and balanced representation of Gammon's sustainability performance. Some statements and data within the scope were not assured due to credibility of third party information such as greenhouse gas emission, industrial & government figures and timescale allowed for assurance.

The assurance team is of the opinion that the Report conforms to the Core option of the GRI Standards. It can be used by Gammon's Stakeholders.

Signed:

For and on behalf of SGS Hong Kong Limited



Miranda Kwan  
Director  
Certification and Business Enhancement  
[www.sgsgroup.com.hk](http://www.sgsgroup.com.hk)  
30 September 2020



Patrick Leung  
Lead Assuror  
Certification and Business Enhancement



**AA1000**  
Licensed Assurance Provider  
000-8





Statement HK20/00132

The inventory of greenhouse gas emissions in  
1<sup>st</sup> January 2019 to 31<sup>st</sup> December 2019 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

**61,908.34 tonnes of CO<sub>2</sub>e**

Indirect GHG Emissions from Imported Energy

**17,069.56 tonnes of CO<sub>2</sub>e**

Indirect GHG Emissions from Transportation

**1,193.75 tonnes of CO<sub>2</sub>e**

Indirect GHG Emissions from Products Used by the RESPONSIBLE PARTY

**76,798.04 tonnes of CO<sub>2</sub>e**

Total Direct and Indirect GHG Emissions

**156,969.69 tonnes of CO<sub>2</sub>e**

CO<sub>2</sub> Emissions from Combustion of Biomass

**2,695.96 tonnes of CO<sub>2</sub>**



Authorised by

Date: 3<sup>rd</sup> September 2020

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



# 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. The Sustainability Report - Management Approaches 2018-2019 (referred to as 'Management Approaches 2018-2019' in the table below) can be found online as a separate file 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 26	Introduction to the report Our company: Report content
<b>General Disclosures</b>				
<b>Organisational Profile</b>				
GRI 102	102-1	Name of the organisation	Cover page Inside front cover 24 Back cover	Gammon company logo Our Brand Our company: Organisation and report coverage Gammon company logo
	102-2	Activities, brands, products, and services	Inside front cover 6 24	Our Brand Projects & Process Our company: Organisational profile
	102-3	Location of headquarters	Back cover	Headquartered in Hong Kong
	102-4	Location of operations	6 24 Back cover	Projects & Process Our company: Organisation and report coverage Location of offices
	102-5	Ownership and legal form	Back cover 25	Statement "Jointly and equally owned by Jardines and Balfour Beatty" Our company: Scale of business
	102-6	Markets served	6 24 24	Projects & Process Our company: Organisation and report coverage Our company: Organisation profile
	102-7	Scale of the organisation	25, 26  48	Our company: Scale of business Infographic: Scale of the organisation Chart: Group turnover by region Market position and project awards Appendix A: Key Performance Indicators (KPI table)
	102-8	Information on employees and other workers	53	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	52 14 (Management Approaches 2018-2019)	Appendix A: Key Performance Indicators (KPI) table Value Chain - Co-creation: Our supply chain
	102-10	Significant changes to the organization and its supply chain	Inside front cover 26 Back cover	Our Brands Our company: Report content Location of offices [Gammon Capital in Singapore and share of Vietnam business were sold.]
	102-11	Precautionary Principle or approach	3 (Management Approaches 2018-2019)	Governance: Managing risk
	102-12	External initiatives	13 (Management Approaches 2018-2019)	Value Chain - Co-creation: External commitments and initiatives
<b>(Influencing industry)*</b>				
	102-13	Membership of associations	29 87  13 (Management Approaches 2018-2019)	Our company: In the pursuit of excellence Appendix G: Membership of associations and industry bodies Value Chain - Co-creation: Association memberships



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	2-3	Message from the Chief Executive
<b>Ethics and Integrity</b>				
GRI 102	102-16	Values, principles, standards, and norms of behaviour	2 (Management Approaches 2018-2019)	Governance: Values and norms of behaviour
<b>Governance</b>				
GRI 102	102-18	Governance structure	1 (Management Approaches 2018-2019)	Governance: Governance Structure
<b>Stakeholder Engagement</b>				
GRI 102	102-40	List of stakeholder groups	29 65, 66	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-41	Collective bargaining agreements	16 (Management Approaches 2018-2019)	People - Caring: Employee rights - collective bargaining
	102-42	Identifying and selecting stakeholders	29 65	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-43	Approach to stakeholder engagement	29 65, 67	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-44	Key topics and concerns raised	29 52 65, 69, 73  2 (Management Approaches 2018-2019)	Our company: Stakeholder engagement and material issues Appendix A: Key Performance Indicators (KPI) table Appendix D - Stakeholder engagement and materiality assessment Governance: Values and norms of behaviour
<b>Reporting Practice</b>				
GRI 102	102-45	Entities included in the consolidated financial statements	24	Our company: Organisation and report coverage
	102-46	Defining report content and topic Boundaries	29 65, 67	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-47	List of material topics	29 65, 69	Our company: 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	29 69	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	102-50	Reporting period	1 24	Introduction to the report Our company: Organisation and report coverage
	102-51	Date of most recent report	24	Our company: Organisation and report coverage
	102-52	Reporting cycle	24	Our company: Organisation and report coverage
	102-53	Contact point for questions regarding the report	Inside front cover Back cover 73	Introduction to the report Description under the list of office addresses Materiality assessment results [sustainability@gammonconstruction.com]
	102-54	Claims of reporting in accordance with the GRI Standards	1 26	Alignment to GRI Standards Our company: Report content
	102-55	GRI content index	26 60	Our company: Report content Appendix C - GRI content Index
	102-56	External assurance	1 26 57	Introduction to the report Our company: 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	29 65	Our company: Stakeholder engagement and material issues Appendix D - Stakeholder engagement and materiality assessment summary report
	103-2	The management approach and its components	Management Approaches 2018-2019	See management approach and its comment in each section for details
	103-3	Evaluation of the management approach	Management Approaches 2018-2019	See 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	–	Not a material issue but data available and historically reported
(GRI 204)	(204-1)	Proportion of spending on local suppliers	52 14 (Management Approaches 2018-2019)	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	3 (Management Approaches 2018-2019)	Governance: Anti-corruption
GRI 205	205-1	Operations assessed for risks related to corruption	3 (Management Approaches 2018-2019)	Governance: Corruption risk assessment
<b>Environmental Topics</b>				
<b>Materials*</b>				
GRI 103	103-2, 103-3	Management Approach	37 8-9 (Management Approaches 2018-2019)	Table: Progress on Responsible Growth - 25 by 25: Co-creation targets Environment - Zero Waste: Materials
GRI 301	301-1	Materials used by weight or volume	49 8-9 (Management Approaches 2018-2019)	Appendix A: Key Performance Indicators (KPI table) Environment - Zero Waste: Steel and concrete Environment - Zero Waste: Other materials
	301-2	Recycled input materials used	49 9 (Management Approaches 2018-2019)	Appendix A: Key Performance Indicators (KPI table) Environment - Zero Waste: Low carbon ready-mix concrete
<b>Energy*</b>				
GRI 103	103-2, 103-3	Management Approach	38 39 39 41 42 45 11 (Management Approaches 2018-2019)	Environment - Zero Waste: "Excellent" energy improvement Office tools are supporting our Zero Waste aspirations A novel solution to optimising operations Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets People - Caring: Office moves People - Caring: Proving real-world work experience to students Environment - Zero Waste: Energy
GRI 302	302-1	Energy consumption within the organisation	10 49	Environment Appendix A: Key Performance Indicators (KPI table)
	302-2	Energy consumption outside of the organisation	50	Appendix A: Key Performance Indicators (KPI table)
	302-5	Reductions in energy requirements of products and services	11 (Management Approaches 2018-2019)	Environment - Zero Waste: Energy



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	50	Appendix A: Key Performance Indicators (KPI table)
	(303-3)	Water recycled and reused	50	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	50	Appendix A: Key Performance Indicators (KPI table)
	(305-2)	Energy indirect (Scope 2) GHG emissions	50	Appendix A: Key Performance Indicators (KPI table)
	(305-3)	Other indirect (Scope 3) GHG emissions	51	Appendix A: Key Performance Indicators (KPI table)
	(305-4)	GHG emissions intensity	51	Appendix A: Key Performance Indicators (KPI table)
<b>Effluent and Waste*</b>				
GRI 103	103-2, 103-3	Management Approach	41 42 10 (Management Approaches 2018-2019)	Environment - Zero Waste: Digital business cards Table: Progress on Responsible Growth - 25 by 25: Zero Waste targets People - Caring: Office moves Environment - Zero Waste: Effluent and waste
GRI 306	306-2	Waste by type and disposal method	41 51	Environment - Zero Waste: Recycling 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	56	Appendix A: Key Performance Indicators (KPI table)
<b>Social Topics</b>				
<b>Employment*</b>				
GRI 103	103-2, 103-3	Management Approach	46 15 (Management Approaches 2018-2019)	Table: Progress on Responsible Growth - 25 by 25: Caring targets People - Caring: Employment
GRI 401	401-1	New employee hires and employee turnover	15 54 15 (Management Approaches 2018-2019)	People Appendix A: Key Performance Indicators (KPI table) People - Caring: Employment
<b>Occupational health and Safety (2018)*</b>				
GRI 103	103-2, 103-3	Management Approach	30 36 37 40 4 (Management Approaches 2018-2019)	Safety - Zero Harm Value Chain - Co-creation: Two sizes fit all Table: Progress on Responsible Growth - 25 by 25: Co-creation targets Environment - Zero Waste: Up close and personal Safety - Zero Harm: Health and safety and working environment

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s)	Content reference and remark
<b>Social Topics (continued)</b>				
GRI 403	403-1	Workers representation in formal joint management-worker health and safety committees	5 (Management Approaches 2018-2019)	Safety - Zero Harm: Workforce represented in formal joint management - worker health and safety committees
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	8 48	Safety Appendix A: Key Performance Indicators (KPI table)
<b>Training and Education*</b>				
GRI 103	103-2, 103-3	Management Approach	43 46  15-16 (Management Approaches 2018-2019)	People - Caring: Young professionals out and about Table: Progress on Responsible Growth - 25 by 25: Caring targets People - Caring: Training and education
GRI 404	404-1	Average hours of training per year per employee	55	Appendix A: Key Performance Indicators (KPI table)
	404-2	Programs for upgrading employee skills and transition assistance programs	15-16 (Management Approaches 2018-2019)	People - Caring: Employment People - Caring: Training and education People - Caring: Career development and support
	404-3	Percentage of employees receiving regular performance and career development reviews	16 (Management Approaches 2018-2019) 55	People - Caring: Career 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	56	Appendix A: Key Performance Indicators (KPI table)
<b>Customer Health and Safety*</b>				
GRI 103	103-2, 103-3	Management Approach	32 5 (Management Approaches 2018-2019)	Safety - Zero Harm: Safety by design Safety - Zero Harm: 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	56	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	5 (Management Approaches 2018-2019)	Safety - Zero Harm: 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	56	Appendix A: Key Performance Indicators (KPI table)



# Appendix D – Stakeholder Engagement and Materiality Assessment Summary Report

## EXECUTIVE SUMMARY

GRI 102-42 GRI 102-43 GRI 102-44 GRI 102-47 GRI 103-1

Gammon Construction Limited (Gammon) commissioned Business Environment Council Limited (BEC) to deliver a stakeholder engagement and materiality assessment for its Sustainability Report 2019 (“SR2019”). A critical component of the process is conducting a materiality assessment to identify material issues for disclosure in Gammon’s SR2019.

To identify the material issues for disclosure, BEC completed a materiality assessment using an internationally recommended three-step process, namely, **Identification**, **Prioritisation** and **Validation**. This consisted of carrying out engagements with stakeholders through online surveys and phone interviews.

The Prioritisation and Identification exercise identified 11 material issues as a result of the findings collected from the stakeholder engagement process. As part of the Validation step, Gammon’s Management discussed and validated the prioritised list and confirmed a final set of 13 material issues for disclosure as follows.

Responsible Growth Focus Area	Topics
Governance	Anti-corruption Innovation
Safety – Zero Harm	Safety management Working environments
Value Chain – Co-creation	Customer health and safety Compliance / quality of products and services Improving client satisfaction Influencing industry
People – Caring	Staff retention, employment and development of our people Labour shortage
Environment – Zero Waste	Construction materials Waste Energy

## 1. INTRODUCTION

GRI 102-40 GRI 102-42 GRI 102-43 GRI 102-46

Sustainability reporting is an integral part of an organisation’s risk management approach and communication with stakeholders regarding strategic vision and direction. Gammon is committed to maintaining a high standard of communication with its stakeholders, thereby enhancing its transparency and accountability. Through this constructive dialogue, Gammon aims to produce its SR2019 (“the Report”) in line with the Global Reporting Initiative (“GRI”) Standards “Core” option. BEC was commissioned by Gammon to provide advisory services for the stakeholder engagement and materiality assessment exercise.

The stakeholder engagement and materiality assessment was structured as follows:

- **Step 1: Identification**

The 25 sustainability topics from the previous stakeholder engagement exercise were reviewed and adopted for the prioritisation exercise. A group of Gammon’s key external and internal stakeholders were invited to complete an online survey to confirm or rank the importance of sustainability topics in relation to Gammon’s businesses and operations.

## • Step 2: Prioritisation

Results from step 1 were consolidated, analysed and assessed to identify a prioritised list of potentially material issues. A materiality matrix was formulated to plot the rankings based on the importance to business (x-axis of the materiality matrix) and importance to stakeholders (y-axis of the materiality matrix).

## • Step 3: Validation

The prioritised list of material issues was presented to Gammon's Executive Committee for discussion and validation. Gammon's Executive Committee considered and confirmed a final set of material issues for disclosure.

## 1.1. Stakeholder Engagement GRI 102-40

Stakeholders are key to understanding, determining and implementing sustainability policies and strategies. Stakeholder engagement provides valuable insights on the sustainability performance of a corporation in relation to stakeholder interests and expectations.

Gammon's stakeholders include members of academic institutions, clients, employees, industry associations, non-Governmental organisations (NGOs) and community members, service providers, shareholders, subcontractors and suppliers. Gammon maintains regular engagement with these groups using a variety of methods as mentioned in Table 1.

**TABLE 1: LIST OF SELECTED STAKEHOLDER GROUPS AND ENGAGEMENT TYPES**

Stakeholder Group	Engagement Frequency	Engagement Method
<b>Internal Stakeholders</b>		
Gammon employees	Minimum annually, PM Briefings every 6-12 weeks	Surveys, Project Manager briefings, workshops, meetings
<b>External Stakeholders</b>		
Academic institutions, industry associations, NGOs, service providers	Annual	Surveys, workshops
Clients	More than annual	Surveys, workshops, review reports (e.g. Contractor Performance Rating (CPR))
Suppliers	More than annual	Surveys, workshops
Subcontractors	More than annual	Surveys, workshops
Shareholders	Every 2-3 months	Meetings

The formal stakeholder engagements conducted by BEC focused on collecting views on the following areas:

- Gammon's sustainability leadership;
- Importance of sustainability issues; and
- Stakeholders' comments and recommendations.

In accordance with the GRI Standards Reporting Principle of "Stakeholder Inclusiveness", BEC developed a detailed Stakeholder Engagement Plan for the Group to outline the scope, the methods of engagement and the interview questions. Once key stakeholder groups were identified, Gammon determined the representative(s) or representative organisation(s) for each stakeholder group. With Gammon's prior approval, BEC also prepared an engagement plan for each group detailing the relevant approach, as well as a set of questions to be answered during the engagement sessions.

BEC conducted 12 telephone interviews with Gammon's external stakeholders and an online survey with internal and external stakeholders. The full list of stakeholder groups, representatives and corresponding engagement format is presented in Table 2.



**TABLE 2: LIST OF SELECTED STAKEHOLDER GROUPS, REPRESENTATIVES, AND THEIR CORRESPONDING ENGAGEMENT FORMATS**

Stakeholder Group	Engagement Format	Total Responses
<b>Internal Stakeholders</b>		
Gammon employees	Online survey	876
<b>External Stakeholders</b>		
Academic institutions, industry associations, clients, non-governmental organisations (NGOs), service providers, suppliers, subcontractors	Online survey	221
External stakeholders – clients, project management consultants, industry associations, shareholder	Phone interviews	12

## 1.2. Materiality Assessment

All stakeholders expressed their views on the importance of topics to Gammon based on “importance to stakeholders” and “importance to business” criteria. This data was compiled and analysed to provide a determination of topics that most accurately present material issues to Gammon. Incorporating the results from the stakeholder engagement exercises, BEC developed a list of potential priority issues relevant to Gammon’s operations, highlighting the expectations and concerns of its key stakeholders.

The materiality process helps to identify the sustainability topics which reflect the economic, environmental and social (positive or negative) impacts of a company and/ or influence the decisions of stakeholders vis-à-vis the company. Barring any major changes in Gammon’s operations or in the external operating environment, the materiality assessment results are expected to remain relatively consistent throughout the years. As Gammon’s high priority material issues have remained unchanged for several years, the stakeholders were asked to confirm whether the material issues identified in 2017 remain of high priority for Gammon in 2019. Stakeholders were also invited to rate the importance of less material issues relative to their association and affinity with Gammon.

Ratings were based on a six-point scale where “1” is of “least importance” and “6” is of “most importance”. Cumulative ratings under “importance to stakeholders” and “importance to business” were then tabulated with consideration to feedback provided from stakeholders to determine the relevance and importance of each material issue to the stakeholders and to Gammon.

Gammon’s Executive Committee discussed and validated the results and confirmed a final set of material issues for disclosure.

## 2. STAKEHOLDER ENGAGEMENT RESULTS GRI 102-43 GRI 102-46

### 2.1. Phone Interviews and External Stakeholders

A series of phone interviews were carried out with Gammon’s external stakeholders to better understand sustainability impacts, as well as emerging risks and opportunities. These conversations also provided insight into Gammon’s current internal engagement channels and the expectations for content and reporting elements for the upcoming SR2019.

### 2.2. Online Survey

Online surveys were conducted with Gammon’s internal and external stakeholders to provide insights on the materiality of various sustainability issues and recommendations for SR2019. A total of 1097 responses were collected from stakeholders through the online survey. The long list of sustainability topics is presented in Table 3 below against the four focus areas of Gammon’s Responsible Growth – 25 by 25 sustainability strategy.

TABLE 3: SUSTAINABILITY TOPICS ASSESSED

Focus Area	Sustainability Topic	Definition
Governance	<b>Anti-corruption</b>	Gammon's policies and practices to ensure integrity among its own staff and other stakeholders such as subcontractors and suppliers
	<b>Innovation</b>	Creating a culture of innovation and encouraging employees, suppliers and business partners to come up with creative ideas to improve process efficiency, safety and environmental performance
Zero Harm	<b>Safety Management</b>	Managing all aspects of safety on construction sites to reduce the risk of accidents and meet Gammon's "Zero Harm" objective
	<b>Working environment</b>	Providing a healthy and caring work environment to promote the wellbeing of Gammon's employees and construction workers
Value Chain	<b>Compliance / quality of products and services</b>	Gammon's statement of compliance and its approach to ensure compliance with law and regulations applicable to its own operations
	<b>Customer health and safety</b>	Providing safe products and services that do not negatively impact end-user health or safety
	<b>Improving client satisfaction</b>	Gammon's approach to understanding client expectations and enhancing client satisfaction
	<b>Influencing industry</b>	Gammon's efforts to share best practices (e.g. safety and environmental) to promote the long-term viability of the industry
	<b>Supplier environmental assessment</b>	Gammon's policies and practices regarding assessing the environmental performance for suppliers and subcontractors
	<b>Product and services labelling</b>	Access to accurate and adequate information on the positive and negative economic, environmental, and social impacts of the products and services it consumes – both from a product and service labelling and a marketing communications perspective
	<b>Supply chain engagement</b>	Gammon's actions to build strong relationships and provide open channels of communication with suppliers and subcontractors
Environment	<b>Climate change resilience</b>	Gammon's consideration of and response to climate change risks beyond reducing the emissions of its own operations
	<b>Construction materials</b>	Monitoring the quantity of construction materials used and selection of more sustainable materials (e.g. FSC certified timber)
	<b>Air emissions</b>	Efforts to measure and reduce the GHG emissions from Gammon's offices and construction sites
	<b>Energy</b>	Gammon's approach and initiatives to reduce energy consumption of its offices, construction sites, and the energy demands of projects across their lifecycle
	<b>Waste</b>	Initiatives to monitor waste generation and reduce both solid waste and wastewater discharged from Gammon's construction sites
	<b>Wastewater</b>	Initiatives to monitor waste generation and reduce wastewater discharged from Gammon's construction sites
	<b>Water</b>	Monitoring and reducing the potable water consumption of Gammon's offices and construction sites, and efforts to recycle water
People	<b>Aging population</b>	Gammon's management approach towards the aging workforce and population in Hong Kong
	<b>Labour shortage</b>	Gammon's ability to impact the skilled labour shortage in Hong Kong's construction industry
	<b>Discrimination and equal opportunities</b>	The mechanisms by which Gammon combats discrimination in its operations
	<b>Human rights</b>	Gammon's policies and practices for mitigating human rights risks in its operations and supply chain (e.g. the potential use of vulnerable workers by subcontractors)
	<b>Impacts of operations on local community</b>	Gammon's approach and initiatives to monitor the impact of its operations on local communities with a view to promoting positive impacts (e.g. job creation) and reducing negative impacts (e.g. noise)
	<b>Staff retention, employment and development of our people</b>	Gammon's approach and initiatives to reduce staff turnover and develop the competencies and skills of its workforce
	<b>Corporate community investment</b>	Gammon's voluntary actions and financial contributions that support the needs of the local community, in line with Gammon's business objectives



## 2.3. Stakeholder Engagement Results

The stakeholders' ratings on the sustainability topics were assessed and prioritised. A set of material topics and a materiality matrix were formulated from the list above of all sustainability topics assessed. Common topics and issues raised from the interviews with external stakeholders and the online survey as well as a summary of the views shared during interviews and detailed response from the online survey were provided.

## 3. MATERIALITY ASSESSMENT RESULTS GRI 102-44 GRI 102-47 GRI 102-49

### 3.1. Materiality Matrix

To maintain consistency, Gammon's previous approach to materiality thresholds was adopted. These were calculated using the following method:

$$(\sum \text{confirmed 2017 ratings} + \sum \text{new 2019 ratings}) / \text{total number of respondents}$$

The materiality threshold for "Importance to Stakeholders" and "Importance to Business" are 4.62 and 4.63, respectively. All issues that scored above average for either the "Importance to Stakeholders" or "Importance to Business" are considered material. 86% of all respondents confirmed that no changes were necessary to the top 6 material issues identified in the 2017 materiality assessment. 14% of respondents reassessed and rated the top 6 material issues.

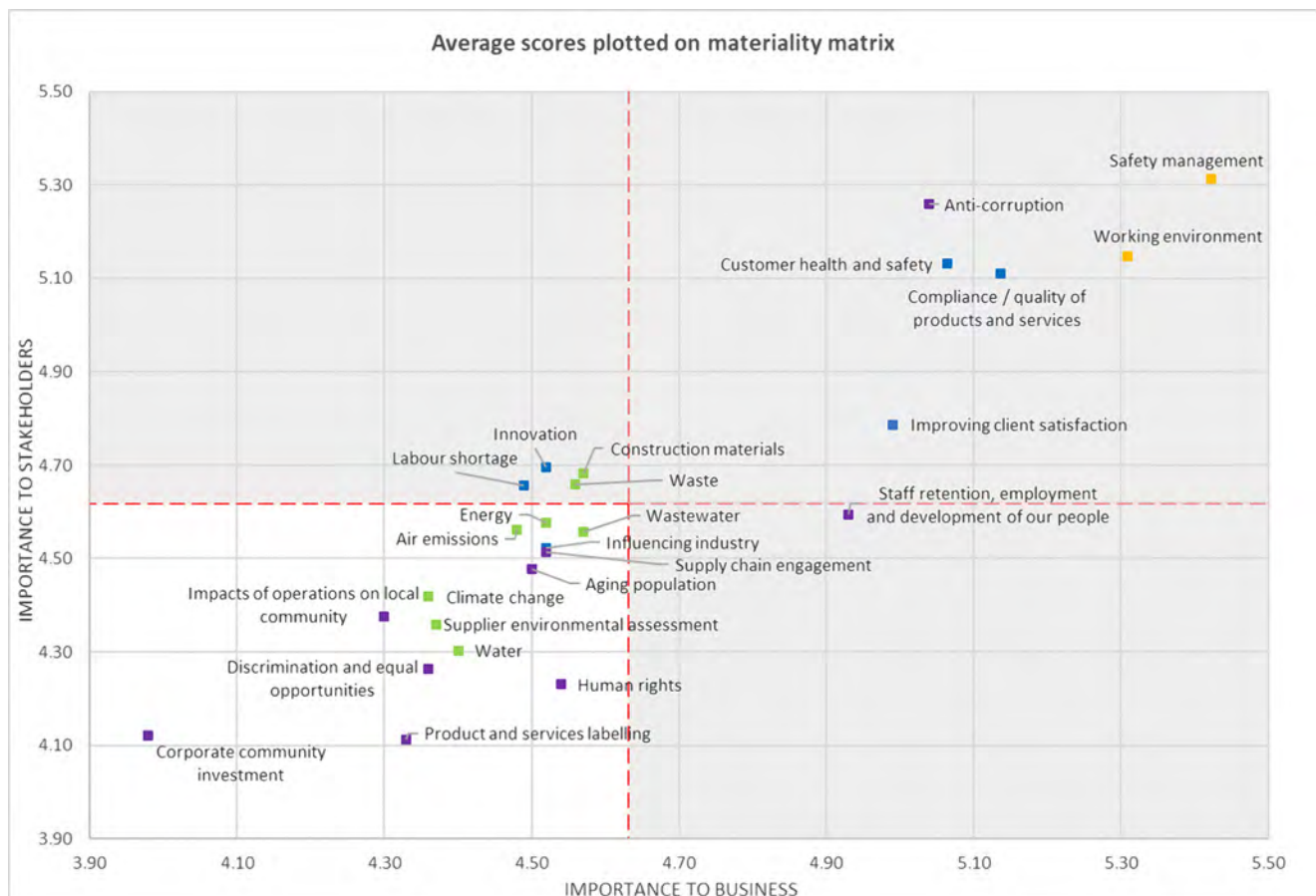
For each topic, the following approach was adopted:

$$\text{Confirmed 2017 ratings from 86\% of respondents} + \text{2019 ratings from 14\% of respondents} = \text{total rating}$$

After consolidating inputs from Gammon's stakeholders, 11 material issues were above the materiality thresholds and were further considered for reporting.

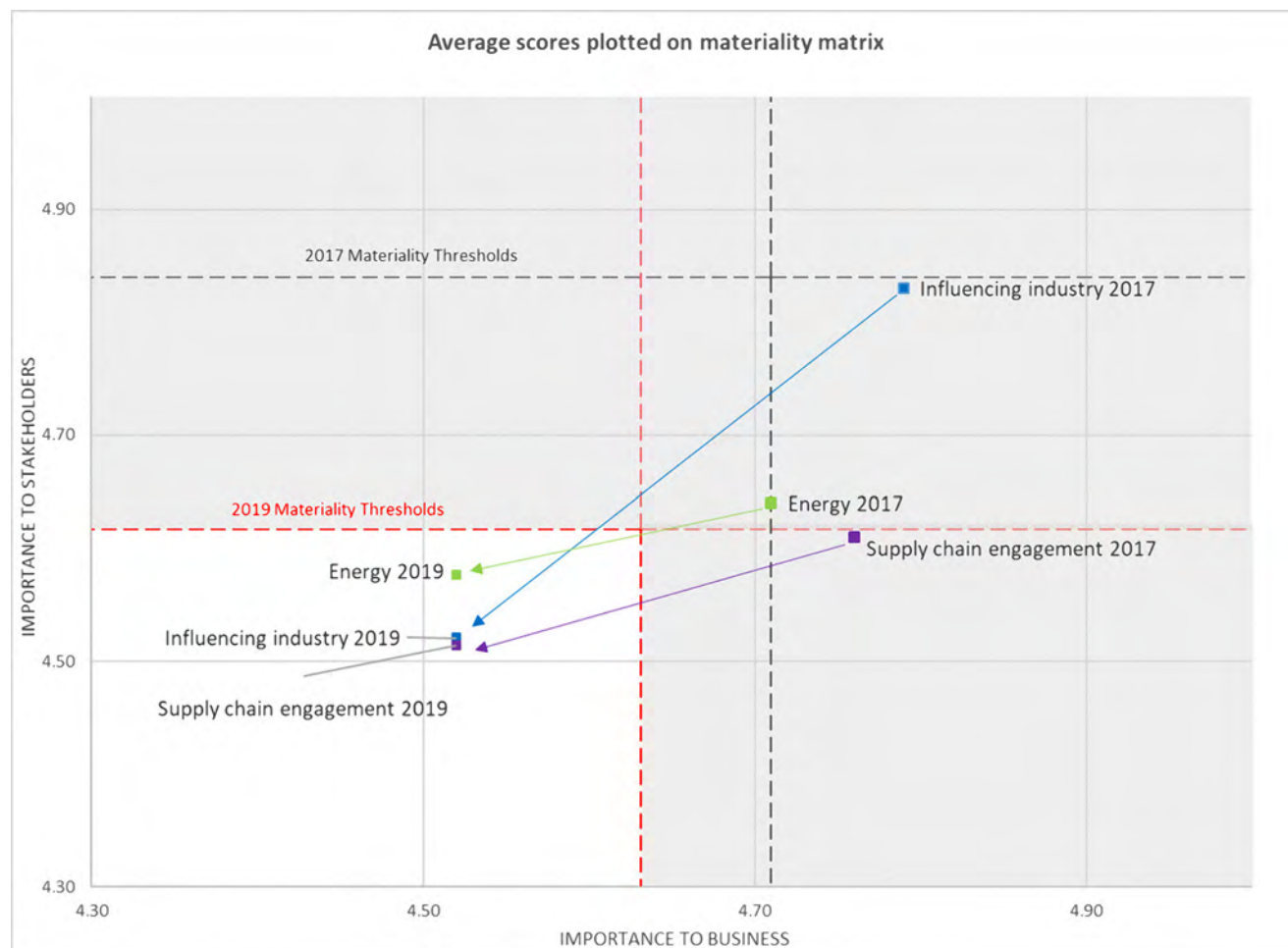
Figure 1 illustrates the importance of each topic plotted in the materiality matrix.

**FIGURE 1: MATERIALITY MATRIX FOR GAMMON**



Three topics fell below the materiality threshold following this exercise compared with the 2017 results, namely, influencing industry, energy and supply chain management. Although influencing industry was found to be less material when compared with the 2017 stakeholder engagement and materiality assessment results, all interviewees emphasised the importance of industry influence and the need for Gammon to lead the industry toward modern practices. Figure 2 illustrates the materiality changes of these three topics from 2017 to 2019.

**FIGURE 2: CHANGES IN MATERIALITY OF THE THREE SUSTAINABILITY TOPICS FROM 2017 TO 2019**



### 3.2. Material Topics

Table 4 below presents the 11 material topics under each of the Responsible Growth – 25 by 25 pillars identified during the engagement exercise prior to validation.

**TABLE 4: PRELIMINARY LIST OF MATERIAL TOPICS IDENTIFIED AND CATEGORISED**

Responsible Growth Focus Area	Topics
Governance	Anti-corruption Innovation
Safety – Zero Harm	Safety management Working environments
Value Chain – Co-creation	Customer health and safety Compliance / quality of products and services Improving client satisfaction
People – Caring	Staff retention, employment and development of our people Labour shortage
Environment – Zero Waste	Construction materials Waste



Table 5 below presents the 14 topics that fell below the materiality threshold.

**TABLE 5: SUSTAINABILITY TOPICS THAT FELL BELOW THE MATERIALITY THRESHOLD**

Sustainability Topics Fell Below the Materiality Threshold	
Influencing industry	Aging population
Climate change	Discrimination and equal opportunities
Air emissions	Human rights
Energy	Impacts of operations on local community
Wastewater	Product and services labelling
Supplier environmental assessment	Supply chain engagement
Water	Corporate community investment

### 3.3. LIST OF VALIDATED MATERIAL TOPICS

During the validation meeting with Gammon's Executive Committee, the outcomes of the materiality assessment were presented for discussion. Although influencing industry and energy fell below the materiality threshold, the Gammon Executive Committee decided to adjust the materiality of the two issues to material as they are considered important and relevant to Gammon's strategic business objectives, the global issue of climate change, and because influencing the industry was emphasised by several interviewees. Table 6 presents the final validated list of material topics for 2019.

**TABLE 6: VALIDATED MATERIAL TOPICS**

Responsible Growth Focus Area	Topics
Governance	Anti-corruption Innovation
Safety – Zero Harm	Safety management Working environments Customer health and safety
Value Chain – Co-creation	Compliance / quality of products and services Improving client satisfaction Influencing industry
People – Caring	Staff retention, employment and development of our people Labour shortage
Environment – Zero Waste	Construction materials Waste Energy

Table 7 below indicates which stakeholder group found which issue to be material (above the materiality threshold post validation).

**TABLE 7: STAKEHOLDER GROUPS THAT RAISED EACH ISSUE**

	Considered material by:							
Material issue	Gammon employees	Client	Subcontractor	Service provider	Supplier	Industry association	NGO	Academic institution
Safety management	✓	✓	✓	✓	✓	✓	✓	✓
Anti-corruption	✓	✓	✓	✓	✓	✓	✓	✓
Working environment	✓	✓		✓	✓	✓	✓	✓
Customer health and safety	✓	✓	✓	✓	✓	✓	✓	✓
Compliance / quality of products and services	✓	✓	✓	✓	✓	✓	✓	✓
Improving client satisfaction	✓	✓	✓	✓		✓	✓	✓
Innovation		✓		✓	✓	✓		✓
Construction materials		✓		✓	✓	✓	✓	✓
Waste		✓		✓	✓	✓		✓
Labour shortage		✓				✓	✓	✓
Staff retention and development	✓			✓			✓	
Energy	(✓)			✓		✓	✓	✓
Influencing the industry	(✓)	✓		✓				

Note: (✓) indicates included as material issue post-validation

The GRI Content Index (Appendix C) indicates where the references to content covering the material issues are in the report (or separate Management Approaches) as well as the other required GRI Standard disclosures. For those material issues that do not have directly relevant disclosures in the GRI Standards, information on these topics is presented in the following locations:

**Innovation** – Highlights page 20 and throughout the report;

**Improving client satisfaction** – Appendix A – Key Performance Indicators (GRI 102-44), Management Approaches 2018-19: Values and norms of behaviour – p.2

**Influencing industry** – Appendix A – Key Performance Indicators (GRI 102-13), Management Approaches 2018-19: Value Chain – Co-Creation – p.13, Appendix G – Membership of association and industry bodies

**Labour shortage** – People – Caring – p.45-46 (GRI 404), Management Approaches 2018-19: People – Caring – p.15-16



## 4. RESPONSE TO STAKEHOLDERS

GRI 102-44 GRI 102-53

Following the stakeholder engagement exercise, the section below presents Gammon's written response to the common themes and issues raised during the phone interviews.

### Sustainability Reporting – Stakeholder Engagement Exercise

Thank you very much for providing feedback to the Business Environment Council (BEC) about Gammon. We really appreciate you spending the time to share your views with us. The feedback was shared by BEC with the Gammon Executive Committee and they found it interesting to hear what was important to key stakeholders, what was working, and where further efforts are needed.

Below we have summarised some of the common themes and issues raised during the interviews, how we plan to respond in future and what opportunities there may be for further improvement.

Comments	Responses
<b>Co-creating solutions:</b> Gammon should propose alternative construction methods, sustainable design, materials, and other innovations with quantified benefits	<p>We will continue to propose alternatives and we hope we can be involved earlier in the construction cycle so that new ideas and more sustainable materials and approaches can be agreed and integrated into projects in advance. This will provide more opportunities for offsite construction and the related environmental, productivity and safety gains to be realised without affecting clients' programmes or budgets. Early contractor involvement will also more easily accommodate Buildings Department's protracted approval process.</p> <p>We will endeavour to provide more quantification of benefits for our proposals, particularly for off-site / DfMA approaches, although until there is more experience from Hong Kong, we may need to rely on calculated assumptions or overseas experience for justifications.</p>
<b>Expanding knowledge:</b> Gammon could help further promote and share knowledge on BIM and DfMA / off-site construction	<p>We appreciate the support from clients regarding Gammon's willingness to embrace BIM, digital twins, digital project management and modern methods of construction. We hope to provide more opportunities for DfMA knowledge sharing for both client teams and subcontractors to help the transition to a more modernised industry. We will further consider how this is best achieved and how we can collaborate with industry associations, academia and consultants in this regard.</p>
<b>Reducing environmental impacts:</b> Gammon could focus efforts on improving waste reduction and management	<p>Agreed, waste management continues to be an issue for the industry, but we see transformation to BIM-enabled delivery, off-site construction and paperless collaboration as the most practical ways of reducing waste (a waste avoidance and 'control at source' approach) through:</p> <ul style="list-style-type: none"> <li>• Wider adoption of fully co-ordinated BIM and surety of design (eg. LOD 350 at tender would be ideal, perhaps facilitated through early contractor involvement),</li> <li>• Digital twin and 4D BIM to design out any construction issues and plan work sequences before getting to site,</li> <li>• Taking work offsite which can significantly cut waste generation, and</li> <li>• Engaging sales and leasing teams earlier to start to experience the look and feel of spaces in virtual reality.</li> </ul> <p>For major projects it would also be great to see on-site canteens with reusable containers to avoid the use of disposable paper, plastic and polyfoam products.</p> <p>We will continue to look for ways to further avoid waste generation at site and recycle where possible (e.g. latest engagement on pilot with New Life Plastics and a reusable lunchbox initiative).</p>

Comments	Responses
<b>Environmentally friendly materials:</b> Gammon could offer alternative, more sustainable, materials	<p>We will try to identify more environmentally benign alternatives where possible and to lobby Government to allow the use of more innovative materials. We are happy to work with suppliers to identify sources of materials in the same way as we did for sustainable timber in temporary works. The use of sustainably certified timber for permanent finishes and fittings, we believe, provides one such opportunity, for example, as long as the specifications accommodate the limitations within the supply chain.</p> <p>Another area of interest for the medium/ longer term where significant reductions in embodied carbon could be possible is the use of cross-laminated timber and other mass-engineered timber in composite high-rise structures. These comparatively lightweight structural elements fit the DfMA approach very well and their use is growing in North America and Europe, as well as receiving interest in Singapore. More work with Buildings Department will be required, however, to allow use in Hong Kong, and we will need to establish sustainable supply sources.</p>
<b>Improving skills:</b> Gammon could attract young talent to address aging workforce and developing new skills	<p>We appreciate that as the industry slowly transforms, we will need to provide skills training in new areas to technicians, engineers and supervisors. Areas such as logistics planning, manufacturing and the design of connections will become increasingly important. We will work with education partners such as VTC and HKIC and with our own in-house Gammon Academy to determine the best approach to the delivery of these skills both within the business and externally. We also hope to continue to raise awareness of the opportunities within the construction sector by engaging with schools, particularly as part of our project community outreach.</p>
<p>Clearly, we still have a long way to go to modernise our industry, improve productivity, enhance safety and reduce environmental impacts. But rest assured, Gammon will continue to help drive change and improvement and it was heartening to hear from BEC that comments were generally very supportive and there was recognition of our efforts thus far under the leadership of our Chief Executive, Thomas Ho. We are truly grateful.</p> <p>If you have any further feedback, please let us know. We are also happy to further engage on opportunities to jointly improve sustainability performance so please do not hesitate to contact us if we can assist (<a href="mailto:sustainability@gammonconstruction.com">sustainability@gammonconstruction.com</a>).</p>	



## Appendix E – Other Initiatives – Awards

Date	Name of Award	Issued by	Name of Project / Division
25-Feb-19	Hong Kong Green Organisation Certification	Environmental Campaign Committee	Gammon Construction Limited
27-Feb-19	Safety Performance Award – Best Foreman	West Kowloon Cultural District Authority (WKCD)	Mr. Yip Chung Yau
27-Feb-19	Safety Performance Award – Best Safety Performance	West Kowloon Cultural District Authority	WKCD CC/2017/3A/030, L1 Contract for Lyric Theatre Complex and Extended Basement Project
27-Feb-19	Safety Performance Award – Zero Accident	West Kowloon Cultural District Authority	WKCD CC/2017/3A/030, L1 Contract for Lyric Theatre Complex and Extended Basement Project
27-Feb-19	Safety Performance Award – Best Model Worker	West Kowloon Cultural District Authority	Mr. Chik Kwok Wah
11-Mar-19	HSBC Living Business Awards – Sustainable Supply Chain Leaders	The Hongkong and Shanghai Banking Corporation Limited	Gammon Construction Limited
15-Mar-19	RICS Awards Hong Kong Construction Project Management Team of the Year – Certificate of Excellence	Royal Institution of Chartered Surveyors	Monterey residential development
17-Mar-19	Construction Industry Safety Award 2018/2019 Building Sites (Private Sector) category – Outstanding Performance on Work-at-Height Safety Prize	Labour Department, HKSAR	Main Contract for the Proposed Residential Development at TPTL 214 at Fo Yin Road, Pak Shek Kok, Tai Po, New Territories
17-Mar-19	Construction Industry Safety Award 2018/2019 Building Sites (Private Sector) category – Bronze Prize	Labour Department, HKSAR	Main Contract for the Proposed Residential Development at TPTL 214 at Fo Yin Road, Pak Shek Kok, Tai Po, New Territories



Date	Name of Award	Issued by	Name of Project / Division
17-Mar-19	Construction Industry Safety Award 2018/2019 Building Sites (Public) category – Good Performance Certificate	Labour Department, HKSAR	Foundation for Public Rental Housing Development at Tuen Mun Area 54 Sites 3 & 4 (East)
17-Mar-19	Construction Industry Safety Award 2018/2019 Building Sites (Private Sector) category – Merit Prize	Labour Department, HKSAR	13693 – Main Contract for the Proposed House Development at 1 Plantation Road, Hong Kong
17-Mar-19	Construction Industry Safety Award 2018/2019 Building Sites (Private Sector) category – Certificate of Good Performance	Labour Department, HKSAR	Design and Construction of Pipe Pile Wall and Foundation Works for Commercial Development at KTIL 240, 98 How Ming Street, Kwun Tong, Kowloon
17-Mar-19	Construction Industry Safety Award 2018/2019 Civil Engineering Sites – Most Active Participating Construction Sites Award	Labour Department, HKSAR	Steel Stanchion for Proposed Commercial Development at N.K.I.L. No.6556, Kai Tak Area 1F Site 2, Kai Tak
17-Mar-19	Construction Industry Safety Award 2018/2019 Renovation and Maintenance Works – Gold Prize	Labour Department, HKSAR	Replacement of Air-Cooled Chillers at MTR Stations and Depots
17-Mar-19	Construction Industry Safety Award 2018/ 2019 Safety Teams Category – Merit Prize	Labour Department, HKSAR	Foundation, Pipe Pile and Sheet Piling Works for West Rail Yuen Long Station Property Development, Yuen Long Town Lot No. 510 New Territories
17-Mar-19	Construction Industry Safety Award 2018/ 2019 Safety Teams Category – Merit Prize	Labour Department, HKSAR	Gammon Construction Limited Foundation, Pipe Pile and Sheet Piling Works for West Rail Yuen Long Station Property Development, Yuen Long Town Lot No. 510 New Territories
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Teams Category – Merit Prize	Labour Department, HKSAR	Gammon Construction Limited Steel Stanchion for Proposed Commercial Development at N.K.I.L. No.6556, Kai Tak Area 1F Site 2, Kai Tak
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Teams Category – Merit Prize	Labour Department, HKSAR	Steel Stanchion for Proposed Commercial Development at N.K.I.L. No.6556, Kai Tak Area 1F Site 2, Kai Tak
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Teams Category – Good Performance Certificate	Labour Department, HKSAR	Foundation for Public Rental Housing Development at Tuen Mun Area 54 Sites 3 & 4 (East)
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Workers Category	Labour Department, HKSAR	Mr Wah Chan Chi
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Workers Category	Labour Department, HKSAR	Mr Yip Lo Kin
17-Mar-19	Construction Industry Safety Award 2018/2019 Safety Workers Category	Labour Department, HKSAR	Mr Yung Choi Shu
26-Mar-19	2018 Outstanding Apprentices Award Scheme – Merit	Vocational Training Council	Gammon Construction Limited
12-Apr-19	Contractor Hiring the Most Number of Graduate Apprentices 2018 – Gold Award	Hong Kong Institute of Construction	Gammon Construction Limited
12-Apr-19	Contractor Hiring the Most Number of Trades 2018 – Gold Award	Hong Kong Institute of Construction	Gammon Construction Limited
12-Apr-19	Employer Signing the Most Number of Apprentice Contracts 2018 – Gold Award	Hong Kong Institute of Construction	Gammon Construction Limited
12-Apr-19	Contractors Active Participation in Cooperative Training Scheme 2018	Hong Kong Institute of Construction	Gammon Construction Limited



Date	Name of Award	Issued by	Name of Project / Division
25-Apr-19	Hong Kong Most Innovative Knowledge Enterprise (MIKE) Award 2018 – Winner	Poly U & Knowledge Management and Innovation Research Centre	Digital G Limited
29-Apr-19	Hong Kong Awards for Environmental Excellence and Hong Kong Green Organisation Certification Construction Industry – Silver Award	Environmental Campaign Committee	Proposed House Development at 1 Plantation Road, Hong Kong
29-Apr-19	Hong Kong Awards for Environmental Excellence and Hong Kong Green Organisation Certification Construction Industry – Certificate of Merit	Environmental Campaign Committee	L1 Contract for Lyric Theatre Complex and Extended Basement
3-May-19	HKIE – Structural Excellence Award 2019 Hong Kong Project – Infrastructures & Footbridges – Grand Award	Hong Kong Institution of Engineers	Contract No HY/2012/07, Tuen Mun – Chek Lap Kok Link, Southern Connection Viaduct Section
20-May-19	2019 Safety Video Competition Electrical Installation Works Category – Silver	Development Bureau and the Construction Industry Council	VR in Electrical Safety
20-May-19	2019 Safety Video Competition Lifting and Plant Operation Category – Merit	Development Bureau and the Construction Industry Council	Safe Use of Crane Lorry
27-May-19	25th Considerate Contractors Site Award Scheme Considerate Contractors Site Award in Non-Public Works – New Works – Group A – Silver	Development Bureau and the Construction Industry Council	Lyric Theatre Complex and Extended Basement
27-May-19	25th Considerate Contractors Site Award Scheme Outstanding Environmental Management & Performance Award in Non-Public Works – New Works – Group A – Merit	Development Bureau and the Construction Industry Council	Lyric Theatre Complex and Extended Basement
27-May-19	25th Considerate Contractors Site Award Scheme Considerate Contractors Site Award in Non-Public Works – New Works – Group B – Bronze	Development Bureau and the Construction Industry Council	Development of IE 2.0 Project C Advanced Manufacturing Centre
27-May-19	25th Considerate Contractors Site Award Scheme Considerate Contractors Site Award in Public Works – RMAA – Bronze	Development Bureau and the Construction Industry Council	Ground Investigation – Urban and Surrounding Islands (Term Contract)
27-May-19	25th Considerate Contractors Site Award Scheme Public Works – New Works – Model Workers Award	Development Bureau and the Construction Industry Council	Mr. Lam Yuk Wah – Central Kowloon Route – Kai Tak West
27-May-19	25th Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group A – Model Workers Award	"Development Bureau and the Construction Industry Council	Mr. Chik Wai Hung – Lyric Theatre Complex and Extended Basement
27-May-19	25th Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group B – Model Worker Award	Development Bureau and the Construction Industry Council	Mr. Ng Cheuk – Development of IE 2.0 Project C Advanced Manufacturing Centre
27-May-19	25th Considerate Contractors Site Award Scheme Public Works – RMAA Works – Model Workers Award	Development Bureau and the Construction Industry Council	Mr. Ho Cheuk Man – Ground Investigation – Urban and Surrounding Islands (Term Contract)
27-May-19	25th Considerate Contractors Site Award Scheme Public Works – New Works – Model Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Wong Yuk Ming – Central Kowloon Route – Kai Tak West

Date	Name of Award	Issued by	Name of Project / Division
27-May-19	25th Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group A – Model Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Pang Sing Fu – Lyric Theatre Complex and Extended Basement
27-May-19	25th Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group B – Model Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Ng Kin Man – Development of IE 2.0 Project C Advanced Manufacturing Centre
27-May-19	25th Considerate Contractors Site Award Scheme Public Works – RMAA Works – Model Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Wong Ki Choi – Ground Investigation – Urban and Surrounding Islands (Term Contract)
27-May-19	25th Considerate Contractors Site Award Scheme Public Works – New Works – Model Subcontractor Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Ying Tat Hon – Central Kowloon Route – Kai Tak West
27-May-19	25th Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group A – Model Subcontractor Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Wong Kwan Yu – Lyric Theatre Complex and Extended Basement
27-May-19	25th Considerate Contractors Site Award Scheme Model Subcontractor – Frontline Supervisor Award	Development Bureau and the Construction Industry Council	Mr. Lui Kei – Ground Investigation – Urban and Surrounding Islands (Term Contract)
13-Jun-19	Construction Site Safety Award 2018 – Gold Award	Civil Engineering and Development Department, HKSAR	GE/2017/06 Ground Investigation – Urban and Surrounding Islands (Term Contract)
25-Jun-19	Innovative Construction Materials Award 2019 – Grand Award	Hong Kong Institution of Engineers Materials Division	Gammon Construction Limited
19-Jul-19	HKMA Quality Award 2019 – Grand Award	Hong Kong Management Association	Gammon Construction Limited
26-Aug-19	2018 HKCA Construction Safety Awards – Proactive Safety Contractors Award	Hong Kong Construction Association	Gammon Engineering & Construction Company Limited
26-Aug-19	2018 HKCA Construction Safety Awards – Safe Supervisors Award	Hong Kong Construction Association	Ms. Tsang Tsz Yan
26-Aug-19	2018 HKCA Construction Safety Awards – Safe Person-in-Charge Award	Hong Kong Construction Association	Mr. Chen Chi Keung, Stanley
26-Aug-19	2018 HKCA Construction Safety Awards – Proactive Safety Contractors Award	Hong Kong Construction Association	Gammon Construction Limited
26-Aug-19	2018 HKCA Construction Safety Awards – HKCA Safe Supervisors Award	Hong Kong Construction Association	Mr. Leung Chun Kit, Jimmy
26-Aug-19	2018 HKCA Construction Safety Awards – Safe Person-in-Charge Award	Hong Kong Construction Association	Mr. Yan Wai Ming, Alan
17-Sep-19	Construction Manager of the Year Awards New Works and A&A Works Category – Gold Award	The Chartered Institute of Building (HK)	Walter Lee, Construction Manager, One Taikoo Place
17-Sep-19	Construction Manager of the Year Awards Heritage Conservation Category – Silver Award	The Chartered Institute of Building (HK)	Photo Cheung, Construction Manager, Murray Building Hotel Development
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Site Safety Practitioner Award – Highly Commended	The Lighthouse Club Hong Kong	Mr. Ho Siu Kei Kenny
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Safe Foreman Award – Certificate of Merit	The Lighthouse Club Hong Kong	Mr. Law Ah Yau



Date	Name of Award	Issued by	Name of Project / Division
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Safe Foreman Award – Certificate of Merit	The Lighthouse Club Hong Kong	Mr. So Wing Yin
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Construction Manager Safety Award – Champion	The Lighthouse Club Hong Kong	Mr. Wong Chung Kwong
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Construction Manager Safety Award – Highly Commended	The Lighthouse Club Hong Kong	Mr. Yan Wai Ming, Alan
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Safe Subcontractor Award – Highly Commended	The Lighthouse Club Hong Kong	Entasis Limited
20-Sep-19	The Lighthouse Club Hong Kong Contractors Safety Awards 2019 Safe Project Team Award – Commended	The Lighthouse Club Hong Kong	HY/2014/07 Central Kowloon Route – Kai Tak West
14-Oct-19	UNESCO Asia-Pacific Awards for Cultural Heritage Conservation – Award of Excellence	United Nations Educational, Scientific and Cultural Organization (UNESCO)	Tai Kwun – Central Police Station Revitalisation Project
16-Oct-19	CIC BIM Competition 2019 Award Open Category – 2nd Runner-up	Construction Industry Council	Central Kowloon Route – Kai Tak West
18-Oct-19	Singapore Facility Management Awards 2019 Best FM Building Owner/Facility Occupier Category – Public Private Partnership Commendation Award	The Institute of Technical Education College West	Gammon Capital (West) Pte Ltd
3-Nov-19	HKIA Annual Awards 2018/2019 Special Architectural Award – Heritage & Adaptive Re-use	The Hong Kong Institute of Architects	Tai Kwun – Central Police Station Revitalisation Project
3-Nov-19	HKIA Annual Awards 2018/2019 – Merit Award of Hong Kong – Mixed Use(es) Building	The Hong Kong Institute of Architects	Tai Kwun – Central Police Station Revitalisation Project
5-Nov-19	Green Building Award 2019 Green Building Leadership Category: Contractors – Pioneer Award	Hong Kong Green Building Council Limited and Professional Green Building Council	Gammon Construction Limited
4-Dec-19	CLP Smart Energy Award 2019 Renewable Energy (Corporate/Government Bodies) – Excellence Award	CLP	Sanfield-Gammon Construction JV Company Limited
10-Dec-19	Carbon Care Label	CarbonCare and Inno LabCarbon Care Asia and CarbonCare InnoLab jointly organised	Gammon Construction Limited
10-Dec-19	Carbon Care Star Label	CarbonCare and Inno LabCarbon Care Asia and CarbonCare InnoLab jointly organised	Gammon Construction Limited

# Appendix F – Green Building Projects

G4 – CRE8



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>		
One Taikoo Place	BEAM Plus NB V1.2 Final Platinum (2020)	Swire Properties Ltd.
The Quayside	BEAM Plus NB V1.2 Final Platinum (2020)	Link Properties Ltd. / Nan Fung Development Ltd.
Lee Garden Three	BEAM Plus NB V1.2 Final Platinum (2019)	Alpha Ace Ltd (Hysan Development Co Ltd.)
Global Switch Hong Kong Data Centre	BEAM Plus NB V1.2 Preliminary Final Gold (2019)	Global Switch Hong Kong Ltd
The Papillons	BEAM Plus NB V1.2 Final Silver (2019)	Chinachem Group
Le Cap	BEAM Plus NB V1.2 Final Unclassified (2019)	Bravo Partner Ltd
Foundation works for Grade A Office & Retail Development at NKIL 6556, Kai Tak Area 1F Site 2	BEAM Plus NB V1.2 Provisional Platinum (2020)	Rich Union Development Ltd
Foundation works for Proposed Office Development at 2 Murray Road	BEAM Plus NB V1.2 Provisional Platinum (2020)	Century Base Development Ltd





Project	Rating	Client
<b>BEAM Plus NB V1.2 Projects – Hong Kong</b>		
Central Plaza Annex	BEAM Plus NB V1.2 Provisional Platinum (2019)	Cheer City Properties Limited & Protasan Ltd
Demolition and Associated A&A Works for Two Taikoo Place commercial development	BEAM Plus NB V1.2 Provisional Platinum (2019)	Taikoo Place Holdings Ltd
Proposed Residential Development at NKIL 6564, Kai Tak Area 1L, Site 1, Kai Tak	BEAM Plus NB V1.2 Provisional Gold (2019)	Top Genius Holdings Ltd
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 Provisional 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
eResidence	BEAM Plus NB V1.2 Provisional Platinum (2017)	Urban Renewal Authority
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	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 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	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



The Papillons

Project	Rating	Client
<b>BEAM Plus NB V1.2 Projects – Hong Kong</b>		
M+ Museum	BEAM Plus NB V1.2 Provisional Gold (2015)	West Kowloon Cultural District Authority
Monterey	BEAM Plus NB V1.2 Provisional Gold (2015)	Wheelock Properties Ltd
Tuen Mun Area 54 Sites 3 & 4	BEAM Plus NB V1.2 Provisional Gold (2014)	Hong Kong Housing Authority
Hotel Development at Murray Building	BEAM Plus NB V1.2 Provisional Bronze (2015)	Smart Event Investments Ltd
No 1 Plantation Road	BEAM Plus NB V1.2 Provisional Bronze (2014)	Wharf Peak Properties Limited
The Fullerton Hotel at Ocean park	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
22 Wing Kin Road	BEAM Plus NB V1.2 Provisional Unclassified (2017)	Keen Really Development Ltd
Solaria	BEAM Plus NB V1.2 Provisional Unclassified (2017)	K. Wah International Holdings Ltd
Advance Works Contract for Project Blue – Proposed Development in Causeway Bay	BEAM Plus NB V1.2 Ongoing	Excelsior Hotel (BVI) Ltd
Advanced Manufacturing Centre	BEAM Plus NB V1.2 Ongoing	Hong Kong Science & Technology Parks Corporation
Demolition and Foundation Works at Prince of Wales Hospital, Phase 2 (Stage 1)	BEAM Plus NB V1.2 Ongoing	Hospital Authority
Foundation and ELS (Stage 1) Works for Strawberry Hill residential development	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	BEAM Plus NB V1.2 Ongoing	Hong Kong Housing Authority
Foundation Works for AIA Urban Campus Redevelopment at No. 1 Stubbs Road	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 IE 2.0 Project A	BEAM Plus NB V1.2 Ongoing	Hong Kong Science & Technology Parks Corporation
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
Lohas Park Package 9	BEAM Plus NB V1.2 Ongoing	Wheelock Properties Ltd
Lyric Theatre Complex	BEAM Plus NB V1.2 Ongoing	West Kowloon Cultural District Authority
8 Mount Nicholson Road	BEAM Plus NB V1.2 Final Silver (2020)	Market Prospect Ltd
Parc City / Nina Mall 2, Tsuen Wan	BEAM Plus NB V1.2 Final Gold (2019)	Denny Investment Ltd. (Chinachem Group)
Maxim's Centre, Cheung Sha Wan	BEAM Plus NB V1.2 Final Platinum (2019)	Luk Yeung Restaurant Ltd
Proposed Residential & Commercial Development No. 33 Tong Yin Street	BEAM Plus NB V1.2 Final Gold (2019)	Amblegreen Company Ltd. (Subsidiary of Wheelock Properties)
Altamira	BEAM Plus NB V1.2 Final Platinum (2018)	Majestic Elite Property Development Ltd



Project	Rating	Client
<b>BEAM Plus NB V1.1 Projects – Hong Kong</b>		
The Parkside	BEAM Plus NB V1.2 Final Gold (2018)	Fortune Precision Ltd. (Wheelock)
Foundation works for The Morgan	BEAM Plus NB V1.1 Final Gold (2017)	Majestic Elite Property Development Ltd
Midfield Concourse	BEAM Plus NB V1.1 Final Gold (2017)	Airport Authority Hong Kong
One South Lane	BEAM Plus NB V1.1 Final Bronze (2017)	Both Talent Ltd. (Chinese Estates Holdings Limited)
Whitesands	BEAM Plus NB V1.1 Final Platinum (2016)	Bao Wei Enterprise Ltd. (Subsidiary of Swire Properties)
Arezzo	BEAM Plus NB V1.1 Final Platinum (2016)	Excel Free Ltd. (Swire Properties Limited)
Zero Carbon Building	BEAM Plus NB V1.1 Final Platinum (2015)	Construction Industry Council
Science Park Phase 3, Building 12W, 15W and 16W	BEAM Plus NB V1.1 Final Platinum (2015)	Hong Kong Science & Technology Parks Corporation
Hysan Place	BEAM Plus NB V1.1 Final Platinum (2013)	Hysan Development Co. Ltd
Shanghai Commercial Bank Tower	BEAM Plus NB V1.1 Provisional Gold (2015)	Shanghai Commercial Bank Ltd
Castle One	BEAM Plus NB V1.1 Provisional Silver (2014)	Best-Rights Company Ltd
The Forum	BEAM Plus NB V1.1 Provisional Unclassified	Hong Kong Land Ltd



The Forum



Project	Rating	Client
<b>HK BEAM Projects – Hong Kong</b>		
Chater House	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
Jardine House	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
One Exchange Square	HK-BEAM 5/04 Platinum	Hongkong Land Ltd
Lincoln House	HK-BEAM 5/04 Platinum	Swire Properties Ltd
Dorset House	HK-BEAM 5/04 Excellent	Swire Properties Ltd
LHT Tower	HK-BEAM 4/04 Platinum	The Luk Hoi Tung Co. Ltd
Mount Davis 33	HK-BEAM 4/04 Platinum	Urban Renewal Authority / Kowloon Development Co Ltd
Opus Hong Kong	HK-BEAM 4/04 Platinum	Swire Properties Ltd
Fire Station with Ambulance Depot and Police Post at Penny's Bay	HK-BEAM 4/04 Platinum	Architectural Services Department
Centennial Campus, The University of Hong Kong	HK-BEAM 4/04 Platinum	The University of Hong Kong
One Island East, Taikoo Place	HK-BEAM 4/04 Platinum	Swire Properties Ltd
Redevelopment of Kwun Tong Swimming Pool Complex and Kwun Tong Recreation Ground	HK-BEAM 4/04 Platinum	Architectural Services Department
Serenade	HK-BEAM 4/04 Platinum	Hongkong Land Ltd
Tamar	HK-BEAM 4/04 Platinum	Architectural Services Department
York House	HK-BEAM 4/04 Platinum	Hongkong Land Ltd
Redevelopment of Victoria Park Swimming Pool Complex	HK-BEAM 4/04 Gold	Architectural Services Department
Ko Shan Theatre New Wing	HK-BEAM 4/04 Gold	Architectural Services Department
Man Yee Building	HK-BEAM 2/99 Excellent	Man Hing Hong Kong Land Investment Co. Ltd
Cyberport 4 (Phase CIIIA)	HK-BEAM 1/99 Excellent	Cyber-Port Management Ltd



Project	Rating	Client
<b>HK BEAM Projects – Hong Kong</b>		
One Peking	HK-BEAM 1/99 Excellent	Glorious Sun Holdings Ltd
Three Pacific Place	HK-BEAM 1/99 Excellent	Swire Properties Ltd
Devon House	HK-BEAM 2/96 Excellent	Swire Properties Ltd
1063 King's Road	HK-BEAM 1/96 Excellent	Hongkong Land Ltd
Oxford House	HK-BEAM 1/96 Excellent	Swire Properties Ltd
<b>LEED Projects – Hong Kong</b>		
Central Plaza Annex	LEED BD+C: Core & Shell v4 – Ongoing	Cheer City Properties Limited & Protasan Ltd
Proposed Residential Development at 139-147 Argyle Street, Kowloon	LEED BD+C: Core & Shell 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	LEED BD+C: Core & Shell v2009 – Final Platinum (2020)	Swire Properties Ltd
The Quayside	LEED BD+C: Core & Shell v2009 – Final Platinum (2020)	Link Properties Limited / Nan Fung Development Limited
Global Switch Hong Kong Data Centre, Building 1 and 2	LEED BD+C: Core & Shell v2009 – Final Platinum (2018)	Global Switch Hong Kong Limited
Lee Garden Three	LEED BD+C: Core & Shell v2009 – Final Gold (2018)	Hysan Development Co Ltd
Foundation Works for Sha Tin Communication and Technology Centre	LEED BD+C: Core & Shell v2009 – Final Gold (2016)	The Hong Kong Jockey Club
China Mobile Global Network Centre, MEP1	LEED BD+C: Core & Shell v2009 – Final Gold (2016)	China Mobile International Ltd
The Forum	LEED BD+C: Core & Shell v2009 – Final Platinum (2015)	Hongkong Land Ltd
Science Park Phase 3, Building 12W	LEED BD+C: Core & Shell v2009 – Final Platinum (2014)	Hong Kong Science & Technology Parks Corporation
HKU Centennial Campus	LEED BD+C: Core & Shell v2009 – Final Platinum (2013)	The University of Hong Kong
Proposed Residential Development at 38-44 Caine Road, Central	LEED BD+C: New Construction v2.2 – Certified (2013)	Fine Mean Ltd
Hysan Place	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	LEED: CI v2.0 – Gold	The Hong Kong and Shanghai Banking Corporation Ltd
<b>WELL Building Standard Projects – Hong Kong</b>		
One Taikoo Place	WELL V1: Core & Shell Certified Platinum (2019)	Swire Properties Ltd
The Quayside	WELL V1: Core & Shell Ongoing	Link Properties Ltd/ Nan Fung Development Ltd
Gammon Head Office at The Quayside	WELL V1: New and Existing Interiors Pre-certified Gold	Gammon Construction Ltd



Project	Rating	Client
<b>LEED Projects – Singapore</b>		
Diaphragm wall and Piling works to Singapore Innovation Centre	LEED: New Construction v2009 – Gold	CH2M Hill Singapore Pte Ltd
Singapore Innovation Centre	LEED: Commercial Interior v2.0 - Gold	Procter & Gamble
Data Centre at Woodlands	LEED: Gold	Global Switch
<b>Green Mark Projects – Singapore</b>		
New Institute of Technical Education College West	Green Mark - Platinum	Gammon Capital (West) Pte Ltd
Data Centre at Woodlands	Green Mark - Platinum	Global Switch
Nanyang Polytechnic Extension	Green Mark - Platinum	Nanyang Polytechnic
Woodlands Extension sleepers	Green Mark - Platinum	SMRT Trains Ltd
MRT Mayflower Station	Green Mark - Gold	Land Transport Authority
Havelock MRT Station	Green Mark – Gold	Land Transport Authority
Mandai Depot	Green Mark - Gold	Land Transport Authority
P&G Singapore Innovation Centre (SgIC Project)	Green Mark - Gold	CH2M Hill Singapore Pte Ltd
Chevron Building	Green Mark – Certified	Chevron Oronite Pte Ltd
Sentosa Cableway Station	Green Mark - Certified	Sentosa Development Corporation
Grace Assembly of God Church	Green Mark - Certified	Grace Assembly of God Church



# Appendix G – Membership of Associations and Industry Bodies 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
	Audit Committee	Member
Development Bureau	Panel of Enquiry-Site Safety	Member
	Registered Contractors' Disciplinary Board Panel Planning and Lands Branch	Member
Development Bureau (Planning and Lands Branch)	Registered Contractors' Disciplinary Board Panel	Member
Town Planning Board	-	Member
	Metro Planning Committee	Member
<b>B. Permanent Non Statutory Bodies</b>		
The Hong Kong Construction Association, Limited (HKCA)	-	Member
	Young Members Society	Chairman
	Civil Engineering Committee	Vice Chairman
	Piling Contractors Committee	Vice Chairman
	Site Investigation Committee	Vice Chairman
	Environmental Committee	Vice Chairman
<b>C. Tertiary Institution</b>		
The University of Hong Kong	MSc Integrated Project Delivery	External Examiner
Vocational Training Council	Building Civil Engineering & Built Environment Training Board	Member
	Electrical and Mechanical Services Training Board	Member
	Engineering Discipline Advisory Board	Member
	Estates Committee	Member

## 2. Non Government Organisation

Association/ Body	Group/ Committee	Appointment
Business Environment Council	Board of Directors	Director
	BEC Executive Committee	Member
	Energy Advisory Group (2017-2019)	Chairman
	Transport & Logistics Advisory Group (2017-2019)	Steering Committee Member
	Waste Management Advisory Group (2017-2019)	Steering Committee Member
	Environment, Social and Governance (ESG) Advisory Group (2017-2019)	Ordinary Member
	Climate Change Business Forum Advisory Group (2017-2021)	Ordinary Member



## 2. Non Government Organisation (continued)

Association/ Body	Group/ Committee	Appointment
Business Environment Council ( <i>continued</i> )	Circular Economy Advisory Group (2019-2021)	Steering Committee Member
	Sustainable Living Environment Advisory Group (2019-2021)	Steering Committee Member
Hong Kong Green Building Council	-	Patron Member
	Green Building Faculty	Member
Hong Kong Institution of Engineers	Geotechnical Division (2018-2019 Term)	Chairman
Chartered Institute of Building (Hong Kong)	-	Council Member
Chartered Institution of Highways and Transportation, HK Branch	Committee Member	Council Member
Temporary Works Forum	-	Co-founder and 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
The Hong Kong Management Association	The HKMA Operations Management Committee	Member
British Chamber of Commerce in Hong Kong	-	Corporate member
	Construction Industry Group	Chairman
	Healthcare Committee	Member
	Innovation and Technology Committee	Member
	Environment and Energy Committee	Member
	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 Institute of Surveyors	QS Assessment of Professional Competence	Assessor
Hong Kong Trade Development Council	Infrastructure Development Advisory Committee	Member
Royal Institution of Chartered Surveyors	Asia QS & Construction Professional Group	Board Member
	QS Assessment of Professional Competence	Assessor
Hong Kong Computer Society	-	Board Member
	Council of Talent Cultivation	Director



## HONG KONG SAR

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**GRI 102-10**

*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)* **GRI 102-53**

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