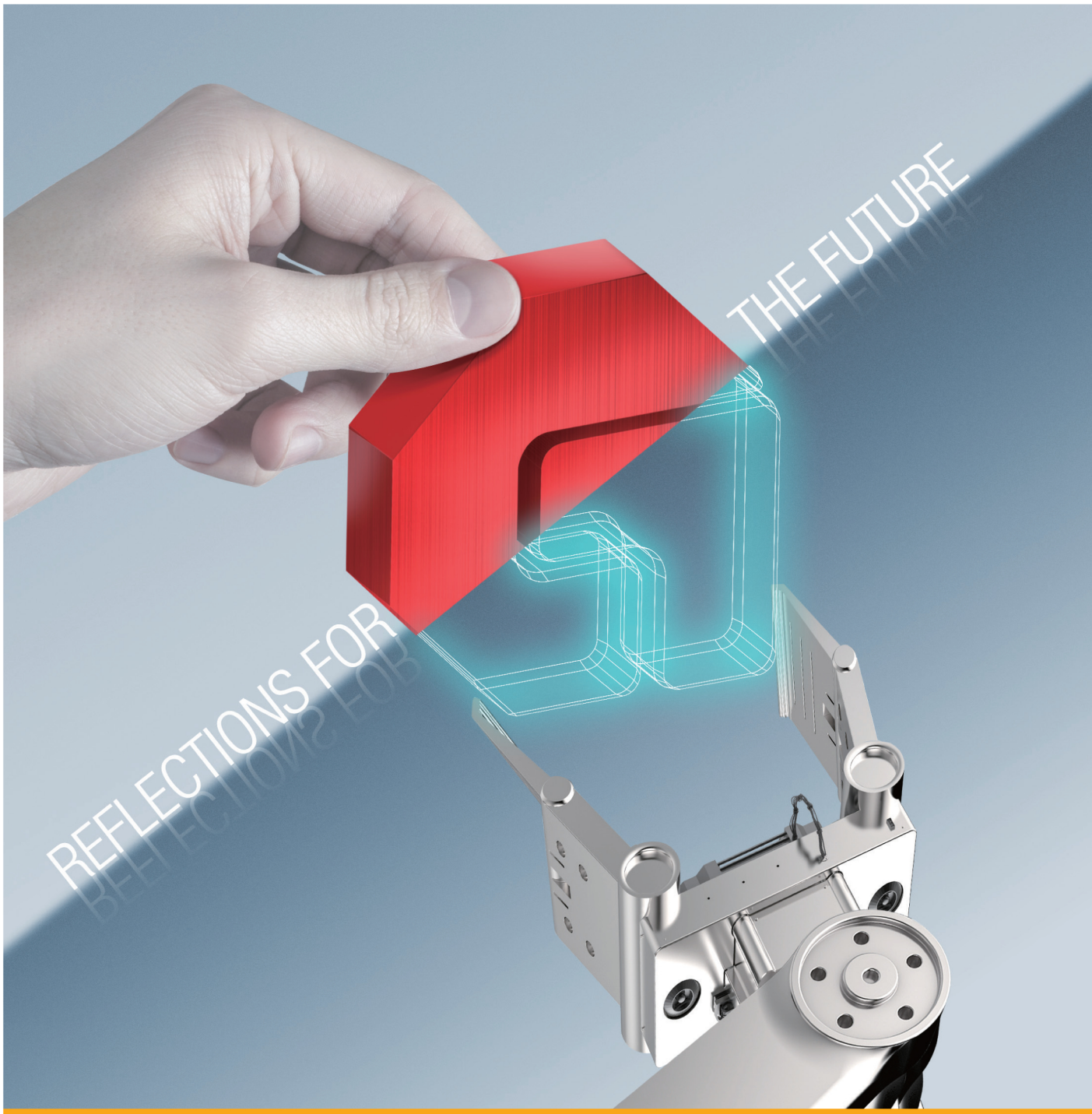
Gammon

SUSTAINABILITY REPORT 2017



Background to the Report

Welcome to the 16th edition of our sustainability report! We have themed the 2017 report 'Reflections for the Future', as we will be taking stock of our progress in achieving the objectives of our Sustainability Roadmap 2020, and planning for the next milestone in Gammon's sustainability journey... towards 2030.

Released in 2012, our Sustainability Roadmap was based on six themes. Each had broad objectives and some also had quantitative targets, a few of which have already been achieved. In the first part of the report ('Highlights') we present a summary of progress and key activities under the six themes, outlining both achievements and areas of weakness. We have also included other activities from 2017 here.

Following the Highlights, our 'Main Report' presents other actions and case studies from the year and includes our formal management approaches and disclosures in line with the Global Reporting Initiative.

Contents

Our Brands

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

Gammon Capital
Public-Private Partnership business

LAMBETH
Engineering design services

ENTASIS
External façades and general contractor

digitalO
Technology and innovation

IntoG
Interior fit-out & contracting

GRI 102-2

SUSTAINABILITY ROADMAP 2020

This report has been prepared in accordance with the Global Reporting Initiatives (GRI) Standards: Core option and is our first report that has transitioned from GRI G4 to the GRI Standards. Our full report is available online only to reduce the use of natural resources. 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 environment@gammonconstruction.com. We welcome your views! GRI 102-53 GRI 102-54

For more information and detailed performance data, please see our full report at **www.gammonconstruction.com**

Chief Executive's Statement

Back in 2012, we strengthened the connection between sustainability and business through the development of our Sustainability Roadmap 2020. At the time, I commented that we were making a "bold commitment to challenge industry norms and set an example in sustainability". I am pleased that this commitment remains as strong as ever, and goes far beyond simply being a responsible contractor.

Our actions over the past five years have been defined by the six strategic objectives of our Sustainability Roadmap 2020 and I am pleased to take this period of reflection and note the progress we have made in achieving our targets. A greater understanding of our aspirations and challenges will guide us as we embark on a new strategy to take us to 2030, one that supports the United Nations Sustainable Development Goals.

Acting sustainably has become a driver of innovation within our business, as we continue to seek methods and technological solutions that are safer, lower impact, more efficient and productive. We have also created opportunities for savings, both financially and materially, through our development of smarter designs and construction methods such as modularisation and standardisation.

Over the past years, we have seen our group accident incident rate drop to 3.7, almost half that of five years ago which is encouraging. Tragically, however, there was a fatality on one of our Hong Kong projects. We have carried out extensive investigation into why the fatality occurred and have strengthened our commitments to avoid recurrence.

Our strategic priorities for the short and medium term remain focused on improved efficiencies through the use of robotics, automation, modular integrated construction (MiC), and the increasing adoption of a design for manufacture and assembly (DfMA) approach.

At our annual cocktail event, our regular video looked at the future of construction and predicted what will be 'A Reality by 2030'. It showcased how we envisage technology will transform work at Gammon, reduce risk, improve productivity, reduce environmental impacts, and ensure the highest quality for our clients. We are entering what I believe will be construction's most exciting and dynamic period, as it evolves to meet the demands of the future, encouraging us to open our doors to new expertise, new people and new methods, all of which will help us grow to become a better, stronger and more sustainable business.

Thomas Ho JP
Chief Executive
Gammon Construction Limited

GRI 102-14

Awards Highlights

STAR CHAMPION AWARD – GREEN AND GRACIOUS BUILDER AWARD (SINGAPORE)

Gammon Singapore was presented with the highest award – STAR Champion – by the Building and Construction Authority (BCA) in recognition of our demonstration of exemplary green and gracious performance on our projects.

In order to be eligible for this pinnacle award, Gammon Singapore needed to have received a STAR rating from the BCA for the previous five consecutive years.

GRAND AWARD – HONG KONG SUSTAINABILITY AWARDS 2016/17

Gammon was delighted to take home one of five Winner Awards and the Grand Award at this inaugural event run by the Hong Kong Management Association. The awards, which had over 100 participating enterprises, endorse the efforts devoted to sustainability by businesses.

We were one of 50 entries from large organisations, and the only contractor to win an award or certificate of excellence at the event.

> *"The entry would not have been successful if there weren't great examples of creativity, energy, passion and leadership across Gammon to share with the judges."*
>
> Emma Harvey, Group Sustainability Manager

Key Achievements of the Sustainability Roadmap 2020

2012

- 2020 Sustainability Roadmap introduced
- Zero Harm Bold Commitments launched
- Completed our 1st LEED Platinum Building – Hysan Place
- Next Generation Panel on Sustainability established

2013

- Healthcare Leader Programme launched
- ISO 14064 greenhouse gas emissions verification
- B5 bio-diesel introduced in plant and equipment
- 3D printing first used

2014

- 1st Gammon Sustainability Conference
- PAS 2050 greenhouse gas lifecycle assessment verification for concrete
- HK Institute of Human Resources – HR Excellence Grand Award
- CarbonCare® Label Level 1 achieved

FIRST AND SECOND PRIZE– CONSTRUCTION INDUSTRY COUNCIL INNOVATION AWARDS 2017

First prize in the safety category was awarded to the collaboration of Gammon, Hong Kong Polytechnic University and Hilti (Hong Kong) Limited for their Bio-Inspired Anti-Vibration Exoskeleton (BIAVE) invention, which protects workers from potential injury while using vibrating tools.

The anti-vibration structure can be installed on jackhammers or road breakers to supress the transmission of vibration, without sacrificing efficiency.

We also collected second prize in the construction productivity category for our development of a family of machines that benefit the erection of segmental bridges. Called the K-Frame, the machines are assembled from a common parts library of interchangeable modules that enable erection of virtually all types of segmental bridge, irrespective of curvature, relieving the need for traditional machines, notably launching gantries.

LEVEL 3 – CARBONCARE® LABEL

We were awarded a Level 3 CarbonCare® Label in recognition of our efforts at reducing our carbon intensity. The label signifies we have achieved a 40% reduction in carbon intensity (CO_2e/ $ turnover) against the base year 2012 for all operations in Hong Kong (except joint venture projects), the Head Office in Singapore and our Steel Fabrication Yard (Pristine) in China.

> *Cutting carbon emissions is an ongoing effort and one of the key climate actions Gammon has been taking.*
>
> Eddie Tse, Senior Environmental Manager

2015

- CIC Carbon Labels for ready-mixed concretes
- CarbonCare® Label Level 1 achieved
- Asia Sustainability Reporting Award – Asia's Best Supply Chain Reporting
- Virtual reality safety training introduced
- ISO 50001 Energy Management System for HK public housing projects
- 1st Rectangular Tunnel Boring Machine used in Singapore

2016

- CarbonCare® Label Level 2 achieved
- HK Awards for Industries – Innovation and Creativity Grand Award
- RICS Sustainability Achievement of the Year Award – Midfield Concourse
- Sustainability Dashboard (S-Dash) launched
- 1st exoskeleton in construction brought to HK
- One of only 6 BSI Kitemarks globally for PAS 1192-2 BIM

2017

- CE Mark for steel and aluminium structures
- HKMA HK Sustainability Award & Grand Award
- CarbonCare® Label Level 3 achieved
- Digital Transformation Team established
- iLearn online training platform launched

ZERO HARM

In 2012, we committed to ensuring Zero Harm is embedded into every aspect of our work and our supply chain, and that industry practices and policies support sustaining a safe industry

Zero Harm Induction Training Participants (2012–2017)

1,222,045

ZERO HARM
MAKE SAFETY PERSONAL

PHOTO: SAFE MANAGEMENT OF ELECTRICITY DISTRIBUTION

One of our most notable accomplishments in the past five years was the 2012 launch of our 'Bold Commitments' – a set of actions exceeding mandatory requirements, designed to embed our Zero Harm approach into the workplace and make safety personal. As well as promoting visible leadership from management and greater attention to planning, the honest implementation of our commitments have made bold changes to working practices onsite and challenged industry norms, particularly those relating to the top four fatal risks. Several of our commitments have influenced the industry and are being adopted by other companies, such as the use of fatal zones which, while not a mandatory government standard, is now promoted by the Labour Department. Our commitment that no power is supplied to a zone, final distribution board or final circuit unless all works are 100% complete and testing records logged faced resistance from some stakeholders but has gradually been embraced by the project teams. Energisation has now become one of the final project activities to take place, significantly improving safety onsite and even enhancing efficiency through better planning.

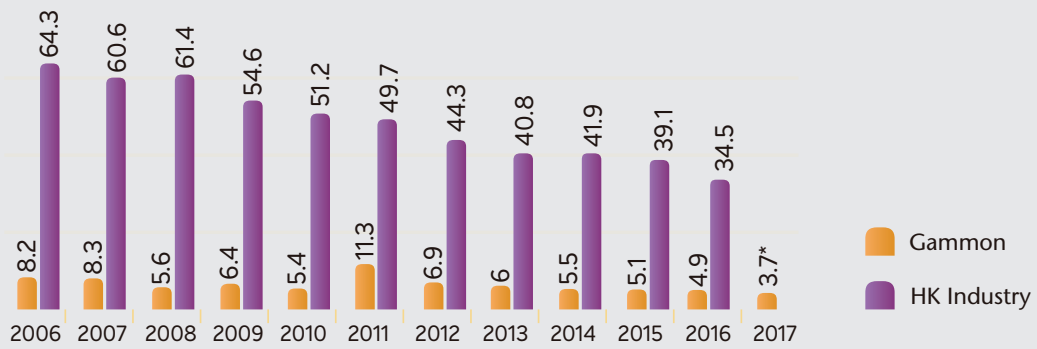
Our first Stand Down also occurred in 2012 and since then we have halted work twice a year across our sites and in offices so that staff and subcontractors can focus on safety issues. The initiative provides an opportunity for employees to share their views and contribute to their own well-being and it provides senior management with the opportunity to demonstrate the visible and caring leadership essential for a good safety culture.

Providing superior training has remained a focus and in 2014 we rolled out our improved falsework course which has become so well regarded that last year 100 Airport Authority staff enrolled and our literature was shared with the MTRC. Our leadership training programme has been a huge success and was bolstered in 2014 with the launch of 'iLead', a course that provides frontline staff with the behaviour and leadership skills they need to converse on safety issues with subcontractors.

Our desire to see heat stress legislation passed in Hong Kong did not come to fruition, but we are pleased to have been able to contribute to the respected Construction Industry Council guidelines on working in high temperatures.

See the main report for further information.

Accident and incident rate graph compared with industry GRI 403-2



** Labour Department, HKSAR Government Industry figure for 2017 not available*

USE WISELY, WASTE LESS, EMIT LESS

In 2012, we committed to

Reduce waste to landfill intensity (compared with 2007)	Reduce carbon intensity (compared with 2005)*	Reduce municipal water use intensity (compared with 2010)	Increase water recycling of total water quantity
TARGET			
30% by end 2018	50%	35% by 2018	50%
ACHIEVED			
32.8%	70%	24.9%	56.6%

** Scope 1&2 CO2e/HK$ turnover* GRI 305-4 GRI 306-2

PHOTO: CONCRETE MANAGEMENT SYSTEM APP IN USE

We have been working hard over the past five years to change the mindset of relying on landfill to one of focusing on avoiding and reducing the amount of waste we generate and making wiser use of resources. Utilising the capabilities of building information modelling (BIM) has been a crucial role in this process. With our expertise in BIM – as recognised by our BSI Kitemark, of which there are only 17 globally for BIM (as at January 2018) – we have been able to cut construction waste during the design and pre-construction phase by early identification of design complexities or clashes that would otherwise result in rework. BIM is provided by our Virtual Design and Construction team and is now used on all our projects. In the last few years, we have increasingly used 3D scanning to digitally capture the dimensions and spatial relationships of built or existing objects onsite to help us better analyse clashes with newly designed elements.

Since 2015, we have been promoting the use of modular excavation and lateral support on our projects and have designed and fabricated in-house a system using nuts and bolts in lieu of welding. This allows the steel sections to be easily dismantled to provide increased opportunities for re-use before they are ultimately recycled, which results in embodied energy savings.

Our increasing use of system formwork has also allowed us to reduce waste, specifically of timber. 68% of our building projects use this approach, where a set of metal table forms and handset panels can be re-used to form the slab and walls for an entire high-rise, a significant improvement over timber-based systems that require replacing after a few floors. On our Midfield Concourse project for the Airport Authority, our award-winning mechanised formwork system was used to directly form the concrete structure which virtually eliminated the need for timber, saving an estimated 700 tonnes. The system can also be re-used repeatedly.

In 2015, we co-developed a new type of plastic safety/traffic barrier made of mould-casted readily recyclable high-density polyethylene (HDPE), to replace the conventional PVC and rubber type with T-joints. The barriers' life cycle costs are between 30-40% cheaper than their conventional counterparts and they can be recycled easily in partnership with our supplier.

We have improved upon our QR code production and test reporting process for concrete tracking to develop a concrete management system in 2017 with the principal objectives of controlling waste and improving efficiency. Operational staff are fully responsible for ordering and receiving concrete using specially designed apps that feed the concrete management software, providing real-time data and transparency on where wastage may be occurring. The introduction of electronic dockets and the use of apps for ordering and receiving concrete also saves time and reduces paper output.

See the main report for further initiatives, disclosure and data. GRI 306-2

"Our focus on waste reduction not only encourages more efficient construction practices, it also lowers our carbon emissions, which is something that benefits the entire community."

Gilbert Tsang, Executive Director

SAFE AND RESPONSIBLE PROCUREMENT

In 2012, we committed to procuring more sustainable products, works and services through our supply chain

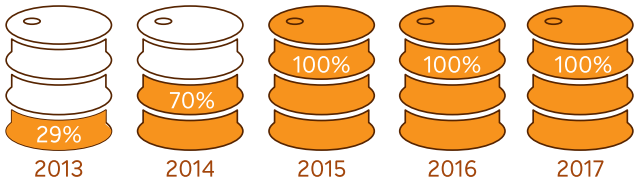
PHOTO: FSC TIMBER FORMWORK AT TSEUNG KWAN O RESIDENTIAL PROJECT

One of our greatest successes in sustainable procurement over the past five years has been our uptake of B5 bio-diesel. In 2013, we began replacing ultra-low sulphur diesel with B5 and now use it in 100% of our plant and equipment on non-joint venture projects. We continue to develop its use in our concrete mixer trucks, with 15 out of 60 now using the product. Our efforts have also had a positive influence on the industry, with the Government following our lead and mandating in 2016 that all government contracts use B5.

We continue to source our timber from well-managed forests and since 2010 have used Forest Stewardship Council (FSC) certified timber for 100% of our doors and 100% of our own formwork purchases. We also encourage our timber suppliers to become FSC accredited and to date we have helped three of them achieve certification.

In 2012, we extended our green procurement programme to embrace steel, including more recycled content and sourcing from regional suppliers with the aim of reducing its embodied carbon. Achieving a combination of these two aims has been a challenge, with limited regional options for a high recycled steel content available. We have therefore focused on purchasing steel produced using the more energy efficient electric arc furnace (EAF) process due to its high (around 90%) recycled content. Recently, however, many mills in China have begun changing to EAF which will provide us with greater opportunities to satisfy both objectives in the near future.

B5 Biodiesel use in our plant and equipment (HK)



% of B5 Biodiesel use in our mixer trucks (HK)

Our sustainable timber purchases for 2017 (HK)

Formwork | Timber Doors | FSC Certified Office Paper GRI 301-1 GRI 301-2

"At Gammon, we recognise the importance of adopting environmentally friendly approaches to drive change and reduce our impact on the planet, while at the same time delivering the quality and cost-efficiency our clients need."

Head of Procurement, Susan Siu

REDUCING ENERGY, OFFERING ALTERNATIVES

In 2012, we committed to using less energy in the whole lifecycle process of a project and to suggest alternatives for design, methods and materials to reduce lifecycle impacts.

PHOTO: HONG KONG WEST KOWLOON STATION

One of the most significant changes across the business in support of this objective has been our increasing uptake of a design for manufacture and assembly (DfMA) approach. Specifically, in both Hong Kong and Singapore we have been advancing our use of modularisation and offsite prefabrication in a quality-controlled factory environment which can result in lower embodied carbon from more efficient use of materials and simplified onsite installation. On our Global Switch Hong Kong data centre project, for example, our full modular mechanical plant solution significantly reduced the need for large-scale welding and working at height, as well as improved installation time, when compared with conventional plant rooms. Currently we are trialling modular integrated construction (MiC) – or prefabricated prefinished volumetric construction, as it is known in Singapore – for a training centre and washrooms.

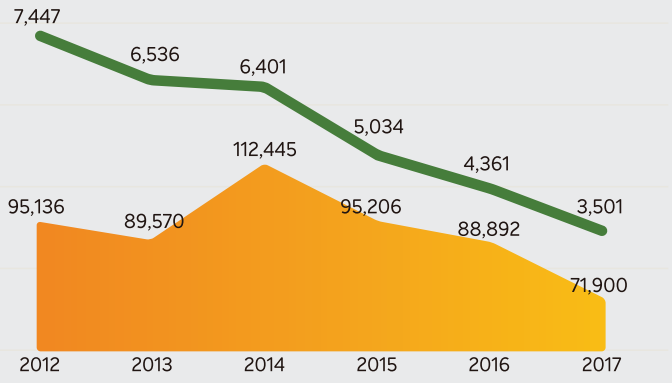
We have also used in-house designs to standardise a number of common components on our sites such as edge protection, lift shaft security gates, pedestrian crossing gates and man access to excavations so they are now produced more efficiently and can easily be re-used on multiple projects.

Our Concrete Technology Department (CTD) continues to develop new concrete mixes that contribute to reducing greenhouse gas emissions and we now offer 30% more green concrete mixes with a lower carbon footprint than we did in 2012. We have also developed high-performance concretes that can be pumped over 1km from the batching plant direct to the site, eliminating the carbon emissions associated with transportation by mixer truck. In addition, our high performance, low-shrinkage concrete requires less rebar during construction and contributed to a value engineering approach that saved 30% rebar in a 1750mm-thick slab on our West Kowloon Terminus Station North project.

In 2015, we became the first Hong Kong business to receive recognition under the Construction Industry Council's Carbon Labelling Scheme for 10 ready-mixed concretes. This number has now increased to 66, with 42 graded Outstanding in terms of carbon footprint per unit volume of concrete. In 2016, we also became the first company in Asia to be named a PAS 2050 certified ready-mixed concrete producer, according to the British Standards Institution.

See the full report for further information.

Carbon footprint and intensity GRI 305-4



Intensity (kg CO_2e/HK$1m turnover)

Footprint (tonnes CO_2 equivalent)

Scope 1 and 2 carbon emissions only

CARBONCARE® LABEL

All operations in Hong Kong (except joint venture projects), Head Office in Singapore and Steel Fabrication Yard in China
Awarded Year 2017 (CCL-2017-3-201)

AN ENERGETIC AND CARING WORKFORCE

In 2012, we committed to leading the industry in reinvigorating the workforce by developing the construction sector as a viable career

PHOTO: PATH RENOVATION AT FUNG YUEN BUTTERFLY RESERVE

Upskilling the construction workforce remains a top priority and we continue with our external collaborations, including the Construction Industry Council's Construction Tradesman Collaborative Training Scheme (CTS) and Advanced Construction Manpower Training Scheme (ACMTS). Over the past five years, 710 of our new-blood workers have entered the CTS, a scheme designed to advance them to semi-skilled status, in around 17 different trades. Since the ACMTS's launch two years ago, 85 of our workers have registered for the scheme which improves their knowledge to a skilled level. In 2017, to address unique gaps we had identified in the labour market skill set, we developed a new master apprenticeship scheme in coordination with the Vocational Training Council that provides training in plastering, brick-laying and tiling, as well as façade design.

When we began offering onsite nurse visits and health checks to our workers six years ago, we were the first private contractor in Hong Kong to do so. Since then, we have continued to develop our health and safety programme, expanding its focus to include prevention of diseases and encouraging a healthier lifestyle. The health checks have been a great success, with 85,000 carried out since 2012. Two healthcare leaders oversee the programme and, through regular meetings with nurses and site personnel and analysis of health check figures, they continuously adapt its focus to meet the needs of the workforce. This has led to the provision of courses such as smoking cessation and, in 2017, we also began holding stress management workshops in response to feedback from our first happiness index survey.

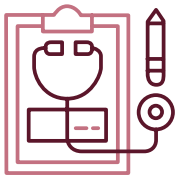
Considerable effort has gone into improving worker welfare facilities which have developed from relatively basic provisions in 2012 to ones of enhanced comfort today. A variety of amenities are provided across our sites ranging from air-conditioning, wi-fi and phone-charging points, to fitness facilities, vending machines and laundry services. Every effort is made to ensure workers feel valued for the contribution they make on our sites.

In 2017, we were proud to be recognised as one of the most attractive employers in Hong Kong by Universum, a global leader in employer attractiveness research. More than 5,000 university students took part in the online poll.

See the main report for further details. GRI 404-1 GRI 404-2

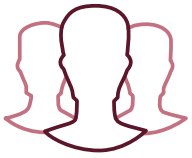
From 2012 to 2017

Over
85,000
health checks



Over
1,900
Health talks

Over
49,000
health talk participants



"In the face of this fast-paced and dynamic business environment, upskilling has become the top priority for our organisation to sustain our agility for growth. Talent is our future."

Edmond Lai, Executive Director

LEADER IN SUSTAINABLE CONSTRUCTION

In 2012, we committed to providing optimal returns by adapting skills and growing expertise to provide services and solutions that bring value to shareholders, customers and communities.

PHOTO: LEE GARDEN THREE COMMERCIAL BUILDING

We continue to build our specialist in-house capabilities to become more self-performing and better able to develop and deliver the most sustainable construction solutions for our clients. Our specialist façade division, Entasis Limited, has tripled in size since its establishment in 2013. Specialising in unitised curtain wall design for commercial and residential developments, the team provides technical and logistical support to our clients.

Our Virtual Design Construction (VDC) team, responsible for implementation of BIM on our projects, has also grown about 25% over the past five years. Part of that expansion was to develop our early adoption of 3D printing and 3D scanning which, among their many benefits, improves our ability to provide precision construction to minimise rework and waste.

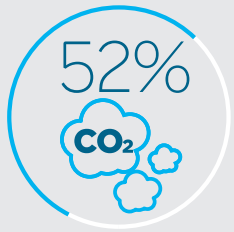
In 2017, we formalised our interiors team into a separate business unit called IntoG. We also created our Digital Transformation Team to enable us to take advantage of the rapidly emerging opportunities the digital world has to offer.

Our offsite modular MEP plant construction solution, introduced in 2014 for our China Mobile Global Network Centre project, has matured and is providing enhanced safety through fewer site activities, less wastage and reduced installation time. We have since applied the concept to the Murray Building regeneration project where modular risers were installed, and most recently at the Global Switch Hong Kong data centre where modularised, weldless plant rooms and offsite fabrication of fully automatic air ducts enhanced productivity and efficiency of installation. In Singapore, we are also fabricating modular solutions at our own factory and the Building & Construction Authority is encouraging the solution as a model for the future.

See the main report for further details.

Decoupling carbon from growth

Using the same 2005 baseline to align with Hong Kong SAR Government targets, our turnover has grown by around 220% but our carbon intensity (Scope 1 and 2) per dollar of turnover has reduced by 70%. If turnover is adjusted to account for increases in material and labour costs, our carbon intensity is more accurately about 52% lower since 2005 indicating an encouraging 'decoupling' of carbon from growth. See the full report for more details.



REDUCTION IN CARBON INTENSITY PER DOLLAR OF TURNOVER (Adjusted to account for cost increases)

** The factor is based on relevant indices from the HKSAR Census and Statistics Department, Building, Construction and Real Estate Sector* GRI 305-1 GRI 305-2

"Pushing the boundaries through innovation and technology is part of the Gammon culture for excellence. To help us realise the commercial opportunities of our ideas, we are excited to establish a separate entity called Digital G, with a start-up mindset."

Patricia Or, Executive Director

Contributing Social Value

Gammon employee volunteer hours
4,360

Community-related events or activities which we supported
147

Donations and sponsorships
HK$2.45 million

GAMMON COMPUTERS AT WORK IN MYANMAR

We donated 90 desktop computers to a charity in Myanmar that provides education facilities and equipment to help underprivileged children in the country. The Studer Trust was most appreciative of the large donation and report that the computers are providing students with the opportunity to build technology skills to become more competitive in the job market.

Our Tuen Mun – Chek Lap Kok Link project team received an Outstanding Award from the Hong Kong Student Aid Society in December in recognition of their voluntary work repairing the Tung Wan Mok Law Shui Wah School and Island Hostel after they were damaged by two typhoons last year.

ACCOLADES FOR VOLUNTEER WORK

SUPPORTING HKUST STUDENTS

We supported a group of final year Hong Kong University of Science and Technology students with their Capstone Project, an initiative designed to help them transition into the workplace. We helped them undertake a study of the carbon footprint for construction activities of three building projects, to compare the energy-use profile against production progress. The exercise enabled them to develop their social and communication skills, as well as put their learning to use in a real-world setting.

CLEANING SINGAPORE'S SHORES

Staff from the Singapore office carried out a beach clean-up as part of their Sustainability Month activities in November.

RUNNING CIRCLES FOR CHARITY

Gammon joined seven other industry firms in November to raise HK$1,224,760 for charity in the 2017 Lap Dog Challenge. The event involved teams of five running laps of an athletic track for five continuous hours, with our Gammon runners clocking up a combined total of 171.6km (or 429 laps) during the event.

Green and Caring Site Commitment

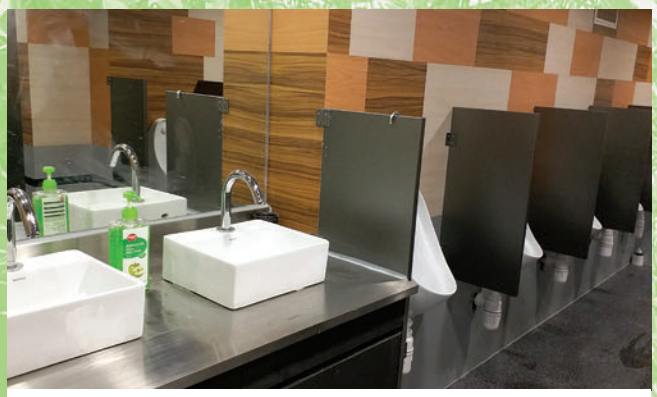
Launched in 2011, our Green and Caring Site Commitment (G&CSC) programme is designed to promote good sustainability practices on our construction sites. Bronze, Silver or Green Flags are awarded to sites based on the level of implemented measures that demonstrate care for the welfare of our workers,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

In 2017, 94% of our sites achieved a Silver or Green Flag, 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 is a major step towards changing the construction industry's image from dirty and dangerous to safe, considerate and eco-friendly.

Some examples of initiatives from sites in 2017 can be seen below.

At our Hang Tau depot, vegetable beds planted on top of container offices provide both fresh food for workers and a reduction in heat transfer through the roofs



Workers at our Global Switch Hong Kong data centre project enjoy access to free wi-fi at rest areas, and deluxe washrooms as part of a trial for modular integrated construction (MiC)

Smoking cessation courses were provided for site staff and workers at our Yuen Long Station property development foundations project

At Pristine, our steel fabrication plant in Dongguan, China, good-quality lunch is provided for workers in re-usable metal containers

Leftover pipe pile casings were turned into chairs by our Ho Man Tin foundations project team

Sustainability Month

No. of events:
107

No. of participants:
5,505

November was Sustainability Month at Gammon, our third since the inaugural event was held in 2012.

While we understand being sustainable is a continuous process, having a dedicated month provides us with an opportunity to increase our knowledge, engage with our partners, drive better performance through innovation, and support the community.

The month consisted of a series of activities, knowledge sharing and events across the business in Hong Kong, Singapore and Mainland China to touch on some of the key themes of our sustainability framework: safety, environment, health and wellbeing, community engagement, and innovation.

Over 100 events were held and included an innovation lab, workshops and talks from external speakers. Environmental talks on site centred on waste management and recycling, carbon and energy efficiency, and water efficiency and wastewater control.

Beach clean-ups, a visit to the Zero Carbon Building, community service events, a Safety Stand Down and mental health and fitness activities also took place, as well as a Fair Trade and Social Enterprise Market, paper reduction challenge and health-related programmes including flu vaccinations and dynamic stretching.

One of the more unusual activities on offer to staff was a lunchtime session of laughing yoga, said to boost cardiovascular health and mood, while the environmental benefits of eating less meat were promoted through a Green Monday initiative that encourages a vegetarian diet at least one day a week.

SHENZHEN BEACH CLEAN-UP


STRESS MANAGEMENT TALK

LAUGHTER YOGA

TOGETHER for TOMORROW
Gammon SUSTAINABILITY MONTH

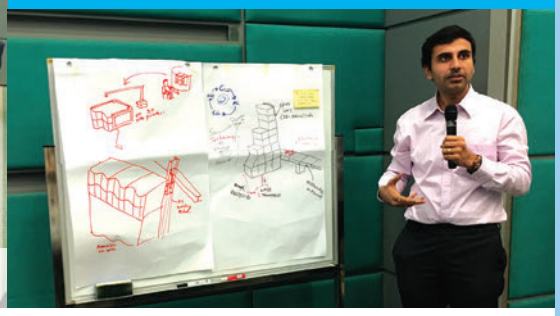
SITE STAFF LUNCH WALK

FAIR TRADE MARKET

The wide range of activities on offer were well attended and will enable staff to take the experience and knowledge gained and incorporate it into both their daily and home lives to make a positive impact on the places in which we live and work.

SUSTAINABILITY STRATEGY WORKSHOP

SUSTAINABILITY STRATEGY 2030 WORKSHOP



One of the highlights of Sustainability Month was the chance to bring together over 40 staff from across the business for a one-day workshop to consider how we should build our strategy for sustainability up to 2030.

A cross section of staff from both project operations and support teams were invited including present, emerging and future leaders in the business, as well as the Next Generation Panel on Sustainability. Participants were asked to consider risks and opportunities as well as client aspirations. They also created a vision for the future of construction and Gammon's place within it.

The workshop included how the business could support the UN Sustainable Development Goals and other collaborative initiatives. Creative juices flowed and there were some great outcomes from the workshop which will be used in the development of the new 2030 strategy for sustainability in the coming months.

Innovation

Gammon has long understood that innovation is vital if we are to prosper in an increasingly competitive market. Below are a few of the latest innovations we are utilising or trialling, most of which have been developed in-house.

AUTOMATIC RESOURCE MANAGEMENT

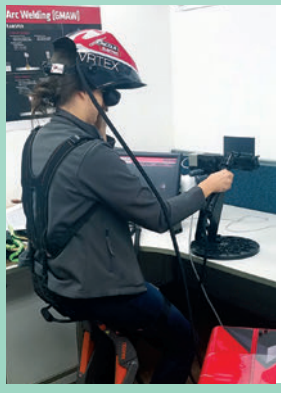
Our Digital Transformation team has developed a quick response (QR) code-based app called ARM, which translates as Automatic Resource Management, to help us gain greater control over our inventory.

QR codes are tagged to items to which a wealth of information about the resource can be attached, including installation status, certification details, test results and the like. Staff can instantly access this information while in the field, simply by passing a smartphone over the code. The team has successfully trialled Stage 1 of ARM which included progress monitoring of E&M cabling installation, tracking of modular struts, tools and equipment, as well as resource information for test results and the re-use of steel.

DGPS SENSORS TRACK PLANT

Finding ways to dissolve the border between the physical and digital world is a key driver for the Digital Transformation team and some of the devices they are utilising in their quest are sensors.

On our Tin Wing foundations project, which is located next to the MTR Light Rail Station, they delivered a DGPS-based plant track-and-alert system that helped the site team control the number of heavy plant working next to the live rail tracks. They also produced a 2D map interface and 3D live model that enabled site management to effectively visualise the location data.



VIRTUAL REALITY WELDING TRAINING

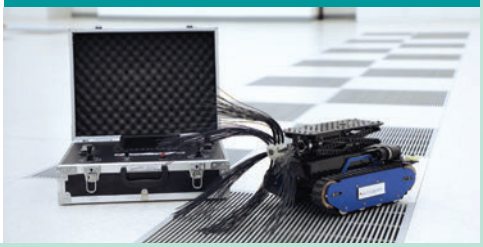
Virtual reality (VR) welding training for our craft apprentices has been taking place at our Tseung Kwan O Technology Park since April 2017. Trainees have the opportunity to practise multiple welding processes and positions which are then tracked to provide accurate scores and evaluation including weaknesses in their technique. Benefits of VR training include reduced power consumption and scrap metal production and there is no need for welding consumables. Training time has also been shortened substantially.

FLOTATION FRAME

An innovative way to deliver bridge segments, the flotation frame was designed and constructed by our Tuen Mun – Chek Lap Kok Link Southern Viaduct project team to address access constraints to one of the piers on the project. The frame consists of 4 x 1.5m diameter tubes welded together with a square hole in the centre to cradle the bridge segment. The frame then floats the segment to its required location where it is lifted into place.

INDOOR AIR QUALITY (IAQ) DISINFECTION ROBOT

Developed by the project team at our Global Switch data centre project in Tseung Kwan O, the IAQ disinfection robot helps meet the stringent dust-free conditions required in critical facilities ductwork. The robot sweeps, vacuums, sprays, disinfects and records and, crucially, negates the need for staff to climb into ductwork to carry out cleaning, effectively removing the need to work at height and in restricted spaces.



FORMWORK HOIST

Gammon received a Certificate of Merit at the Hong Kong Awards for Industries for its formwork hoist, a versatile self-climbing system that eliminates dependence on tower cranes for efficient transportation of system formwork and other materials between floors during high-rise construction. Compact and robust, it provides much higher levels of safety performance and productivity than existing formwork hoists on the market.

SOFTWARE ROBOT WITH ARTIFICIAL INTELLIGENCE

Gambot™

Gammon has developed a software robot with artificial intelligence to capture and utilise large amounts of everyday site information intelligently. Called Gambot™, some of its features include automated weekly safety reports, intelligent dynamic risk assessment (iDRA), site diary photos, and safety observations.

ROBOTIC ARM FOR WELDING

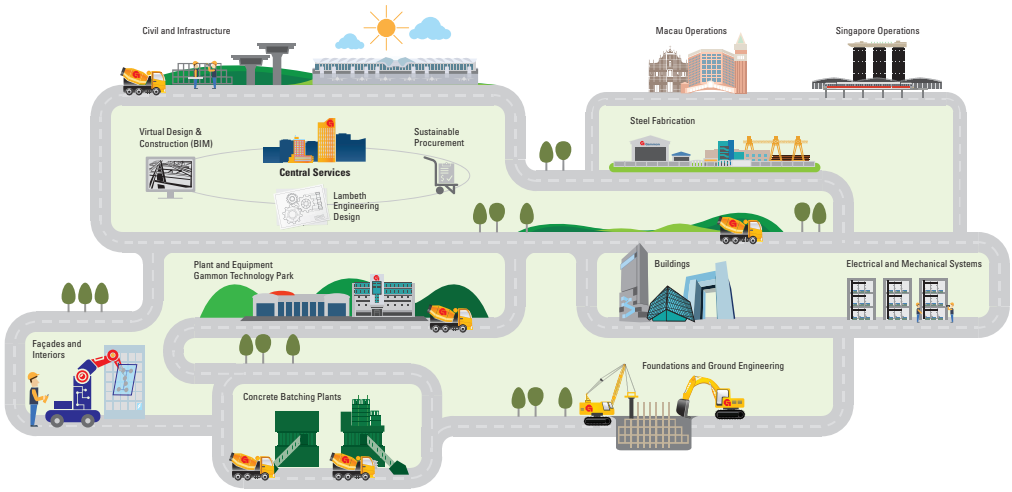
Last year, our steel fabrication facility in Dongguan installed two robotic welding arms to increase the productivity, quality and safety of its factory-based welding processes. The robots can maintain high production efficiency every day, with output of each comparable to more than two professional welders. They also use 10% less welding consumables than their human counterparts and provide a more consistent weld size for better final quality of product. The robotic arms also help address the current industry-wide shortage of qualified welders.

ORGANISATION AND REPORT COVERAGE

Organisational profile GRI 102-1 GRI 102-2 GRI 102-4 GRI 102-6

The principle activities of Gammon Construction Limited 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 rental of plant and machinery.

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
- Transport and utilities providers
- Commercial, residential and industrial property developers
- Property and other built asset owners
- Other contractors

Report content coverage GRI 102-2 GRI 102-4 GRI 102-6 GRI 102-10 GRI 102-45 GRI 102-50 GRI 102-51 GRI 102-52 GRI 102-54 GRI 102-55 GRI 102-56

This annual sustainability report covers the operations of the company and its subsidiaries in Hong Kong and Macau, Mainland China and Singapore for the 2017 calendar year. The previous report for 2016 was issued in the second quarter of 2017. 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) by an independent third party, as shown in Appendix F. The Director for Health & Safety, Sustainability, Systems & Audit is responsible for commissioning the professional external body to undertake the assurance. The GRI Content Index (Appendix B) references the required general and material topic disclosures and locations where they can be found in the report.

There have been no significant changes during the reporting period regarding Gammon's size, structure or supply chain. Two new brands have been registered to cover the interiors business (IntoG) and a new digital technology business (Digital G) which commenced in 2017.

All entities within Gammon Construction Limited (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 Construction Limited – Singapore Branch (GCL – Singapore)
- Gammon Pte. Limited (GPL)
- Dongguan Pristine Metal Works Ltd. (Pristine)
- Entasis Limited (Entasis)
- Lambeth Associates Limited (Lambeth)
- Gammon Plant Limited (Gammon Plant)
- Into G Limited
- Digital G Limited

Gammon also has a 25% investment in a leading Vietnamese construction company, COFICO (Construction Joint Stock Company No.1), but since the company is not under the direct operational control of Gammon, it is not included in the scope of the report.

Structure of the report GRI 101 GRI 102-54 GRI 102-56

Following the Highlights and this section, the report presents additional key activities and case studies from 2017 and includes our formal management approaches and disclosures in line with the Global Reporting Initiative. The information is organised under the 4 pillars of Gammon's Sustainability Framework:

- Zero Harm (health and safety)
- Strong Relationships (social dimension)
- Prosperous Markets (economic dimension)
- Environmental Stewardship (environmental dimension)

The final section of the report explains how we are looking towards the future for our new sustainability strategy and how we are planning to support the achievements of the Sustainable Development Goals. A summary of our stakeholder engagement process and determination of material issues as well as the GRI content index and key performance indicator data are provided in the Appendices A to C. Appendices E and F provide details of our awards in 2017 and an updated list of our green building projects respectively.

This report has been prepared in accordance with the Global Reporting Initiatives (GRI) Standards: Core option and is our first report that has transitioned from GRI G4 to the GRI Standards. The report has been externally assured as detailed in Appendix F.

ZERO HARM

2017 activities and case studies

Our safety performance

We achieved further improvement in our accident incident rate throughout 2017 with the figure dropping to stand at 3.7, the lowest we have recorded. Sadly, however, a subcontractor on one of our Hong Kong projects was involved in a fatal accident. The incident involved working at height, which remains one of our key areas of focus, and we have since committed to changes in site procedures to ensure it does not happen again.

The incident serves as a reminder that we cannot be complacent. We have a moral obligation to ensure everyone on our sites is fully equipped with the necessary knowledge and equipment to carry out their work in a safe manner, and that they do so in a safe environment. We also must make sure that due care and attention is given to risk assessment, clear and detailed worker briefing and we provide adequate supervision. We are fully committed to carrying out any improvements to achieve this aim.

As an industry leader, we must dispel the myth that being safer is costly or makes site activities take longer to complete, and by doing so we hope to influence other construction companies to invest more in their safety management systems. A comparison of our 2017 accident-incident rate with that of some of our closest competitors shows we have made considerable improvements which gives us confidence our approach is working. Zero Harm is our pledge, however, and we will keep investing in our safety systems until we achieve this goal, out of the greatest respect for our workers.

Industry collaboration

As part of our drive to reduce the risks associated with working at height, we have been working in collaboration with companies who make platforms and stairs. This has given us the opportunity to develop access solutions or make design amendments that accommodate specific onsite concerns for improved safety.

On our Express Rail Link West Kowloon Terminus project, for example, we worked with scaffolding company PERI to develop what was the largest birdcage scaffold in South East Asia. Utilising BIM, a scaffold design was created to address the specific site constraints, as well as provide safe and easy-to-access working platforms for our workers.

In 2017, we also joined the International Powered Access Federation (IPAF) which opened a Hong Kong chapter, with Gammon Director Tony Small as its chairman. The IPAF promotes the safe and effective use of powered access equipment worldwide and the new Hong Kong branch will provide a local opportunity for the sharing of ideas and promotion of safety campaigns and best practice across the industry.

Driving the right safety culture

We have been using safety apps for dynamic risk assessments (DRA) and near-miss reporting since 2013 but in 2017 we streamlined our reporting tools so they could operate on the same platform, through one of our latest technological innovations: Gambot™, a software robot that can capture large amounts of site information accurately, integrate with our site diary and issue reports quickly.

Gammon Director Tony Small confirms that the ease and convenience of reporting internet-based DRA (iDRA) through Gambot has improved our safety process management significantly.

"By using the Gambot-based iDRA, for example, project teams can monitor more readily the volume and quality of the DRA," he said, "providing assurance it is being carried out well and identifying frontline staff that require coaching from the safety team."

Director Tony Small

During the process of streamlining our safety reporting, we also welcomed feedback from operations staff on areas for improvement. One of the most interesting comments from the team was that the term 'near miss' was seen as negative and therefore discouraged reporting. Rather than being viewed as an opportunity to make improvements, it was being misunderstood as a report on a serious potential incident.

As a result, we renamed the tool and reporting process to that of 'safety observation', and the results have been dramatic: we now receive an estimated ten-fold increase in observations, with staff feeling they are contributing in a more positive manner to improving safety conditions.

AWARD-WINNING SAFETY PRACTITIONER

Zachary Kiu was the proud winner of the Site Safety Practitioner Award at the Hong Kong Lighthouse Club Annual Contractors Dinner and Safety Awards in September.

A senior safety officer on our LOHAS Park Package 9 contract, Zachary worked in our health and safety department during his final year of university holidays. Once graduated, he was offered full-time employment and has been steadily progressing his career throughout the 11 years he has been with Gammon.

In Zachary's winning submission to the Lighthouse Club, he summarised what he believes are his three strongest character traits, helping him to become a good safety practitioner: problem solving, fresh thinking and the courage to face failure, which he briefly summarises below.

- "Whenever I raise a problem, I also make at least one suggestion for how it can be solved.
- Just because something is common practice, it doesn't mean it's safe.
- If you experience failure, face up to it and then make improvements so it doesn't happen again. Attributing blame does not make for the right safety culture. We need to work as one team in order to have a good safety performance on site."

Senior Safety Officer Zachary Kiu

Health and Safety and Working Environment

GRI 403 GRI 103-2 GRI 103-3

From our stakeholder engagement process, not unsurprisingly, the topics of 'safety management' and 'working environment' were viewed as our most important material issues by both internal and external stakeholders who participated in the stakeholder engagement process at the end of 2017. We present below our approach to managing safety and providing an appropriate working environment. Key performance indicators are provided in the Appendix.

As stated in our Code of Conduct[1], 'our vision is to have a workplace without injury or accident' and our business adopts a 'Zero Harm' approach in terms of planning and implementation of all projects and operations, supported by senior management's 'Bold Commitments'. Every employee understands they have a clear duty to themselves, their fellow workers and, in many cases, the public to take every reasonable precaution to set up and maintain a safe and secure working environment free from hazards. The Company has set up management systems and resources to plan, implement, control and continually improve performance in these areas. Strict wearing of personal protective equipment (PPE) when on site and adherence to the policies, manuals, procedures and safe working rules are expected of all employees and subcontractor workers. The Company does not tolerate any unsafe work practices or serious infringements or the consumption of alcohol or taking of drugs during working hours. Gammon is committed to providing as safe a working environment as possible for its staff and others working on our sites (e.g. subcontractor workers, suppliers and client teams), and will ensure that safety is always a priority over all else. As a minimum, we will comply with all applicable regulations, codes of practice and other guidelines issued by government authorities in the locations where we work. In addition, we have in-house rules (such as our Bold Commitments), standards and guidelines which often exceed the mandated requirements.

Planning for safety usually starts during the tendering stage and potential occupational health and safety risks are controlled by procedures for all major activities on site during operation. We use the 'Swiss cheese model' of safety management to provide four layers of protection, covering: design and engineering; materials, plant and equipment; process; and people. Our focus is always on designing out and avoiding risks completely rather than relying on the other three layers of protection.

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

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

Should an incident occur on one of our projects or sites, we carefully record and investigate each incident, reporting to senior management for review and follow up improvement measures and to ensure we are adopting industry standard best practices.

Our site nurses provide voluntary health checks and health and wellbeing promotional talks and our human resources team conduct regular informal 'caring visits' to sites to give employees the chance to share their suggestions and to listen to their concerns. There are also mechanisms for staff to feed back to the company through various avenues such as periodic employee surveys, 'caring visits', email and telephone hotlines, mentors, and a formal grievance mechanism.

We try to go beyond compliance and the local industry norms in terms of rest areas, welfare facilities and in some cases recreational facilities on our projects. This is encouraged and

[1] See www.gammonconstruction.com/en/upload/doc/sustainability/Code_of_Conduct.pdf for our Code of Conduct

incentivised through our in-house Green and Caring Site Commitment Scheme where sites try to set a leading example to achieve our highest 'Green Flag' status.

We operate a comprehensive Business Management System (BMS) which incorporates the requirements of an Occupational Health and Safety System that is certified under OHSAS 18001: 2007. This system, including the formal internal and external audits as well as our in-house System Assurance Validation process, project assurance programme and management review process, allows us to evaluate our health and safety management system, its effectiveness and how to improve our practices.

Workforce Represented in Formal Joint Management – Worker Health and Safety Committees G403-1

To improve the standards of safety at work, full cooperation and commitment of workers and foremen are absolutely essential. Hence, these employees must be able to participate in the making and monitoring of arrangements for safety at their place of work. The establishment of Site Safety Committees (SSC) in which these employees and the management of the contractor and sub-contractors are represented can increase the involvement and commitment of these employees and workers and ensure the practicability of any new measures proposed. Gammon therefore sets up an SSC in each project and holds meetings at least once a month to drive improvement of occupational health and safety in the workplace and to listen to concerns raised. We ensure all the subcontractors' representatives attend the monthly SSC meeting in our projects. This means 100% of workers are represented by formal joint management-worker health and safety committees.

Customer Health and Safety and Compliance of Products and Services

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

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

As also reiterated in our Code of Conduct, we treat compliance with health, safety and environmental protection regulatory requirements applicable to our business as a minimum standard expected to be adhered to by all employees. BMS processes ensure all applicable legal requirements are identified and actions put in place to ensure compliance. Our staff are required to obey the law and follow all applicable regulations.

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

Procurement is a key area where we must be meticulous in ensuring the health and safety of the materials and products we use and avoid any products with harmful substances. Our Sustainable Procurement Policy and practices extend the Zero Harm approach to product and service sourcing to ensure the safety of our customers and the wider public.

We are constantly looking for improvement in the products and projects we deliver across many areas, including worker safety, productivity, product quality and durability, cost, resource use, waste generation, carbon footprint, programme, etc. Customer health and safety is also one aspect we strive to improve, but this must be within the constraints of the customers' contract specifications. We will always propose alternative designs and materials where we believe customer health and safety can be improved. These opportunities

for improvement are often identified through our risk and opportunity management process and we raise these with our clients as and when they are identified.

Our BMS also includes our Quality Management System and Environmental Management System and is certified against ISO9001: 2015 and ISO14001: 2015. It also includes our Energy Management System which has been certified for selected project types against ISO 50001: 2011. Our soil laboratory at the Gammon Technology Park in Tseung Kwan O is also certified to ISO/IEC 17025: 2005 and is a certified HOKLAS laboratory for testing of construction materials and calibration. Our steel fabrication at our plant in Dongguan combined with Lambeth engineering design has been awarded a CE Mark in 2017 certified against Execution Class 4 under the EN1090-1: 2009 + A1: 2011. Our concrete batching facilities are also certified against QSPSC: 2014. We are one of the few companies globally to have had our information management using BIM certified against PAS 1192-2: 2013 and have been awarded the BSI Kitemark. We also verify our greenhouse gas emissions inventory against the ISO 14064-1: 2006 guideline annually.

bsi. BIM Design and Construction KITEMARK™

HKAS HOKLAS

bsi. ISO 9001 Quality Management FS 612827 | ISO 14001 Environmental Management EMS 612828 | OHSAS 18001 Occupational Health & Safety Management EOHS 612829

These standards, systems and the associated audits, as well as our in-house System Assurance Validation process and project assurance programmes, allow us to evaluate our BMS and management approaches, their effectiveness and how to improve our practices. The performance of the business, successes and shortcomings are normally communicated directly from Senior Management to the management teams through regular briefings where dialogue is encouraged. Management teams are then asked to cascade these findings to every level of staff and these are supplemented by other messages from the Corporate Communications team and staff circular emails. Every year we have a formal 'Lessons to Learn' workshop where managers share insights and propose improvements through a Lessons to Learn Action Plan each year. A summary version of our Sustainability Report is sent out in the form of a leaflet and posters on site to all key subcontractors and suppliers. Each year there is also a Sustainability Briefing provided by the senior managers from the Sustainability Team to all main project sites and offices.

STRONG RELATIONSHIPS

2017 activities and case studies

Our people

Attraction, retention and the development of our people and providing the right working environment for staff to thrive is critical to the success of our business and were identified as such in our stakeholder engagement exercise. How we responsibly manage and support our people also affects our ability to influence the industry, engage with our supply chain, and make a positive impact on industry-wide issues such as the labour shortage. Below we present examples of efforts in these areas from 2017 and highlight some of the achievements of ongoing programmes.

Revamping our learning facilities GRI 404-2

In 2017, we launched the Gammon Academy's iLearn, a customised learning interface for each staff member that provides them with greater control over their learning path and progression. Staff can browse and enroll in upcoming courses, take advantage of the e-library, outside resources, external seminars and events, and print their own certificates. Managers can also monitor staff progress through the facility.

At the same time, Gammon Academy, which offers structured curricula, was revamped such that each business unit was empowered to create a curriculum that best suited its needs. Six colleges were created, each with its own dean and faculty members, to support the corresponding business units of Civil, Building, Construction Services Design, E&M, Foundations and Singapore. Further training programmes cover areas such as management, safety, leadership and courses for new starters.

One of our newer courses, Bar Bending Schedule, was developed by the Civil College to meet its own site requirements. The course teaches staff the process of bar bending so they can better schedule requirements and supervise activities to maximise usage and minimise waste onsite.

Staff engagement

We believe it is important to give our staff the chance to voice their opinions freely and in depth on important business, economic and social issues directly relevant to them as members of Gammon and the construction industry.

One of the ways we do this is through a new forum called Shall we Talk, where government policies and plans are discussed through a number of workshops held in each division of the company.

In 2017, we held four Shall We Talk forums to discuss the following government initiatives: Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030; the Sustainable Lantau Development Blueprint; Guangdong–Hong Kong–Macao Cooperation in the Development of the Bay Area; and Environmentally Friendly Linkage System for Kowloon East.

In total, around 120 staff took part in the workshops, providing an empowering opportunity to share constructive suggestions on important issues that can be referenced for corporate or business planning and to build the company's position for submission as part of public consultations.

CEO Graduate Prize

Launched in 2010, the CEO Graduate Prize is an annual innovation competition that encourages our young graduates to demonstrate their creativity. Three ideas were deemed winners in 2017's competition, with each receiving HK$10,000 and an overseas field trip. The winners were:

- **Gammon DIY soil investigation (SI) piling rig** by Jaycee Chen, Assistant Mechanical Engineer. Taking an old SI rig ear-marked for replacement, Jaycee made design improvements to fulfil needs raised by frontline operators. The modular design enables easier assembly and dismantling for fabrication, and the rig is smaller in size yet stronger in power output when compared with other products on the market.
- **Progress Synchronisation** by Savio Lam, Assistant Building Engineer. Savio's spreadsheet programme improves project management and ultimately overall project progress. Features include changing colours to alert engineers to outstanding tasks, as well as easy updating of status using buttons for designated activities.
- **T Frame**, a lifting frame for bored pile rebar cage fabrication, by Andy Fung, Assistant Engineer. Andy's T Frame is a lifting arm combined with working platform that improves safety, can serve two fabrication beds, allows lifting operations and reduces fabrication time. It was produced using predominantly recycled materials and can be reused on different sites.

Left to right: Jaycee Chen, Savio Lam and Andy Fung

ABC Mentoring

ABC Mentoring development team: Winnie Ho and Christie Chan

A Gammon idea was one of only 11 selected for funding from 6,500 submissions in the 2017 Innovate Jardines

Future of Work Challenge. The innovative idea, ABC Mentoring: Autonomous, Borderless and Credible Mentoring Solution – was chosen after a rigorous week-long Innovate Bootcamp run by Jardines.

ABC Mentoring proposes the use of a digital platform where mentees can view the profiles of potential mentors and make their own choice, rather than being matched by the human resources team. The platform could also be used to set milestones and chat online with mentors.

The creative team behind the ABC Mentoring idea has already embarked on the Proof of Concept testing phase required by Jardines, where they will assess the viability of their idea. A number of focus groups have already been held throughout the year to discuss the digital concept, as well as to determine the role mentoring plays within Gammon.

The Chairless Chair

We constantly seek ways to improve conditions for workers and staff on our project sites and this has resulted in our adoption of the Chairless Chair.

Originally designed and developed for the car manufacturing industry, the Chairless Chair is a wearable passive exoskeleton attached to the back of the legs that enables wearers to walk around, but quickly move into a supported squat, crouch or seated position, as required.

The Chairless Chair will be particularly beneficial for workers performing tasks such as welding, concrete cube production, plastering and painting, where prolonged standing, crouching or bending can affect back and leg muscles.

Learning to manage stress

In 2017, in response to findings from our first Happiness Index survey, we introduced a new focus to our healthcare programme: mental health and happiness.

Staff were invited to take part in an online stress level quiz, called the Stress-O-Meter, which was well received but did show that some of our team feel the negative effects of stress. While the quiz provided suggestions for managing stress levels and links to online tips, the health team has also begun rolling out workshops to help.

Staff take part in a Zentangle workshop, a form of self-help art therapy

Examples of workshops already held include Zentangle, as part of Sustainability Month, which is a form of self-help art therapy known to be calming and soothing, and talks on the benefits of alcohol reduction to improve stress management. Mental health workshops have also been developed and delivered for project sites.

Tackling the labour shortage issue

Attracting young talent, maintaining a low attrition rate and upskilling workers are key areas of concern for the construction industry worldwide as it struggles to deal with chronic labour shortages. Hong Kong is no different, and our stakeholders have identified labour shortage as a material issue as it affects the fundamental sustainability of the construction industry and the business itself. At Gammon, we address these issues through a number of avenues.

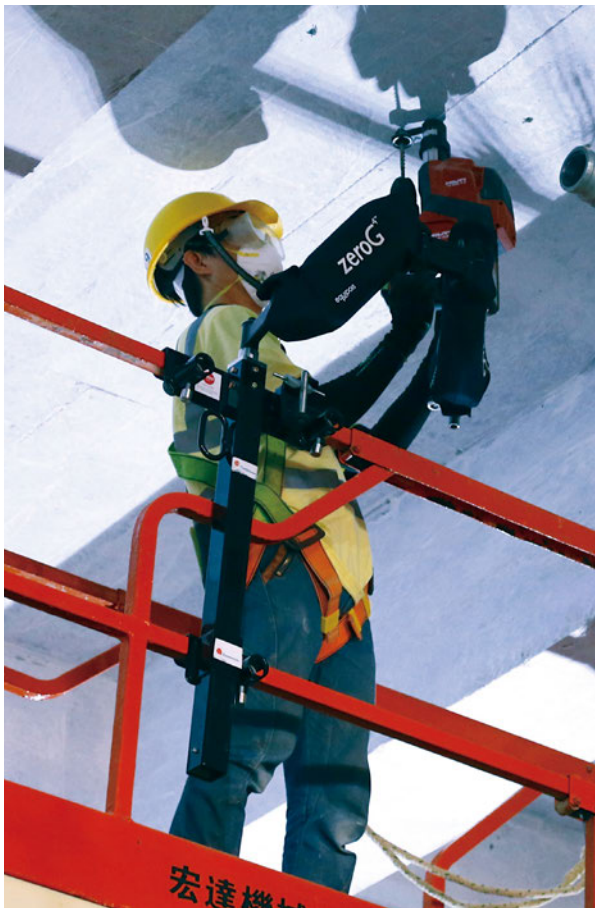
- **Attracting young talent with technology**

Embracing the latest technology is part of the Gammon culture but by doing so we are not only creating new ways to be innovative and productive onsite, we are also hoping to attract and retain young talent.

The construction industry is commonly perceived as involving physically demanding and often dirty works, however the advent of new technology means we can present construction as a more appealing choice for the younger tech-savvy generation, as well as attract a greater diversity of people. In our new Digital Transformation team, for example, one of our newest recruits is from the gaming industry. His role: to help make the interface of our new computer-based innovations more appealing and easier to use through the use of gaming technology.

Already our advanced use of building information modelling (BIM), drones, 3D scanning, 3D printing and photogrammetry, to name just a few of the technologies we employ, presents construction as a much more sophisticated career choice.

Gammon also leads the way in the use of robotic devices in the Hong Kong construction industry and this too will bring new specialties to the industry including design, programming and robot maintenance to appeal to a wider range of young people.



It's not all about graduates, however. We can also attract more skilled and unskilled workers to the industry by enabling them to perform their jobs more safely and productively through our use of robotic devices such as Exoskeleton Suits, which support the body to lift heavy loads, and Zero-G arms, to improve the manoeuvrability and support of heavy hand tools.

Some detractors express concern that technology and automation may lead to job losses in the construction sector but with a rapidly aging workforce and the current shortage of skilled labour, the use of technology may well open more doors than it closes.

- **Providing opportunities through training** GRI 404

We have introduced a new master apprenticeship programme in coordination with the Vocational Training Council to help address unique gaps in the market that have proved difficult to fill simply through the hiring and existing training process.

A skills-based apprenticeship, the new master apprenticeship differs from older schemes where workers typically become 'jacks of all trades' and therefore less able to progress their career.

Currently the scheme provides a three- to four-year façade design course, as well as 'multi-skilled plasterer' training that incorporates bricklaying and tiling and will take about two years to complete. It will be updated with new skills as required to grow the business.

The increasing use of technology on our projects also adds a new dimension to our upskilling requirements. The facade design course, for example, will include training in the use of BIM.

As Gammon Executive Director Edmond Lai points out, we need to encourage the industry by leading. "A lot of contractors aren't willing to spend the time training workers but if everyone thinks like this, construction will not be a sustainable industry. We will have skills gaps forever."

- **Providing a social network and professional development opportunities** GRI 404

Our Young Professional Group (YPG) was revamped in 2017 to better meet the needs of our young staff. Established almost 20 years ago, the YPG steers the professional development and social engagement of members, fostering them to be all-round young professionals who are adaptive to the ever-changing construction industry.

Recent changes include giving more freedom of management to the YPG committee members, which will also serve as part of their professional development. The group has also pioneered joint activities with other construction companies in order to foster knowledge sharing and expand members' networks at an earlier stage. Examples of joint activities include a visit to the Liantang/Heung Yuen Wai Boundary Control Point project (see picture) and the 2017 Christmas Party.

Executive Director CC Hau, joint adviser to the YPG and key driver behind the revamp, said the number of technical seminars on offer for members had also increased. "We want them to gain a better understanding of engineering and its impact, particularly on the community, and how they can make a difference to those living in different parts of the world," he said.

Executive Director CC Hau

Technician apprentices gain overseas exposure

We sponsored three of our young technician apprentices (TAs) to take part in a two-week programme at Warwickshire College in the United Kingdom. Organised by the Vocational Training Council in Hong Kong, the International Exposure Programme for Apprentices aims to give TAs the opportunity to gain overseas experience and exposure by studying short-term technical and practical courses and visiting local institutions and companies.

Gammon's Tristan Lai, Tom Lo and Ivan Cheng visit a construction site in Birmingham

Course subjects included those on computer aided design, BIM and sustainable development, and renewable energy. Our TAs also visited local construction sites, were addressed by guest speakers and given guided tours of places of historical interest.

Corporate social initiatives

The butterfly effect

Back in 2012, Gammon volunteers celebrated the completion of a nine-month community service project to upgrade 218m of footpaths at the Fung Yuen Butterfly Reserve in Tai Po which provides an important habitat for more than 240 species of butterfly. In 2017, our Young Professionals Group and Next Generation Panel on Sustainability organised a return to the reserve, to carry out a three-month volunteer project to extend and restore a further 155m of pathways that had deteriorated due to wear and erosion.

The butterfly reserve volunteer projects were special not only because they involved staff at all levels of the company, but also because we were able to provide sustainable solutions by making use of waste concrete for the remedial works. In total, 17 tonnes of waste concrete was reused to make paving stones for the restoration work.

Volunteering also allowed our young engineers to practise project management skills, provided an opportunity for team building, and gave staff the opportunity to protect the butterfly habitat while improving access for the public to enjoy these beautiful creatures.

Supporting the provision of learning opportunities

We have been working with a business-in-community initiative that encourages students of disadvantaged backgrounds to pursue higher studies and future careers. Called Project WeCan, the Wharf (Holdings) Ltd programme aims to fill the information gap between education and business sectors, as well as inspire students to plan for the future and understand different career options via job tasters and career talks.

In June, we attended the initiative's Career Exploration Day to give students a glimpse of jobs available in the construction industry, as well as let them have some fun by trying on PPE. To further their understanding of what engineering involves, we also set the students a challenge to work together to construct something from building blocks.

With 15 schools taking part in the event, this was a valuable opportunity to empower the students through increased knowledge, as well as promote the construction industry as a viable career option.

ChinaChem Eco Walk

One of the largest single-day eco activities in Hong Kong, the ChinaChem Eco Walk has attracted over 24,000 participants since its debut in 2011. Gammon staff took part in both the February and November Eco Walk activities last year, helping to raise funds for the St James Settlement People's Food Bank, as well as for the World Green Organisation for a School Electricity Benchmarking Tool which helps local schools benchmark their electricity usage and drive energy conservation.

Help for the elderly

Despite their own busy schedules, the Tuen Mun Chek Lap Kok volunteer team spent a portion of their free time in December to repair homes for the elderly living in the remote areas of Sai Lau Kong and Kat O, as part of a new Tung Wah Group of Hospitals and North District caring programme. Our volunteers carried out renovations at the fishing villages, including installation of lighting and handrails, rebuilding of the access road, ramp and washrooms.

Gammon Walkathon to Guangzhou

The Gammon Walkathon to Guangzhou is an annual charity event created by our Building Division in collaboration with Hong Chi Association to raise money for people with intellectual disabilities. The three-day journey raised over HK$225,000 from Gammon staff and business partners in 2017.

Our supply chain GRI 102-9

Procurement assessment against ISO 20400

One of our headline achievements in 2017 was becoming one of the first Asian companies to be assessed against ISO 20400 Sustainable Procurement – Guidance. Conducted by third-party evaluators Action Sustainability, the assessment has enabled us to understand how procurement and sustainability can work more effectively together so we can deliver even more value to our business and clients responsibly.

It also identified areas where we can make some improvements to better encourage and manage sustainability and innovations in supply chains, and maintain our competitive edge in the construction market.

Executive Director Nigel White

"We have proactively managed the environmental and social impacts of our supply chains for many years", said Executive Director Nigel White. "The recent publication of ISO 20400 was a fantastic opportunity to benchmark our current management framework with global best practice, understand our strengths but also identify areas for improvement."

Our sustainable procurement policy was reviewed under the ISO 20400 standard and we will be revising it to take into account comments received from the third-party evaluators.

ISO 20400 was developed by around 50 nations, including our assessor, in liaison with international organisations such as the United Nations and the OECD, through a four-year consultation process.

Sustainable procurement practices recognised

In 2017, we were recognised for our sustainable procurement practices by becoming a Sustainable Consumption Enterprise under the Business Environment Council's (BEC) Fostering Sustainable Consumption for Hong Kong Business and the Community programme.

Head of Procurement Susan Siu

We were also one of the few companies to be recognised as a Sustainable Product Supplier for our low carbon concrete mixes, which have previously been awarded CIC Carbon Labels.

At the ceremony, our Head of Procurement, Susan Siu, was invited to share our experiences in initiatives such as B5 biodiesel use in plant, extension of B5 use for our mixer trucks, use of certified sustainable timber and life cycle considerations in the selection of products.

SUSTAINABLE
PRODUCT SUPPLIER
可持續產品供應商

SUSTAINABLE
CONSUMPTION
ENTERPRISE
支持可持續消費行為企業

Engaging with our supply chain GRI 102-9

Developing and maintaining good relationships with our suppliers is an integral part of being a sustainable business and many of our stakeholders agree that this is a material issue for Gammon. In addition to ongoing regular dialogue, in 2017, we held three workshops with our supply chain to communicate our expectations in a number of key areas, as well as provide an opportunity for the suppliers to discuss any issues they may have.

The supply chain workshops covered three themes: Timber Waste – Reduce, Reuse and Recycle; Collaborating on Supply Chain Innovation; and Safe Lifting, which took place in conjunction with a Safety Stand Down.

Suppliers were also invited to our stakeholders' engagement workshop and survey, where they had a chance to share their opinions on our performance.

Management approaches

Our people

Employment GRI 401 GRI 404-2

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

In order to attract, motivate and retain employees, we will ensure our remuneration packages, pay levels and fringe benefits match with or even exceed our principal competitors for talented employees.

For new employees, competitive packages are offered that recognise their individual academic and professional qualifications, relevant years of experience, job scope and responsibilities, and the appropriate grades for which they are appointed.

Depending on the specific employment terms and conditions, we offer different benefits including statutory holidays, alternative Saturdays off (or a five-day working week), annual leave, sick leave, maternity leave, paternity leave, jury service leave, study leave, marriage leave, compassionate leave, medical benefits, optional dental scheme, group life insurance, accident insurance, retirement scheme, reimbursement of professional bodies membership fee, club membership and long service awards.

The normal retirement age of all employees is 60. However, Gammon may consider offering post-retirement employment where the employee has acquired specialised knowledge and skills, and is willing and capable of making a continued contribution to the Company.

Our employment practices and procedures are governed by our Business Management System (BMS) and are reviewed as part of our management system review process. Our policies are outlined in employee handbooks for different locations and are available for both workers and staff.

Training and education GRI 404 GRI 404-2

Gammon believes investing in training is an important factor in retaining and developing high-quality human capital. Therefore, since 2003, the Gammon Academy has provided a diverse range of training programmes to develop our employees and assist them along their career path. Our training roadmap strategically divides staff into four groups: new recruits (including graduate engineers), administrative staff, middle managers, and senior management and above.

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

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

In addition, we also developed the Technician Apprentices (TA) and Craft Apprentices (CA) programmes which provide comprehensive training in various disciplines including Civil, Building, Building Services, Electrical and Mechanical and Quantity Surveying. We provide on-the-job training, skills-based training, mentorship and further education sponsorship for frontline workers and staff.

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

Gammon has adopted a three-pronged approach to meet labour shortage challenges: self-performing, upskilling, multiskilling and new blood training. Having

a permanent workforce ensures we have the necessary skilled manpower to take on new projects. Also through multiskilling, we have a more productive and flexible workforce suited to the mix of works being performed. It reduces the risk of labour shortage in key skills, while empowering workers with a broader set of skills that can be used throughout their careers to assist with continued employability.

We have an active Young Professionals Group and a Construction Supervisor and Technician Apprentice Group which provide opportunities for additional knowledge-based and social activities. Further information on training and education can be found in the KPI appendix.

Career development and support GRI 404-2

Gammon supports engineering and quantity surveying employees in pursuing professional memberships with the Institution of Civil Engineers (ICE), the Hong Kong Institution of Engineers (HKIE) and the Hong Kong Institute of Surveyors (HKIS). Fresh graduates are encouraged to enroll into the approved training schemes which are provided by Gammon, in preparation for the professional examinations. Experienced employees can apply for professional and institutes' membership via the mature routes. Fresh graduates may be required to sign an undertaking with Gammon upon enrolment to the approved training scheme. They should understand the commitment they have undertaken to satisfactorily complete the training. The obligation to complete the institutions' requirements is linked to career progression within Gammon.

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

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

Employee rights – collective bargaining GRI 102-41

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

Our Code of Conduct details our commitments to ensure the rights of our employees and provide an avenue to raise grievances. Our Code of Conduct is publicly available and can be viewed on our website[2]. Employees are allowed the freedom to join any union of their choice and the Company will not interfere in this regard. Due to reasons of privacy, we do not take records of who in our company are members of unions.

Our supply chain

Supply chain management and procurement approach GRI 102-9

As one of the largest contractors in Hong Kong, Gammon has an extensive supplier base providing a variety of products and services for our business operations. We believe suppliers are valuable stakeholders within our business supply chain and we are committed to engaging with them to build a better and more responsible future together. Indeed, supply chain engagement

[2] See www.gammonconstruction.com/en/upload/doc/sustainability/Code_of_Conduct.pdf

was identified as one of our material issues in our stakeholder engagement exercise.

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

Our procurement process is guided by our Sustainability Procurement Policy which is available on our website[3] and our process, practices and procedures are included within our BMS. Our subcontract procurement, management and administration procedures are also defined in our BMS. It is our policy to act fairly and equally in business dealings with vendors and subcontractors and at the same time to purchase responsibly and obtain the best possible value for money in procuring materials, services, plant and equipment.

A comprehensive supply chain management mechanism has been established to monitor a wide range of aspects for the suppliers and subcontractors, from product and service quality to ethical standards.

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

Local supply chain spending

GRI 102-9

Gammon is proud of delivering premium products and services to our clients. A key factor for our success is having the support from a diverse pool of suppliers and subcontractors. Whenever possible our approach includes local procurement to reduce carbon emissions arising from the transportation of materials and products, as well as targeting the creation of economic value in the local community. In 2017, we had a total of 1,677 suppliers and subcontractors. Of our HK$2,709 million supplier spend, 38.5% was spent on Hong Kong suppliers, 58.4% was with those based in Mainland China and 27% was with overseas suppliers. Almost all subcontractors are based in the locality where we are operating, with the exception of only extremely specialised skills such as heritage brickwork restoration.

Supply Chain Assessment

GRI 102-9 GRI 401-1

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

[3] See www.gammonconstruction.com/en/html/sustainability/procurement-policy.html

PROSPEROUS MARKETS

2017 activities and case studies

General market position and outlook

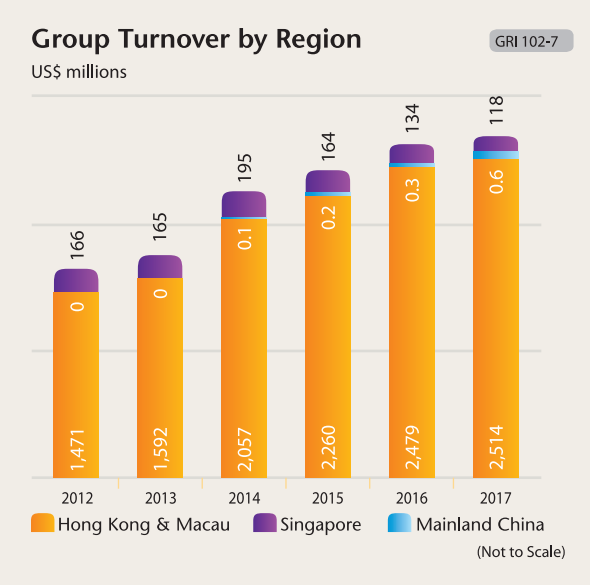
GRI 102-7

We enjoyed strong performance in 2017 and while it was not a record year for the group, our work in hand remains healthy. The major works on the Shatin to Central Link SCL1111 contract were completed in 2017 as well as the prestigious Murray Hotel renovation project, one of the eight Conserving Central projects earmarked in 2013. The ceremony to commemorate completion of the hotel project was attended by HKSAR Chief Executive, Mrs. Carrie Lam who had previously worked in the building when it was a Government office.

Major contract wins in Hong Kong included residential developments at Pak Shek Kok, Plantation Road and Ma Tau Wai Road, as well as an all-weather water world for Ocean Park Corporation and a hotel nearby. We also successfully completed Phase 1 of the Global Switch data centre project in Tseung Kwan O and have now begun work on Phase 2. In Singapore, we were also awarded another data centre for Global Switch and mechanical and electrical systems at the new Mandai Rail Depot for the Thomson Line. All our projects awarded in 2017 are listed below.

Projects awarded in 2017	Division
Commercial Development in Kwun Tong (The Quayside)	Buildings
75 Deep Water Bay Road	Buildings
Tai Po Town Lot No. 214, Pak Shek Kok	Buildings
1 Plantation Road	Buildings
Fullerton Hotel at Ocean Park	Buildings
Redevelopment at Ma Tau Wai Rd	Buildings
Advance Works for Homantin Station Property Development	Buildings
Ocean Park Water World Park	Civils
Global Switch – Buildings 3, 4 & 5	E&M
8–10 Wong Chuk Hang Road E&M Services	E&M
Hennessy One E&M works	E&M
The Link Nan Fung Commercial Building E&M	E&M
MTRCL Replacement of Chillers	E&M
MTRCL Shatin Central Link Contract 1164B	E&M
Hong Kong Jockey Club Clubhouse Extension E&M	E&M
Hang Seng Bank Headquarters A&A	E&M
Tin Wing Stop Residential Development	Foundations
Yuen Long West Rail Residential Development	Foundations
Foundations at KIL 11257, Homantin	Foundations
Industrial Estates 2.0 Programme, Project A, Tseung Kwan O	Foundations
Foundations at To Shek Street, Shatin	Foundations
Ground Investigations Marine Term Contract	Foundations
Ground Investigation – Urban and Islands Term Contract	Foundations
Ground Investigation for Lot 1066 Au Tau, YL	Foundations
Ground Investigation for Kai Tak Area 1E Site 2	Foundations
Advance Works for Kai Tak 1E Site 2	Foundations
Nexxus Footbridge	Construction Services
Mandai Depot – Mechanical and Electrical	Singapore
Global Switch Woodlands Data Centre	Singapore

The group turnover broken down by region is presented below:



Looking ahead, there are a number of exciting opportunities in both the civil and building sectors. We are well placed to work on Central Kowloon Route, West Kowloon Cultural District and Hong Kong Airport Authority's Third Runway System projects. All indications show the building market will remain strong with the private sector, in particular, booming and a continuing number of high-end developments on the horizon. Major building projects and infrastructure works are also earmarked for the Kai Tak area, and in the longer term, initiatives such as the Tung Chung New Town Extension project aims to provide around 49,000 residential flats onto the market. With the housing shortage showing no signs of abating, the government is currently studying options to increase land availability and opportunities for future construction.

Showcasing offsite construction in Singapore

Gammon was invited by the Building & Construction Authority to demonstrate the advantages of mechanical, electrical and plumbing modularisation at the national Singapore Construction Productivity Week 2017 in October.

Our Singapore team shared with the audience, which included Senior Minister Desmond Lee and construction industry dignitaries, how they have been unifying multiple single elements of MEP works into a multi-trade module fabricated offsite to improve productivity.

The team provided physical demonstrations of the connection of a ceiling module with various services, a riser module and a plant room module, all of which we are currently fabricating in our purpose-built factory established to cater for our Global Switch data centre project in Singapore.

Gammon Executive Director Hee Wee Tan (left) chats with Singapore Senior Minister Desmond Lee

We are also producing a number of precast concrete building elements in the factory for the Global Switch project. These include external walls (a Gammon innovation presented at tender stage), columns, hollow core slab floors, and structural stair and lift walls.

Our promotion of modularisation and offsite fabrication methods aligns with the vision of the Singapore Government which is currently working to transform the built environment sector. Part of its strategy includes a significant increase in the number of 'integrated construction and prefabrication hubs' in order to boost off-site DfMA supply capabilities.

Productivity enhancements

Transforming our work practices to be more productive is essential if we are to be more sustainable and this applies not only to our construction processes, but also to the way we manage information. Operational Improvements made in 2017 include those for reporting, procurement and control of labour.

ACE Dashboard

Our ACE Dashboard is a centralised cloud-based database that provides a reliable and instant source of project and management information. A sharing tool, ACE improves the visual display of our data and trend analysis and allows users to more easily appraise project progress, environmental performance, safety, personnel, materials and other statistics.

The instant access to data provided by ACE also benefits reporting activities. The finance department alone has reduced the time required to create its monthly shareholders' reports by more than 50%, as well as achieving significant savings in paper gained by accessing the documents electronically instead of as hard copies.

By the end of 2017, the system had around 400 users and further development is planned, including extending its mobile capacity by promoting its use on tablets.

Paperless procurement

We have also begun the process of moving to a digital and automated procurement process. Since March 2017, purchase orders have been generated electronically in PDF format and automatically sent to the supplier. With the addition of an automatic archive system, printing is no longer required and human input is significantly reduced. Currently, we estimate paperless transmissions account for around 70% of the total process, and we will continue fine-tuning the system to achieve 100%.

The next step is to digitise all catalogues so that codes will transmit automatically into an order, complete with the correct terms and conditions relevant to the purchase.

Labour Allocation Scheme (LAS)

A web portal and mobile app, our LAS integrates with onsite handkey systems in order for supervisors to verify workers' timekeeping and assign their activity and location, eliminating the need for paper forms and their preparation, distribution and collection. Further integration with the payroll system enables instant verification of hours worked and streamlines the entire payment process so that manual data entry is no longer required.

Monitoring and control of labour overtime and resource allocation is greatly facilitated, and site management can make use of the web enquiry and reports for improved labour cost control as well as productivity enhancement.

Gammon achieves Hong Kong's first CE mark for structural steel

In 2017, Gammon became the first organisation in Hong Kong to achieve the highest level of European Union certification for its structural steel: the CE Mark EN 1090 (EXC 4).

CE Marking has been mandatory for all fabricated structural steelwork used within the European Union since July 2014.

Left to right: Gammon Group System Assurance & Quality Manager Bread Lin and Pristine Deputy General Manager Loo Ping, Enoch Lee of BSI, and Gammon Executive Director CC Wai

Executive Director CC Wai commented: "Not only does the certification reward our commitment to continuous improvement of the quality and safety of our structural steel, it also enables our clients to achieve the highest level of international compliance."

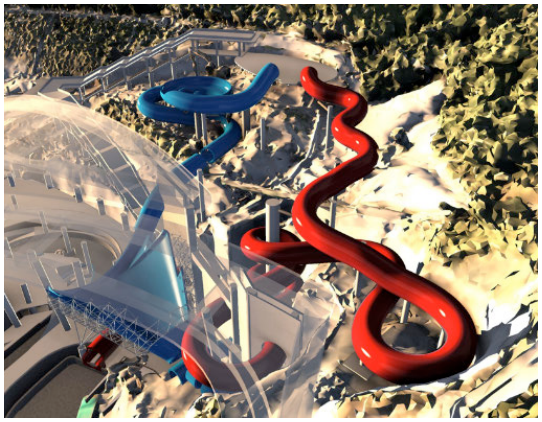
The execution classes for the CE Mark range from 1 to 4 – the higher the class, the more stringent the factory production control must be.

To achieve Class 4 certification, our structural steel facility – Pristine Metal Works in Dongguan, China – and in-house engineering consultancy Lambeth were assessed for their capability in the following areas: welding personnel and equipment; initial type calculation/test; structural design process; constituent products used in manufacture; component specification; and non-conforming products.

EXTRA DIMENSIONS ON THE TAI SHUE WAN WATER WORLD PROJECT AT OCEAN PARK

The latest in digital technology is being used on our Water World project at Ocean Park to provide better planning and productivity advantages and greater programme control.

Photogrammetric analysis was utilised during drone flyovers of the site to measure the landscape and provide a thorough site survey. This was then incorporated with the building information model (BIM) at different phases of site formation to monitor the change and impact of design elements during construction.



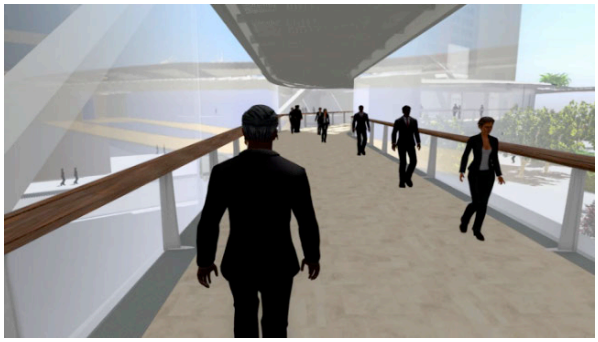
Time-related information has also been associated with different components of the BIM to create a 4D simulation based on the project's programme. This 4D BIM visualisation provides both the client and the team with an overall idea of the project's construction sequence in a more realistic and understandable manner. Additionally, the team can easily identify areas of potential delay or advance planning activities in order to meet schedule requirements or optimise the programme. It is also a significant improvement over the traditional time-consuming approach of cross-referencing construction programmes to 2D drawings.

The team has also been able to provide many simulations of 'what if' scenarios prior to commencing construction to produce optimum sequences, as well as use the technology for safety hazard identification and awareness.

4D BIM also allows the team to compare planned with actual performance on the project and to track progress to ensure multiple critical activities are worked on. Look-ahead scenarios from the current construction situation can also identify any emerging critical paths which are automatically identified by colour.

Virtual reality walkthroughs

Making changes to a structure once construction has begun is not only costly and time-consuming, it also results in material wastage. However, our use of virtual reality (VR) technology combined with the BIM model is providing us with the opportunity to give clients and interested parties a fully immersive experience of a space in a three-dimensional environment, to ensure their full satisfaction with the design before works begin.



Over the past year, we have carried out two VR-walkthroughs. On our Taikoo Place project, the client donned a VR-mounted display to 'step' into a virtual space and experience a walk across one of the elevated link bridges that will eventually connect the high-rise to the surrounding buildings.

We also carried out a VR-walkthrough on our Fat Cheung St foundations project, to improve visualisation of the site arrangement for improved safety and to assist during the planning process.

VR has huge potential in the construction industry and we have already embraced its use to provide immersive safety training. Now, we can use the level of clarity BIM and VR provides to benefit earlier and more confident decision-making by us and our clients. We see huge opportunity to work with clients and architects to fix designs early, avoid late changes and abortive works and ultimately adopt DfMA and even modular construction offsite. This will provide major environmental benefits as well as save time and cost.

Sharing our vision of a digital world

In November, over 200 people including clients and staff attended our fourth Digital Construction Conference. Organised annually, the conference aims to share the latest in global best practices and the possibilities provided by digital transformation within the construction industry.

The theme for 2017 was 'Present to Future' and featured a cross section of overseas speakers and our own internal talent. Topics covered sensors, robotics, building information modelling, cloud computing, design for manufacture and assembly, and artificial intelligence.

Management approaches

Governance

Governance structure GRI 102-18

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

ExCo reports to the Gammon Board which includes ExCo and shareholder representatives. The shareholders are also engaged in the Risk Management and Compliance Committee which meets three times a year with select members of ExCo, our Legal Director, Company Secretary and relevant staff as required.

The ExCo is responsible for decision-making on sustainability issues that are addressed weekly at the Safety, Environment &

Gammon management organisation chart

Remarks

Lambeth
Engineering design services

Construction Services
Plant and equipment, steel fabrication, concrete technology.

Entasis
External facades and general contractors

Digital G
Technology and innovation

Into G
Interior fit-out & contracting

Sustainability Roadmap 2020

Gammon will be the industry leader and an agent of sustainable construction', our Sustainability Roadmap 2020, and our six strategic themes (see left), a Sustainability Action Plan (SAP) has been developed for which the ExCo has overall responsibility. The ExCo is responsible for setting targets, metrics and reviewing the implementation of the SAP every half year. Day-to-day operational activities aimed at achieving the actions in the SAP occur across the business units, supported by the Environment and Sustainability Team, as required. The context of our Sustainability Roadmap 2020 and progress of SAP implementation are presented in previous Sustainability Reports since 2012, which can be found on our website (www.gammonconstruction.com/en/html/sustainability/report.html). The Highlights section of this report presents the progress on the original objectives and targets for the Sustainability Roadmap 2020 and we will be updating our strategy during 2018

Assurance Committee meeting which is led by the Director for Health & Safety, Sustainability, Systems & Audit. At the operations level, actions are mainly driven and supported by the Group Sustainability Manager, the Environment & Sustainability Team, the Project & Operations Working Group and the CSR Committee.

Guided by the sustainability vision (established in 2012), 'By 2020

to look towards 2030.

Our shareholder Balfour Beatty reviews our progress and data using self-assessment and annual reporting. A third-party assessment is undertaken to audit our greenhouse gas emissions before they are submitted to CDP (formerly the Carbon Disclosure Project). Through forums and active roles in industry associations and societies, we have taken a leadership role not just for the promotion of Gammon's interests but for the betterment of the industry as a whole (see Association memberships and commitments below).

Values and norms of behaviour GRI 102-16

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

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

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

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

Through the Gammon Way and by operating our business responsibly, we hope to deliver the desired level of quality expected by our clients reliably, safely and responsibly. Indeed, to be the contractor of choice we *must* ensure our clients' satisfaction, and improving that level of satisfaction has been identified as a material issue by internal and external stakeholders. We trust the many efforts we are making as outlined in this report, through engagement, leadership, collaboration and innovation, demonstrate our determination and commitment to more than satisfy our clients' expectations.

Managing Risk GRI 102-11

Our risk management approach covers all elements of our operations including tenders, projects, functions, and corporate level operations (e.g. through our Risk Management and Compliance Committee, as mentioned above). The process forms an integral part of our BMS and is formalised and documented in our Risk and Opportunity Management procedure. In addition to business, health, and safety-related risks, we pay particular attention to environmental risks and this is addressed in our Code of Conduct as follows: 'We shall adopt a precautionary approach in our operations and conduct an environmental review for every new undertaking to identify the significance of impacts associated with the activities under our control. A risk management process will also be applied whereby actions will be taken to identify those potential threats of serious or irreversible environmental damage and to deal with them using best available technology taking into account what is technically feasible and economically viable within our influence and customer requirements.' We also have plans and procedures in place for extreme weather events, business continuity planning and crisis management.

Anti-Corruption GRI 205

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

mechanisms.

Corruption risk assessment

Our business risk management programme covers corruption risk with a separate corruption risk assessment covering aspects such as bribery, fraud, fair competition, gifts, and conflicts of interest. The assessment is based on various activities undertaken during the course of our business (e.g. bidding for work, selecting subcontractors and suppliers, seeking payment or approvals etc.) and includes potential variation of risks outside Hong Kong. It is also a requirement of our shareholder Balfour Beatty that we follow their Ethics and Compliance Programme which includes corruption risk.

Conflict of interest

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

Charitable donations and sponsorships

Our Code of Conduct describes how we ensure that charitable donations and sponsorships are not used as a disguise for bribery, as follows: 'The Company ensures that charitable contributions and sponsorships are not used as a subterfuge for bribery. All charitable contributions and sponsorships shall be subject to Chief Executive approval (or in accordance with the Group Delegation and Limits of Authority) with clear expressions of intent, shall be transparent to interested parties including all employees, shall be fully accounted for and made in accordance with applicable law.

The Company, its employees or intermediaries shall not make direct or indirect contributions to political parties, party officials, candidates or organisations or individuals engaged in politics, as a subterfuge for bribery.' Further guidance on charitable donations and sponsorships is provided in our Corporate Communications procedures within the business management system. Guidance is provided on the focus areas that Gammon wishes to support, the funding criteria, organisations that Gammon will not support, submissions of proposals for funding, and the assessment and approval process. The issue of gifts and hospitality is also included in our corruption risk assessment.

Training GRI 205-2

As stated in our Code of Conduct (the Code), 'Employees shall receive specific training on the Code tailored to relevant needs and circumstances. Where appropriate, subcontractors and suppliers shall also receive instruction or briefings on the Code. Training activities shall be assessed periodically for effectiveness.' Integrity (including anti-corruption) and our Code of Conduct are included in induction training for all new staff members. We also have additional briefings with key staff associated with approvals, commercial aspects, procurement and estimating. We have Code of Conduct requirements for subcontractors and suppliers, and provide specific briefings as necessary.

Scale of the business GRI 102-7

Quantifying our products or services is highly complicated due to the varied and integrated nature of our business. We have therefore provided information on our turnover and number of active projects during 2017 earlier in this section and in our KPI table (Appendix C) as well as the total number of employees broken down by region. Our current project listing of all ongoing projects can be found in our magazine, *The Record*, which is published twice a year and can be found on our website at: www.gammonconstruction.com/en/html/press/publications.html. 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.

Association memberships and commitments GRI 102-13 GRI 102-12

In order to support the industry, advocate for change, and drive improvement, Gammon's staff have memberships of various external industry, professional and business organisations and Government bodies and support these organisations in governance, advisory or participation in committees or initiatives etc. Memberships of these organisations and committees is particularly important as it provides an opportunity for the business to learn and share knowledge, promote best practices, and influence the industry for good. Our stakeholders view our role as influencers within the industry as a material issue and we take the same view that we must be proactive, challenge industry norms and strive for greater, more sustainable progress. The list of external organisation memberships are shown in Annex 2.

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

External Principles and Charters since 2005

Date	Principles/ Chartered	Organisation	
2005	Clean Air Charter	Business Coalition on the Environment (BCE)	http://www.cleanair.hk/eng/business_clean_air.htm
2007	Occupational Safety Charter	Occupational Safety and Health Council	http://www.oshc.org.hk/eng/company/safety_contract.asp#
2007	Clean Air Charter	Hong Kong Construction Association	
2008	Carbon Reduction Charter	Environmental Protection Department (EPD)	http://www.epd.gov.hk/epd/tc_chi/climate_change/ca_partners.html#G
2009	Charter of Construct Our Future, Pledge and Prosper Campaign	Hong Kong Construction Association	
2012	WBCSD Manifesto for Energy Efficiency in Building	Business Environment Council	http://www.wbcsd.org/Projects/Energy-Efficiency-in-Buildings/Resources/Mani
2014	Hong Kong Green Purchasing Charter	Hong Kong Green Council	http://www.greencouncil.org/en/page.php?sub_id=23
2016	No Car Day 2016	Friends of the Earth (HK)	http://web2012.foe.org.hk/e/content/cont_page.asp?content_id=1715#.WwzYPGcUl
2017	Code of Practice against Discrimination in Employment on the Grounds of Sexual Orientation	Constitutional and Mainland Affairs Bureau	http://www.cmab.gov.hk/en/issues/code_of_practice.htm
2017	Pledge to Support the Development of Qualified Environmental Professionals	Hong Kong Institute of Qualified Environmental Professionals Limited	
2017	Biz Green Dress Day 2017	Hong Kong Green Building Council & Construction Industrial Council	

ENVIRONMENTAL STEWARDSHIP

2017 activities and case studies

Energy, carbon and air emissions

Decoupling carbon from growth GRI 305-4

As we have grown, diversified and become more carbon efficient (for example, the switch to B5, more efficient plant and lower carbon intensive services such as E&M), we have also seen an encouraging reduction in carbon intensity indicating a decarbonisation in the business or 'decoupling' of carbon emissions from growth in revenue.

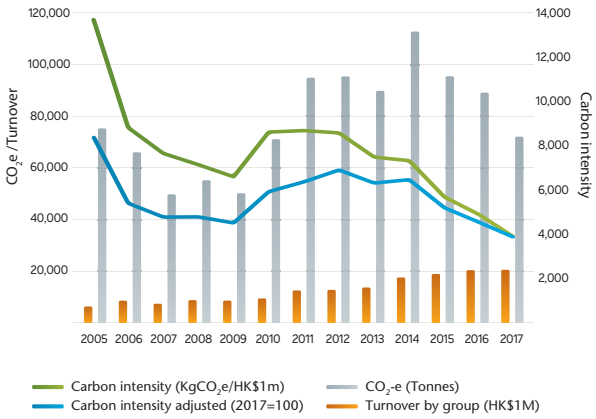
If we use the same 2005 baseline to align with Hong Kong SAR Government target (50-60% carbon intensity reduction / dollar of GDP by 2020), we have grown by around 220% but our carbon intensity (Scope 1 and 2 emissions) per dollar of turnover has reduced by a substantial 70%. The Hong Kong Construction Association also set a carbon intensity target of 25% reduction by 2020 based on a 2010 baseline. For the same period, we have already achieved 53% carbon intensity reduction up to 2017, double the target set.

Target (baseline year)	Carbon* intensity reduction target	Carbon* intensity reduction Gammon achieved 2017
HKSAR Government (2005)	50–60% CO_2e / dollar of GDP by 2020 65–70% CO_2e / dollar of GDP by 2030	70% CO_2e / HK$ turnover
Hong Kong Construction Association (2010)	25% CO_2e / HK$ turnover by 2020	53% CO_2e / HK$ turnover

* = Includes scope 1 (direct) and scope 2 (indirect from energy purchase) greenhouse gas emissions

These figures, at first glance, may seem reasonably impressive but the cost of construction has actually increased every year since 2005 and it could be argued that this artificially and unintentionally depresses our carbon intensity without any effort at all! In order to account for the cost increases, we have therefore applied a factor[4] to correct our turnover to a 2017 baseline and cost increases are then excluded as a factor 'benefitting' our business' carbon intensity reduction. Instead of a measured 70% reduction, our carbon intensity is therefore more reasonably about 52% since 2005. The graph below shows the relationship between our Scope 1 (direct) and Scope 2 (indirect from energy purchase) greenhouse gases (GHG) as a carbon equivalent and turnover with the resultant reduction in carbon intensity and adjusted carbon intensity.

Gammon carbon emissions and intensity



We have been measuring our carbon emissions for over 10 years, but like any tracking and measurement regime for a large multi-site business with multiple sources of emissions, the data accuracy and completeness was difficult to assure in the early years. We gradually improved our level of confidence in the accuracy of the data and achieved ISO 14064 verification of our greenhouse gas inventory in 2012. We can therefore be more certain of the accuracy and completeness of our data in recent years, where we have continued to see a reduction in our carbon intensity. In recent years, we have also tracked certain Scope 3 emissions (indirect excluding energy purchase) including waste, business travel and staff vehicle fuel use. Staff vehicle fuel use has more accurately been reported in Scope 3 emissions in 2016 and 2017 instead of Scope 1, as some of this fuel is for private use and not only for business operations. However, the quantities used in staff cars are very small compared with diesel used in plant and equipment operations so have minimal impact.

As we know, the link between turnover, cost increases and carbon emissions creates challenges for accurately assessing the performance of individual divisions and projects. As part of our planned sustainability strategy update, we will therefore be considering what metrics best reflect our performance, as the need to measure, manage and reduce our carbon emissions becomes ever more important given the slow progress on the Paris Agreement targets and increasing evidence of anthropogenic climate change.

Early electrification

We have been working to improve the design of temporary transformer rooms and their implementation process to achieve earlier electrification onsite. By so doing, we can reduce the use of diesel generators which produce exhaust emissions as well as noise nuisance and produce higher carbon/kW of electricity. Their use also creates a risk of ground or water pollution through the diesel storage and filling required for operation.

In addition to promoting early engagement with the client and power company regarding utilities laying for the temporary transformer rooms, we have modified the designs of the rooms to include steel frames for a reduction in foundation materials and more reusability, precast concrete blocks to shorten the construction period, and soil backfill to minimise

[4] The factor is based on relevant indices from the HKSAR Census and Statistics Department, Building, Construction and Real Estate Sector similar to those used for contract price fluctuation calculations.

concrete fill volume. This is only the beginning, however, and we will continue to investigate ways to allow earlier electrification.

Carbon-saving calculator

Tender documents increasingly request proposals from contractors that offer benefits such as reduced construction waste and greenhouse gas emissions, as well as other sustainable measures to reduce the carbon footprint of a project.

To help our tender teams evaluate the potential carbon savings of their value-engineering proposals, our Environment and Sustainability Department has created a carbon-saving calculator.

By inputting or selecting certain criteria the calculator will provide instant feedback on the potential for carbon savings in a number of pre-defined areas including: value engineering design; use of Gammon CIC Carbon-labelled concrete; reduced transport logistics; and improved construction processes. The calculator also includes a database of the embodied carbon emissions of different materials and machinery to provide a more thorough understanding of the environmental effects of certain construction processes and we will continue to refine and improve the database.

Head office energy efficiency

Whilst the vast majority of our energy consumption occurs on our project sites, we also believe it's important to demonstrate good energy efficiency practices at our permanent offices. One example is at our headquarters, in Devon House. During the last couple of years we have gradually implemented a number of energy efficiency improvements for lighting and socket power (over which we have more direct control) as shown below.

LED LIGHTING
> 95% of the lighting on has been replaced with LED light tubes and lux levels assessed

TIMER CONTROL
New timer switches were installed to ensure lights are off after office hours

WATER BOILER
New water boiler – faster and more efficient

DE-LAMPING
More delamping in areas that can have lower lux levels

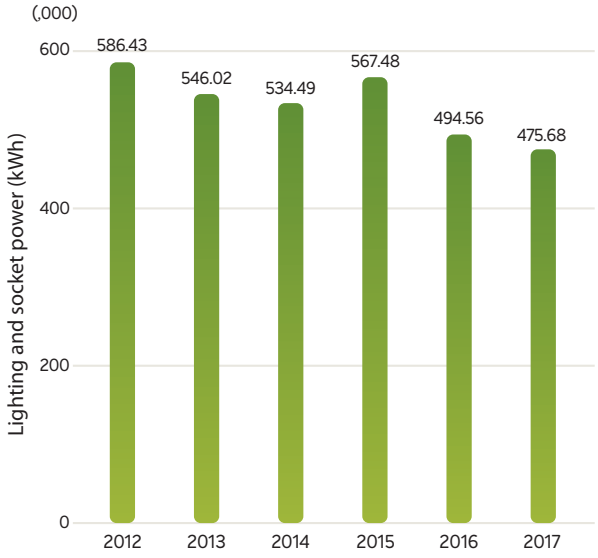
DISPENSER POWER
Only room temperature water provided in meeting rooms

COPIER POWER
Reduced delay times before switching to power saving modes

SERVER ROOM
Increased temperature setting for server room

PC STANDBY
Changed all PC settings for sooner switch to sleep mode

Devon House Electricity Consumption



Note: Excludes energy used for air conditioning as this is centrally supplied

From 2012 – 2017, we reduced lighting and socket power by around 19% in Devon House.

Resource efficiency GRI 301

Modular towers used for M+ Museum mega-truss erection

Our M+ Museum structural steel contract required the erection of five 2100-tonne mega trusses with spans up to 60m. To facilitate execution of the works, the project team used modular towers, a concept developed by Gammon to serve as both working platform and temporary support.

Modular towers in use at West Kowloon Cultural District site

It was an approach that garnered the team Gold in the Best Method Statement Competition at the Occupational Safety and Health Council Construction Safety Promotional Campaign 2017, for which we were also the only competition participant to be provided a booth to share our modular construction concept.

The concept of DfMA was implemented during the design stage of the modular towers and included

3D printing a scaled model of the towers to provide a clear understanding of the spatial arrangements, as well as standardisation of the modules into three different sizes that can be combined to suit different height and site requirements for re-use on other projects. In fact, a number of modular towers from our Midfield Concourse project were also used on M+ to reduce construction waste.

Each modular tower was pre-fabricated with a built-in staircase at our China fabrication yard, Pristine, and included bolted connections for easy assembly onsite. A support beam was also integrated with the fully concealed working platform to reduce the risks associated with working at height. The modular design concept also makes it possible for workers to reach the desired height in a shorter period of time. Workers have responded enthusiastically to the modular towers, citing easier and safer access to working areas, as well as improved setup and installation efficiency as some of the key benefits.

RESPECTING THE OLD, EMBRACING THE NEW – MURRAY BUILDING HOTEL DEVELOPMENT

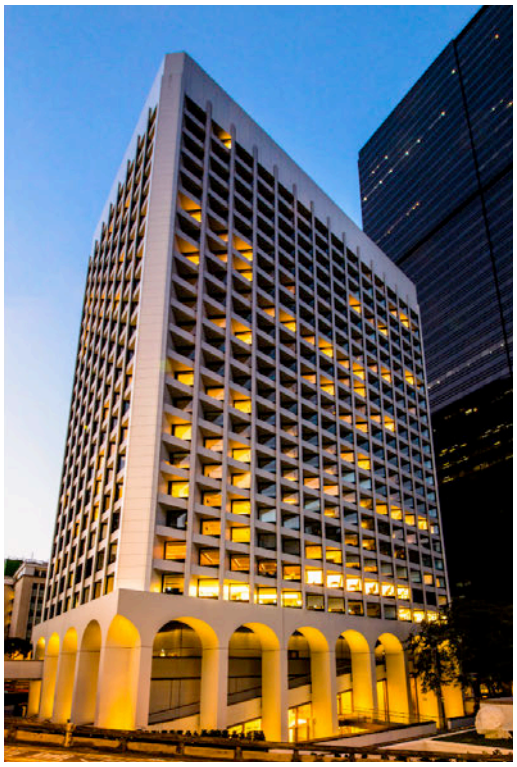
Our Murray Building Hotel Development project involved transforming a 27-storey former government office into a luxury hotel, while retaining its iconic architectural features.

A number of green construction approaches were used on the project which was awarded a Bronze at the 2016 Hong Kong Awards for Environmental Excellence (HKAEE), held in April of 2017.

An offsite prefabricated modular E&M approach was used for 70% of the guest room risers which could be mounted to the floor slab, allowing works to begin in advance of walls being installed and reducing the need for 365m^2 of blockwall. Clip joints replaced the need for welding onsite while comprehensive quality control at the factory yard led to a 4% waste reduction.

A 50% reduction in natural marble was achieved by replacing all typical bathroom panels with a prefabricated and laminated honeycomb support panel that also required no onsite cutting and no plastering. Typical concrete blocks and plastering were eschewed in favour of a gypsum block and drywall system, saving sand and cement, as well as avoiding the creation of dust from plastering activities. The low-carbon partition wall blocks were prepared with 93-95% recycled waste materials.

The team 3D scanned the existing reinforced concrete structure for dimensional verifications so as to avoid potential clashes that would lead to rework and waste, and 3D scanning was also used to assess the condition of the protected 'old and valuable tree' outside the building without the need to work at height and so that a best-fit tailor-made support could be provided.



Cable optimisation

Electrical and mechanical projects can require the laying of hundreds, and sometimes thousands, of cables in large varieties of types and sizes.

Sorting and ordering these cables traditionally requires many hours of manual data manipulation, a task typically left to the subcontractor who may only fill the cable drums to between 40% or 60% capacity. This inefficiency is then repeated if the same cable type and size is required onsite again at a later date.

However, by utilising 'bin-packing' sorting algorithms, our Digital Transformation team has created a model that greatly optimises the cable ordering process while reducing manual input.

Digital Transformation Engineer Nicholas Gudgeon

The sorting algorithm increases drum efficiency by 10% while reducing the number required onsite by sorting cables of similar size, type, and so on, into a 'best fit' solution. The model also automatically records the length of cables left in each drum and in the stock yard for further use onsite or on other projects. Through this more efficient ordering process and re-use of spare cables, we have been able to greatly reduce the amount of waste onsite.

According to Digital Transformation Engineer Nicholas Gudgeon, cable optimisation is just the start. "By utilising computer processes such as sorting algorithms we can start to reduce the time taken to do countless other daily tasks as well," he said.

Timber waste reduction

We are always looking for opportunities to use system formwork to replace timber. Metal formwork is often directly reusable and almost infinitely recyclable. We are having a lot of success with commercial buildings – with handset panels and table forms – but still face challenges of late design freezes or late changes for some residential projects.

Large scale system formwork at Tuen Mun Chek Lap Kok Link – Southern Viaduct project

One example of system formwork use on a civil project was at Tuen Mun Chek Lap Kok Link, where the team adopted a steel mould for construction of the 22 pile caps and 26 piers required for one of the viaducts. Unlike traditional formwork construction, the steel mould system required no timber and was faster to erect. Worker safety was also improved with the addition of a pre-installed working platform.

RECYCLED ALUMINIUM CLADDING AT CENTRAL POLICE STATION

One of the special features of our Central Police Station Compound Revitalisation Project is the use of bricks made from 100% recycled aluminium.

An important historic renovation project for Hong Kong, the contract involves retaining and renovating 16 heritage buildings and constructing two new structures to house a world-class gallery space and 200-seat auditorium. The two new structures were clad with more than 8,000 aluminium bricks made from 41,550 recycled alloy wheels.

Low-pressure die casting incorporated a granite texture to create the unique look of the bricks, which were designed and installed to mimic the existing brick patterns on the renovated heritage buildings onsite, with a modern interpretation.

Water use intensity

As can be seen from our Highlights section (page 6), it appears that our 35% water intensity reduction target for 2018 (based on a 2010 baseline) might be a challenge to meet with only a 27.7% reduction by 2017. We believe some of the reasons for this are that some major civil contracts either:

- required significant water spraying due to extensive haul road dust control and mandatory Environmental Permit requirements, or
- had significant breaking and excavation works requiring dust control.

Both of these scenarios are likely to have been where recycling water was insufficient or impractical to supply. However, we should not be complacent and we have been encouraging project teams to make sure they are maximising recycling and re-using, using pre-cast concrete slabs for haul road paving to avoid spraying, regularly checking for leaks and tracking water consumption. During Sustainability Month, one of our promotional talks was on water consumption and conservation and we will continue to try to cut water use.

Engaging in the community

Supporting the development of environmental professionals

As part of our support for the Hong Kong Institute of Qualified Environmental Professionals Limited (HKIQEP), we have signed a pledge to recognise its qualifications for environment-related positions, and to encourage relevant staff to pursue a HKIQEP qualification.

Established in 2015 to support Hong Kong's reputation in environmental management and ensure good-quality work is conducted in this growing field, the HKIQEP has developed a robust professional training and qualification/certification infrastructure, supported by affiliate institutes and Government authorities.

Smart city vision

We have taken great interest in the Government's smart city vision and in 2017 established a team to review in-depth the commissioned consultancy study report on the subject, in order to provide feedback before the Smart City Blueprint was published. Overall, we had hoped for a more ambitious timeframe and project scope for the blueprint and our comments to the Government included suggestions for more stringent energy performance for new buildings and the introduction of climate change resilience planning for projects. However, we also see an opportunity for partnership and data sharing and are keen to collaborate with Government, fellow businesses and research establishments.

Management approaches

Materials GRI 301

Stakeholder views

During our stakeholder engagement process, the issue of construction materials was identified as being material for Gammon and of most interest under the topic of Environmental Stewardship with particular interest from stakeholders from academic institutions and industry associations.

Stakeholders pointed out that while Gammon is making progress when it comes to the sourcing and use of sustainable construction materials, they recommended we try to increase our influence with our business partners along the supply chain, especially subcontractors, so that we create positive wider impact. As part of the actions from our independent assessment of procurement practices against the ISO 20400 sustainable procurement guidance, we will be reviewing how we can better work with and influence our whole value chain to maximise opportunities for materials savings and sustainable procurement. We believe early contractor involvement is key to achieving this objective and will allow us to contribute suggestions during the design stage. Stakeholders also mentioned that they would like us to encourage more use of green building materials (e.g. with high recycled content) and low carbon design, so early involvement in projects would facilitate this.

Our approach

Our sustainability vision is to be a sustainability leader and contractor of choice for clients delivering world-class projects in Hong Kong, China and Southeast Asia. We, therefore, try to deliver products and services designed to use resources wisely and minimise negative social and ecological impacts. We are committed to the efficient use of resources and minimising impacts on

environments affected by our operations.

We adopt the widely accepted '3Rs' philosophy of 'reduce, reuse, recycle' and focus very strongly on avoiding material use in the first instance be rethinking designs and construction methods where at all possible. Often, when we are awarded a contract, design and material specification decisions have already been made and many times it is too late to change within the tight construction programme. However, we are trying to work with private clients more during the tender stage (and earlier through ongoing engagement) in order to find opportunities to achieve reduced impacts in resource use without affecting the client's programme. Unless we are awarded a design element in a project, it is challenging to make a significant difference to projects where we are engaged later in the process or where direct communication during tendering is not permitted, such as for HKSAR Government projects. We are sometimes frustrated that we need to fulfill the client's brief when we know a better, safer or more environmentally responsible solution exists. We must continue to influence the industry through institutional involvement and promotion of best practice to get deeper and more significant change across what is a very traditional industry.

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

Through different initiatives, we have encouraged alternative designs using mechanisation, modularisation (e.g. re-use of modular struts), standardisation, automation and offsite prefabrication solutions (e.g. E&M modularisation) which result in more efficient use of resources. Tools such as our ACE dashboard and the Concrete Management System (mentioned in the Highlights section) as well as the use of BIM help us achieve greater efficiencies in material use and wastage reduction. We continue to increase our use of the offsite cut-and-bend factories established in the past few years with good success. We also look for opportunities to reduce waste to public fill with a focus on minimising earth works and finding a direct beneficial use of excavated material.

In addition, we try to reduce material impacts through the procurement of more sustainable materials, for example, with higher recycled content, lower embodied carbon (e.g. use of pulverised fuel ash (PFA) as a cement replacement in concrete), sustainable sources, and the use of design alternatives to reduce material quantities. One example is our use of certified sustainable timbers (normally FSC or PEFC certified) under our Sustainable Timber Procurement Policy and Implementation Guideline (please see data in our KPIs in Appendix C). In addition, to precast concrete for civil engineering, facades and multiple elements in public housing projects, we continue to investigate other alternatives for more sustainable concrete mixes. By the end of 2017, we remained the only ready-mixed concrete supplier with Construction Industry Council (CIC) Carbon Labels for low carbon concrete mixes. At the end of 2017 we renewed our application and have applied for a greatly expanded number of CIC labels for different mixes. Our life cycle carbon footprint assessment for the concretes has been verified against BSI PAS 2050 Product Carbon Footprint Verification.

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

Effluent and Waste GRI 306

Gammon has developed a set of production procedures including water pollution control and waste management to guide our teams on managing these aspects. It is the responsibility of the project site environmental representative, site depot or workshop manager or environmental officer to ensure these procedures are implemented. The project team must ensure water pollution and waste management risks are identified and assessed and appropriate mitigation measures implemented and maintained to achieve compliance with the law, contract, Health, Safety and Environmental Policy

commitments, objectives and targets.

Waste was identified as a material issue by our stakeholders with clients, academic institutions and industry associations all recognising this as a particularly important issue. Aside from construction materials, stakeholders also brought up the topic of increasing site and planning efficiencies to reduce unintended waste. One example was to leverage the large number of construction sites to better plan overall logistics and materials allocation to decrease waste. We considered this several years ago and may revisit the options again in the near future. A second example was to centralise and strengthen Gammon's procurement and inventory database to reduce redundant purchasing. Our new app, ARM (see Innovation section of Highlights) is one tool we will use more widely for inventory tracking in later stages of development.

We believe waste is probably our greatest environmental challenge (particularly in Hong Kong where there is very little support for the recycling sector) and also an area for opportunity. We need to think of waste as a resource and find ways to work up the supply chain to reduce waste and look for chances to close material loops (circular economy thinking). Offsite construction and using a design for manufacturing and assembly (DfMA) approach present real opportunities for improvement and we continue to promote these both internally and externally.

We have also developed a Waste Management Handbook which aims to provide project teams with practical and achievable guidelines for achieving the waste reduction target of our Sustainability Roadmap and SAP. The Handbook includes:

- Project organisation structure setting out the roles and responsibilities of the respective project team member responsible for waste management and appropriate mitigation measures.
- An analysis of timing and types of construction and demolition materials to be generated in the course of the execution of the works.
- The steps required to implement a site waste management plan.
- Suggestion of waste reduction measures.
- A monitoring and reviewing proposal to ensure the requirements of the site waste management plan are properly implemented.
- Contact details for waste recyclers in Hong Kong.

In Hong Kong, we continue to be challenged by waste reduction, as is the rest of the construction industry, with limited opportunities and high costs for recycling and heavily constrained site making waste separation difficult. Currently, the only widely recycled materials on sites in Hong Kong are waste metals, and this is largely due to the still strong market for scrap metal. In 2017, however, we participated in a Life Paving Programme with K Wah, recycling about 30 tonnes of hard, inert material into aggregate paving blocks. Demolition waste from our Taikoo Place 2B project was also usefully reused as compaction material between layers of municipal waste at the SENT landfill. While we continue to look for cost-efficient recycling opportunities, more important is waste avoidance. Examples include re-usable packaging methods and packaging 'takeback by suppliers, or redesign, material substitution and supplier engagement for easier recycling (e.g. closing the loop on our HDPE safety barriers). We advocate waste management improvement and policy support in Hong Kong through our role as a Steering Committee Member of the Waste Management Advisory Group at the Business Environment Council.

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

- stopped providing paper cups in our head office and switched to reusable tableware;
- stopped providing site visitors with individual single-use plastic bottles on almost all sites and switched to reusable tableware;
- worked with vending machine suppliers to avoid any plastic bottles in machines on some sites;
- upgraded our IT in meeting rooms in head office to make it easier to hold paperless meetings; and
- redesigned our annual Gammon diaries with a re-usable cover and a replaceable diary insert using FSC certified paper.

In Singapore, more of our waste is recycled due to the improved availability of sorting / recycling sites, and mandatory requirements for construction waste separation, recycling and

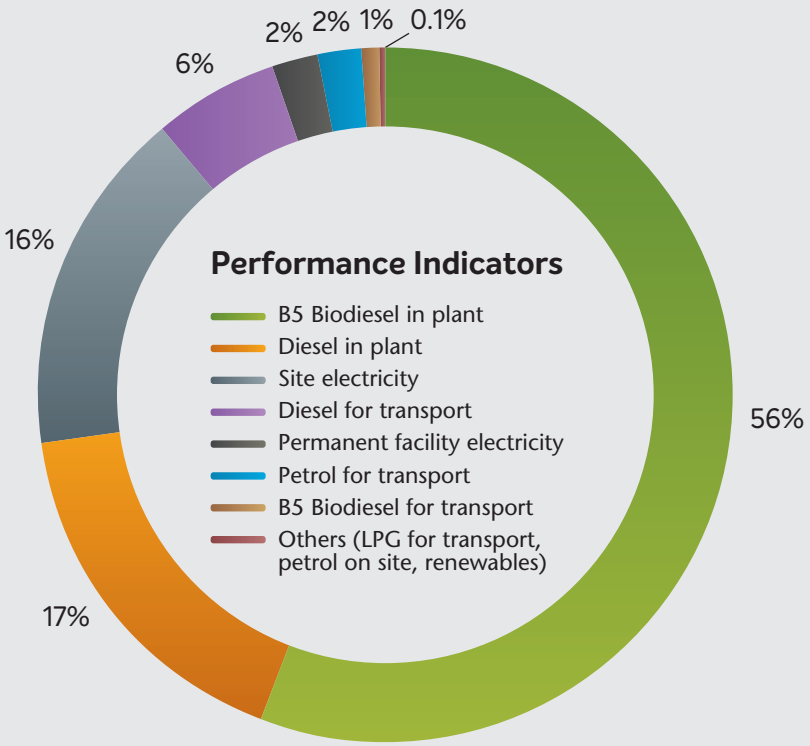
disposal (e.g. waste to energy incineration).

Energy GRI 302 GRI 302-3

Energy was identified as a material issue during our stakeholder engagement process. Nearly three quarters of the energy we consume is in the B5 biodiesel (HK) and diesel (Singapore) plant and equipment used during construction operations, particularly foundations projects. The next largest significant energy use (16%) is electricity used in our operations and offices on site, with a lower proportion of energy (8%) used for transport (e.g. concrete mixer trucks, site vehicles) and in supporting facilities such as offices. The chart below shows the breakdown of our energy use in 2017 normalised against gigajoules of energy.

Temporary power is carefully planned on our sites, sizing equipment accurately with regular reviews and ensuring preventative maintenance is carried out to ensure plant is running efficiently. Operationally, we ensure equipment is being used efficiently with plant switched off instead of idling and planning work to avoid double handling. For building projects, a lot of energy is used during vertical lifting of materials so careful planning of material deliveries and lifts not only saves energy but also cost and time. We have been adopting a DfMA and modular approach to construction in order to minimise impacts such as these.

Energy use (GJ) breakdown in 2017



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

The energy intensity for the organisation is presented in the graph below. The energy intensity ratio is based on the energy consumed from within the organisation[5] per dollar value of

[5] Fuel consumed by staff cars was removed in 2016 and 2017 so that data is only recorded for consumption over which we have direct operational control.

turnover. The electricity intensity for 2017 increased mainly due to the testing and commissioning for power and cooling systems for a data centre project.

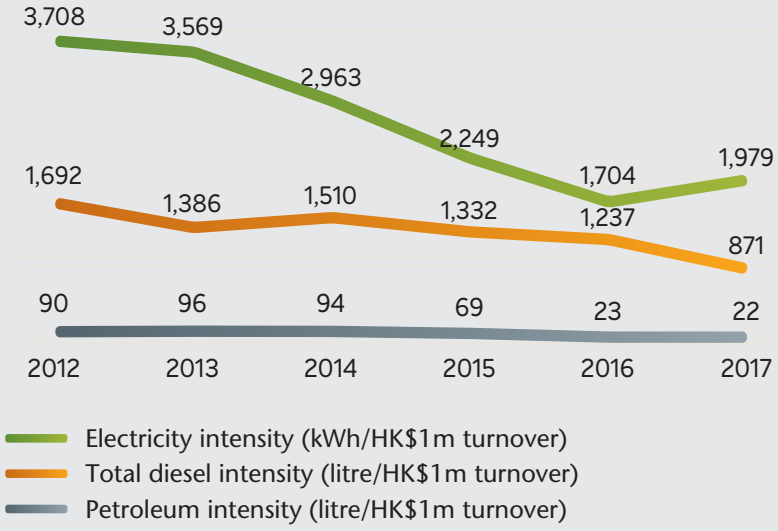
For the most part, we do not have the opportunity to directly control or influence the design and equipment choice on our clients' completed projects.

Where possible, however, we will recommend alternative designs for permanent facilities, plant, equipment and control system specifications. Opportunities for change, however, are often limited due to programme pressure. Where we are able to be engaged earlier during the project or for design and build contracts we always look for opportunities to reduce consumption in the operation of the completed project.

We advocate energy efficiency improvement and policy support in Hong Kong through our roles as Chairman of the Energy Advisory Group and Member of the Climate Change Business Forum Advisory Group at the Business Environment Council.

Energy intensity

GRI 302-3



LOOKING TOWARDS 2030

New Sustainability Strategy and supporting the Sustainable Development Goals

In the latter part of 2017 we started to look ahead at a refreshed sustainability strategy to take us to 2030. We wanted to include consideration of the 17 United Nations Sustainable Development Goals (SDGs) and we used the *SDG Compass* approach and started by understanding the SDGs and their relevance to our business. We then defined priorities by initially mapping the SDGs against our value chain and engaged our stakeholders in a two part process:

1) Internal stakeholders

As mentioned in the Highlights section of this report, we held an internal multi-generational workshop that encouraged participants to envisage the future of construction, how our operations might evolve and how we should ensure a sustainable future that addresses the risks, aspirations and the material issues of our business and stakeholders. The workshop also included an introduction to the SDGs and a review of the mapping exercise. We considered how we could best contribute to the Goals and suggested actions for different SDGs. Ultimately the consensus was that our priorities should be:

Sustainability Strategy Workshop

- SDG 3 Good health and well-being
- SDG 7 Affordable and clean energy
- SDG 8 Decent work and economic growth
- SDG 9 Industry, innovation and infrastructure
- SDG 12 Responsible consumption and production

There were also some interesting ideas that arose at the workshop on **SDG 4 Quality education** and **SDG 11 Sustainable cities and communities** that we may consider further.

2) External stakeholders

As part of our stakeholder engagement workshop, we also invited views on what stakeholders considered Gammon's contribution could be and while there was notable agreement on **SDG 9** and **SDG 12**, as well as strong support for **SDG 17 Partnerships for the goals**, they also recommended that Gammon considers **SDG 11 Sustainable cities and communities** and **SDG 13 Climate action**.

These views will be considered further as we consider the opportunities to support the achievement of the SDGs, develop indicators, set goals and integrate within our operations and reporting mechanism as part of the new strategy for 2030 which we hope to release internally in mid-2018.

Appendix A – Materiality Assessment

Introduction to stakeholder engagement and materiality assessment GRI 102-46

In this report, topics covered were determined using Global Reporting Initiative's principle of Materiality – reporting on what matters, where it matters. In this appendix, we outline the method and findings from the stakeholder engagement undertaken in 2017 and the determination of the material issues for disclosing information in line with the GRI standards. We have endeavoured to follow the four GRI Reporting Principles of defining report content.

Stakeholders and engagement methods GRI 102-40 GRI 102-42 GRI 102-46

Key stakeholders are those who can impact, influence or have a high interest in our business. For Gammon, they include members of academic institutions, clients, our own employees, industry associations, NGOs and community members, service providers, shareholders, subcontractors and suppliers. We maintain regular engagement with these groups through ad hoc meetings, institutional functions, and Gammon events throughout the year and using a variety of other methods, as listed below.

Engagement Methods and Frequency by Stakeholder Group

Stakeholder Group	Minimum Engagement Frequency	Engagement Method(s)
Academic institutions	Annual	Survey, workshops
Clients	Annual	Survey, workshops, review reports (e.g. Contractor Performance Rating (CPR))
Employees	Annual	Survey, Director workshops
Industry associations	Annual	Survey, workshops
NGOs and community	Annual	Survey, workshops
Service providers	Annual	Survey, workshops
Shareholders	Every 2–3 months	Review meetings
Suppliers	More than annual	Survey, workshops
Subcontractors	More than annual	Survey, workshops

Approach to stakeholder engagement GRI 102-43 GRI 102-44

i. Identifying relevant topics:

A list of 25 topics relevant to Gammon was developed using:

- Material issues listed in Gammon's Sustainability Report 2016
- GRI Standards indicators and the G4 Construction and Real Estate Sector Supplement
- Media reports and press releases about Gammon and the wider construction industry
- The Sustainable Development Goals
- Sustainability trends in Asia

The development of the long list of topics also considered whether issues could be directly or indirectly controlled or influenced by the business. The relevant topics and description of each topic are presented in the table below:

Pillar	#	Topic	Definition
Zero Harm	1	Safety management	Managing all aspects of safety on construction sites to reduce the risk of accidents and meet Gammon's "Zero Harm" objective
	2	Working environment	Providing a healthy and caring work environment to promote the wellbeing of Gammon's employees and construction workers
Prosperous Markets	3	Compliance / quality of products and services	Gammon's statement of compliance and its approach to ensure compliance with law and regulations applicable to its own operations
	4	Customer health and safety	Providing safe products and services that do not negatively impact end-user health or safety
	5	Improving client satisfaction	Gammon's approach to understanding client expectations and enhancing client satisfaction
	6	Labour shortage	Gammon's ability to impact the skilled labour shortage in Hong Kong's construction industry
	7	Influencing industry	Gammon's efforts to share best practices (e.g. safety and environmental) to promote the long-term viability of the industry
	8	Innovation	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
Environmental Stewardship	9	Climate change	Gammon's consideration of and response to climate change risks beyond reducing the emissions of its own operations
	10	Construction materials	Monitoring the quantity of construction materials used and selection of more sustainable materials (e.g. FSC certified timber)
	11	Air emissions	Efforts to measure and reduce the GHG emissions from Gammon's offices and construction sites
	12	Energy	Gammon's approach and initiatives to reduce energy consumption of its offices, construction sites, and the energy demands of projects across their lifecycle
	13	Waste	Initiatives to monitor waste generation and reduce both solid waste and wastewater discharged from Gammon's construction sites
	14	Wastewater	Initiatives to monitor waste generation and reduce wastewater discharged from Gammon's construction sites
	15	Supplier environmental assessment	Gammon's policies and practices regarding assessing the environmental performance for suppliers and subcontractors
	16	Water	Monitoring and reducing the potable water consumption of Gammon's offices and construction sites, and efforts to recycle water

Pillar	#	Topic	Definition
Strong Relationships	17	Aging population	Gammon's management approach towards the aging workforce and population in Hong Kong
	18	Anti-corruption	Gammon's policies and practices to ensure integrity among its own staff and other stakeholders such as subcontractors and suppliers
	19	Discrimination and equal opportunities	The mechanisms by which Gammon combats discrimination in its operations
	20	Human rights	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)
	21	Impacts of operations on local community	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)
	22	Product and services labelling	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
	23	Staff retention, employment and development of our people	Gammon's approach and initiatives to reduce staff turnover and develop the competencies and skills of its workforce
	24	Supply chain engagement	Gammon's actions to build strong relationships and provide open channels of communication with suppliers and subcontractors
	25	Corporate community investment	Gammon's voluntary actions and financial contributions that support the needs of the local community, in line with Gammon's business objectives

ii. Stakeholder engagement: Stakeholder workshop

In November 2017, an independent consultant conducted a workshop engaging 29 external stakeholders including clients, academic institutions, industry associations, service providers, suppliers and subcontractors.

Prior to the workshop, stakeholders were sent a briefing note with the purpose of the workshop, a brief explanation of Gammon's four pillars of sustainability, and a list of the 25 identified sustainability topics and their definitions.

At the workshop, participants were asked to identify and discuss the most important and relevant topics for Gammon to address in the upcoming report and to share ways that Gammon could improve its sustainability performance and reporting. Post workshop, we responded to key concerns raised by participants. The responses can be found within Annex 1 of this report.

iii. Stakeholder engagement: Online surveys

Using 25 of the sustainability topics identified above, two online surveys were developed: the "*Importance to Business*" survey, which asked respondents to rate topics based on their importance for Gammon's business; or the "*Importance to Stakeholders*" survey, where respondents rated topics based on the question, "*How important is it to you that Gammon actively manages and reports on this topic?*"

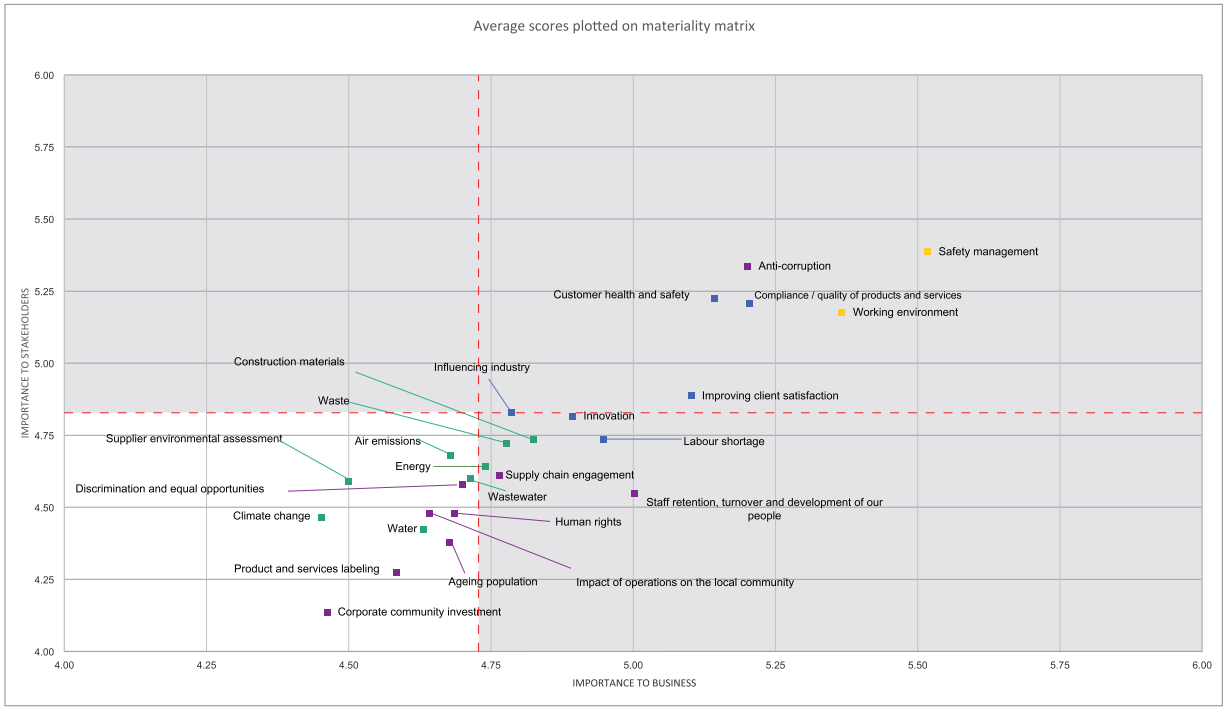
Over 560 stakeholders rated the sustainability topics from 1 (not important at all) to 6 (extremely important). Internal stakeholders were asked to rate each topic on its importance to Gammon's business, while external stakeholders rated each topic based on how important it was in affecting their assessments and decisions about the company. The scores were used to plot the materiality matrix below and set the threshold for materiality as the average overall score for each survey. Topics rated higher than average for either "*Importance to Business*" or "*Importance to Stakeholders*" were considered material topics for the 2017 Sustainability Report.

iv. Senior management review

Upon consolidation of the stakeholder survey results, the consultant presented the results and key comments from both the stakeholder workshop and the surveys to Executive Directors and Directors for review and validation.

Gammon's material issues GRI 102-47 GRI 102-49

All issues that scored above average for either the "*Importance to Stakeholders*" (4.84) or "*Importance to Business*" (4.71) are considered material and are explained in this Report and/or Appendix. The materiality matrix is presented below.



Gammon's 14 material topics are listed below under each of our four pillars. Newly added material topics in 2017 include: *Influencing industry*; *Labour shortage*; and *Supply chain engagement*.

Zero Harm	Environmental Stewardship
• Safety management • Working environments	• Waste • Construction materials • Energy
Prosperous Markets	**Strong Relationships**
• Compliance / quality of products and services • Customer health and safety • Improving client satisfaction • Innovation • Influencing industry • Labour shortage	• Anti-corruption • Staff retention, turnover and development of our people • Supply chain engagement

Material issues for each stakeholder group GRI 102-44

The table below presents which stakeholders view which issue to be material. It also indicates where in the main report the main references to content are. Please see Appendix B for more information on the GRI disclosures, including those for our material issues.

Material Issue	Considered Material by:								Where is the issue addressed?
	Academic institution	Client	NGO	Service provider	Supplier	Subcontractor	Industry association	Gammon employees	
Safety management	X	X	X	X	X	X	X	X	GRI 403 Zero Harm (p.4–5, 23–26)
Working environment	X	X		X	X	X		X	GRI 403 An Energetic and Caring Workforce (p.12–13) Green and Caring Site Commitment (p.17) Zero Harm (p.25–26) Strong Relationship (p.29)
Compliance / quality of products and services	X	X	X	X	X	X		X	GRI 419 Zero Harm (p.26–27) Key Performance Indicator Table
Customer health and safety	X	X	X	X	X	X		X	GRI 416 Zero Harm (p.26–27)
Improving client satisfaction		X	X	X		X		X	102–44 Prosperous Market (p.43) Throughout the report
Innovation	X		X	X	X	X		X	Throughout the report Innovation (p.20–21)
Influencing industry	X		X	X	X	X			GRI 102–13 Prosperous Markets (p.38, 41, 44)
Labour shortage	X	X	X	X				X	GRI 404 An Energetic and Caring Workforce (p.12–13) Strong Relationship (p. 27–28, 30–31, 34–35)
Waste	X	X					X		GRI 306 Use Wisely, Waste Less, Emit Less (p.6–7) Environmental Stewardship (p.49, 51)
Construction materials	X						X		GRI 301 Safe and Responsible Procurement (p.8–9) Reducing Energy, Offering Alternatives (p.10–11) Environmental Stewardship (p.50–51 Key Performance Indicator Table
Energy					X		X		GRI 302 Environmental Stewardship (p.46–47, 53–55) Key Performance Indicator Table
Anti-corruption	X	X	X	X	X	X	X	X	GRI 205 Prosperous Markets (p.43–44)
Staff retention, turnover and development of our people	X		X	X			X	X	GRI 401, GRI 404 An Energetic and Caring Workforce (p.12–13) Strong Relationship (p. 27–28, 30–31, 34–36) Key Performance Indicator Table
Supply chain engagement	X	X			X	X			GRI 102–9 Strong Relationship (p.32–33, 35–36) Key Performance Indicator Table

Material issue boundaries GRI 102-46 GRI 103-1 GRI 102-49

The impact and influence of each issue may have wider impacts beyond the business itself which need to be considered. The table below shows where impacts occur for each material topic. All issues are material within and outside of the organisation and no significant change has occurred since the last reporting period regarding the topic boundaries of previously identified material issues.

Material topic	Within Gammon	Outside of Gammon
1. *Safety management*	Group	All subcontractors and service providers operating onsite, offsite manufacturing, and transportation of materials
2. *Working environment*	Group	All subcontractors and service providers operating onsite and offsite
3. *Compliance / quality of products and services*	Group	Clients, end users, service providers, subcontractors, suppliers, members of the public
4. *Customer health and safety*	Group	Clients, end users
5. *Improving client satisfaction*	Group	Clients
6. *Innovation*	Group	Clients, service providers, subcontractors, suppliers, industry associations, academia
7. *Influencing industry*	Group	Clients, service providers, subcontractors, suppliers, industry associations, academia
8. *Labour shortage*	All business units outside of Gammon permanent offices	Subcontractors
9. *Waste*	Group	Government, service providers, subcontractors, suppliers
10. *Construction materials*	Group	Suppliers, subcontractors
11. *Energy*	Group	Subcontractors, suppliers, clients for design and build contracts
12. *Anti-corruption*	Group	Clients, end users, service providers, subcontractors, suppliers
13. *Staff retention, turnover and development of our people*	Group	Clients, end users, service providers, subcontractors, suppliers
14. *Supply chain engagement*	Group	Suppliers, subcontractors, service providers, clients

Appendix B – GRI Content Index GRI 102-55

All GRI standards are 2016 version.

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s) and/ or URL(s)	Content reference and Remark
Foundation				
GRI 101	101		23	Organisation and Report Coverage – Structure of the report
General Disclosures				
Organizational Profile				
GRI 102	102-1	Name of the organization	Cover page 22	Gammon Construction Limited Organisation and Report Coverage – Organisation profile
	102-2	Activities, brands, products, and services	Inside front cover 22	Our Brand Organisation and Report Coverage – Organisation profile, Report content coverage
	102-3	Location of headquarters	Back cover	Headquartered in Hong Kong
	102-4	Location of operations	22 Back cover	Organisation and Report Coverage – Organisation profile, Report content coverage
	102-5	Ownership and legal form	Back cover	Jointly and equally owned by Jardines and Balfour Beatty
	102-6	Markets served	22 37	Organisation and Report Coverage – Organisation profile, Report content coverage Prospect Market – General market position and outlook
	102-7	Scale of the organization	37 – 38 44 66-72	Prosperous Markets – General market position and outlook Prosperous Markets – Scale of the business Key Performance Indicators
	102-8	Information on employees and other workers	66-72	Key Performance Indicators No significant changes to the organisation and supply chain
	102-9	Supply chain	32 33 35 36 66-72	Strong Relationships – Our supply chain Strong Relationships – Engaging with our supply chain Strong Relationships – Supply chain management and procurement approach Strong Relationships – Local supply chain spending, Supply Chain Assessment Key Performance Indicators
	102-10	Significant changes to the organization and its supply chain	22	Organisation and Report Coverage – Report content coverage No significant changes to the organisation and supply chain
	102-11	Precautionary Principle or approach	42	Prosperous Markets – Managing Risk
	102-12	External initiatives	44	Prosperous Markets – Association memberships and commitments
	102-13	Membership of associations	44	Prosperous Markets – Association memberships and commitments
Strategy and Analysis				
GRI 102	102-14	Statement from senior decision-maker	1	Chief Executives Statemen
Sethics and Integrity				
GRI 102	102-16	Values, principles, standards, and norms of behavior	43	Prosperous Markets – Values and norms of behaviour

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s) and/ or URL(s)	Content reference
General Disclosures				
Governance				
GRI 102	102-18	Governance structure	41 - 42	Prosperous Markets - Governance structure
Stakeholder				
GRI 102	102-40	List of stakeholder groups	56	Appendix A - Materiality Assessment
	102-41	Collective bargaining agreements	35	Strong Relationship section - Employee rights - collective bargaining
	102-42	Identifying and selecting stakeholders	56	Appendix A - Materiality Assessment
	102-43	Approach to stakeholder engagement	56	Appendix A - Materiality Assessment
	102-44	Key topics and concerns raised	56, 60 82 66-72	Appendix A - Materiality Assessment Annex 1 Key Performance Indicators
Reporting Practice				
GRI 102	102-45	Entities included in the consolidated financial statements	22	Organisation and Report Coverage - Report content coverage
	102-46	Defining report content and topic Boundaries	56, 61	Appendix A - Materiality Assessment
	102-47	List of material topics	59	Appendix A - Materiality Assessment
	102-48	Restatements of information	-	The restatements of information given in previous reports, as explained in the KPIs, have a negligible or insignificant effect on Gammon's performance.
	102-49	Changes in reporting	59, 61	Appendix A - Materiality Assessment
	102-50	Reporting period	22	Organisation and Report Coverage - Report content coverage
	102-51	Date of most recent report	22	Organisation and Report Coverage - Report content coverage
	102-52	Reporting cycle	22	Organisation and Report Coverage - Report content coverage
	102-53	Contact point for questions regarding the report	Inside front cover Back cover	environment@gammonconstruction.com
	102-54	Claims of reporting in accordance with the GRI Standards	Inside front cover 22 23	Organisation and Report Coverage - Report content coverage Organisation and Report Coverage - Structure of the report
	102-55	GRI content index	22 62	Organisation and Report Coverage - Report content coverage Appendix B Additional material topics, please refer to p.60
	102-56	External assurance	22 23 81	Organisation and Report Coverage - Report content coverage Organisation and Report Coverage - Structure of the report Appendix F
Management Approach				
GRI 103	103-1	Explanation of the material topic and its Boundary	56	Appendix A - Materiality Assessment
	103-2	The management approach and its components	-	See management approach and its comment in each section for details
	103-3	Evaluation of the management approach	-	See management approach and its comment in each section for details

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s) and/ or URL(s)	Content reference
Economic Material Topics				
Procurement Practices				
Management Approach				
(GRI 204)	204-1	Proportion of spending on local suppliers	66-72	Key Perofrmance Indicators
Anti-corruption				
Management Approach			43 - 44	Prospect Markets - Anti-corruption
GRI 205	205-2	Communication and training about anti-corruption policies and procedures	44	Prospect Markets - Training
Environmental Material Topics				
Materials				
Management Approach				
GRI 301	301-1	Materials used by weight or volume	9 66-72	Safe and Responsible Procurement Key Performance Indicators
	301-2	Recycled input materials used	9 66-72	Safe and Responsible Procurement Key Performance Indicators
Energy				
Management Approach				
GRI 302	302-1	Energy consumption within the organization	66-72	Key Performance Indicators
	302-2	Energy consumption outside of the organization	54 66-72	Environmental Stewardship - Energy intensity chart Key Performance Indicators
	302-3	Energy intensity	53 - 54 66-72	Environmental Stewardship - Energy Key Performance Indicators
	302-5	Reductions in energy requirements of products and services	45	Environmental Stewardship - Decoupling carbon from growth
Water				
Management Approach				Not a material issue but data available and historically reported
GRI 303	(303-1)	Water withdrawal by source	6 66-72	Use wisely, waste less, emit less Key Performance Indicators
	(303-3)	Water recycled and reused	6 66-72	Use wisely, waste less, emit less Key Performance Indicators
Emissions				
Management Approach				Not a material issue but data available and historically reported
GRI 305	305-1	Direct (Scope 1) GHG emissions	66-72 15	Key Performance Indicators Leader in sustainable construction Base year emission factors are presented in KPI Table.
	305-2	Energy indirect (Scope 2) GHG emissions	66-72 15	Key Performance Indicators Leader in sustainable construction Base year emission factors are presented in KPI Table.
	305-3	Other indirect (Scope 3) GHG emissions	66-72	Key Performance Indicators
	305-4	GHG emissions intensity	11 66-72	Carbon footprint and intensity graph Key Performance Indicators
	305-5	Reduction of GHG emissions		
Effluent and Waste				
Management Approach			51 - 52	Environmental Stewardship - Effluent and Waste
GRI 306	306-2	Waste by type and disposal method	8 66-72	Performance infogram Key Performance Indicators

GRI Standard Number	Disclosure Number	Disclosure Title	Page number(s) and/ or URL(s)	Content reference
Environmental Compliance				
Management Approach				Not a material issue but data available and historically reported
GRI 307	307-1	Non-compliance with environmental laws and regulations	66-72	Key Performance Indicators
Social Material Topics				
Employment				
Management Approach			34	Strong Relationships - Employment
GRI 401	401-1	New employee hires and employee turnover	36 66-72	Strong Relationships - Supply Chain Assessment Key Performance Indicators
Occupational health and Safety				
Management Approach			25 - 26	Health and Safety and Working Environment
GRI 403	403-1	Workers representation in formal joint management–worker health and safety committees	26	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	5 66-72	Zero Harm - Accident and incident rate graph compared with industry Key Performance Indicators
Training and Education				
Management Approach			30 34	Strong Relationships - Tackling the labour shortage issue Strong Relatonships - Training and education
GRI 404	404-1	Average hours of training per year per employee	13 66-72	An energetic and caring workforce Key Performance Indicators
	404-2	Programs for upgrading employee skills and transition assistance programs	13 27 30 34 34-35 35	An energetic and caring workforce Strong Relationships - Revamping our learning facilities Strong Relationships - Tackling the labour shortage issue Strong Relationships - Employment Strong Relationships - Training and education Strong Relationships - Career development and support
	404-3	Percentage of employees receiving regular performance and career development reviews	66-72	Key Performance Indicators
Diversity and Equal Opportunity				
Management Approach				Not a material issue but data available and historically reported
GRI 405	405-1	Diversity of governance bodies and employees	66-72	Key Performance Indicators
Customer Health and Safety				
Management Approach			26 - 27	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	66-72	Key Performance Indicators
Product and Services				
Management Approach			26 - 27	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	66-72	Key Performance Indicators
		General Notes 'GRI numbers in paranthesis '(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. Whilst data are generatlly reported according to GRI principles they may not fully comply with disclosure requirements.		

Appendix C – Key Performance Indicators

GRI Standard	Performance Indicators		Units	2012	2013	2014	2015	2016	2017
SAFETY									
GRI 403	**Occupational Health and Safety**								
GRI 403-2	*Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities*								
	Fatalities (employees)		number	0	0	0	1 (HK)+	2 (SGP)+	0
	Fatalities (subcontractor workers)		number	0	1 (HK)+	1 (HK)+	0	1 (HK)+	1 (HK)+
	Accident Incident Rate[1]		per 1,000 workers	6.9	6	5.5	5.1	4.9	3.7
	Employees		per 1,000 workers	3.3	3.2	3.0	3.7	4.0	2.5
	by region	HK, Macau	per 1,000 workers	3.6	3.3	3.2	4.1	4.0	2.6
		Singapore	per 1,000 workers	0	0	1.8	1.0	4.4	1.9
		Rest of Asia – Mainland China	per 1,000 workers	0	0	0	0	0	0
	by gender	male	per 1,000 workers	3.5	10.6	3.1	3.3	3.8	2.5
		female	per 1,000 workers	0	0	0	9.9	8.4	3.2
	Workers (excludes employees)		per 1,000 workers	9.95	10.12	8.76	6.9	5.90	4.65
	by region	HK, Macau	per 1,000 workers	10.7	10.5	10.0	7.4	6.2	4.9
		Singapore	per 1,000 workers	0.0	2.9	0.8	0	0	0
		Rest of Asia – Mainland China	per 1,000 workers	0	0	0	0	0	0
	by gender	male	per 1,000 workers	11.0	3.1	10.6	7.5	6.3	4.4
		female	per 1,000 workers	2.7	0	0	5.9	3.7	15.0
	Occupational disease rate[2]		rate	–	–	–	–	–	–
	Lost day rate (all employees and subcontractors)[3]		rate	3.13	3.25	2.93	3.32	4.55	4.72
	Employees		rate	3.73	2.78	2.27	3.30	4.90	7.56
	by region	HK, Macau	rate	4.02	2.90	2.59	3.76	5.62	8.25
		Singapore	rate	0	0	0.17	0.10	0.42	0.18
		Rest of Asia – Mainland China	rate	0	0	0	0	0	0
	by gender	male	rate	4.03	3.47	2.77	3.67	6.14	9.77
		female	rate	0.96	0.00	0.26	1.80	2.01	2.39
	Workers (subcontractors only)		rate	2.96	3.44	3.23	3.33	4.44	4.05
	by region	HK, Macau	rate	0	0	0	0	0	0
		Singapore	rate	0.80	3.53	3.13	2.73	3.42	4.15
		Rest of Asia – Mainland China	rate	0	0.28	0.08	0	0	0
	by gender	male	rate	0	0	0	0	0	0
		female	rate	0	0	0	0	0	0
	Absentee rate (all employees)[4]		rate	3.65	4.08	3.97	4.14	5.51	4.78
	by gender	male	rate	0.19	0.89	0.25	0.07	0.16	1.11
		female	rate	–	–	–	1.39	1.53	1.45
	by region	HK, Macau	rate	–	–	–	0.97	1.06	1.04
		Singapore	rate	–	–	–	1.02	1.15	1.3
		Rest of Asia – Mainland China	rate	–	–	–	1.04	0.99	0.99
GRI 4-CRE6	*Management system verification*								
	% of Gammon operations operating in verified compliance with OHSAS 18001[5]		%	100	100	100	99.3	98.9	98.4
ECONOMIC									
GRI 102	**General disclosures**								
GRI 102-7	*Scale of the organization*								
	Active project sites		number	100	117	109	116	129	139
	Sustainability certification, rating and labelling schemes for new construction (HKBEAM, BEAM Plus, LEED and Green Mark)		number of projects, cumulative	33	49	62	75	87	96

1. AIR is total number of reportable accidents / average workforce * 1000 (excluding first aid case). Data for 2016 amended due to late reporting adjustment.
2. No data available as reported directly to Government (HK only)
3. Lost day rate = Total man-days lost / Total man-hours worked in the period *10,000
4. Absentee rate = Days absent / Total normal working days
5. OHSAS 18001 certification does not include JV projects. Calculation on the basis of employee numbers – Entasis and Into G operate in accordance with our OHSAS policy and procedures, but are currently excluded from the scope of certification (to be included in 2018).

\+ Gender: male

GRI Standard	Performance Indicators	Units	2012	2013	2014	2015	2016	2017
ECONOMIC								
GRI 102	**General disclosures** continued							
GRI 102-9, GRI 204-1	*Supply chain/Procurement practice*							
	Active subcontractors and suppliers[1]	number	–	–	–	1813	1708	1677
	Location of suppliers by country or region							
	Hong Kong & Mainland China	% by number	–	–	–	96	97	95
	Overseas	% by number	–	–	–	4	3	5
	Payment to suppliers by country or region							
	Hong Kong & Mainland China	HK$1M	–	–	–	–	–	2634
	Overseas	HK$1M	–	–	–	–	–	75
	Supply chain category							
	Subcontractors	number	–	–	–	967	905	919
	Distributors/Traders/Stockist	number	–	–	–	674	645	621
	Manufacturers	number	–	–	–	106	101	85
	Licensees	number	–	–	–	31	28	26
	Professional	number	–	–	–	34	13	2
	Contractors	number	–	–	–	1	2	1
	Service companies	number	–	–	–	–	12	23
	NGO/Charitable organisations[2]	number	–	–	–	–	2	0
GRI 416	**Customer health and safety**							
GRI 416-2	*Incidents of non-compliance concerning the health and safety impacts of products and services*							
	Product and services non-compliance in team of health and safety	number	–	–	–	–	–	0
GRI 419	**Socioeconomic compliance**							
GRI 419-1	*Non-compliance with laws and regulations in the social and economic area*							
	Product and services convictions[3]	number	–	–	–	2	0	0
	Innovation entry[4]							
	Entry for in-house "Innovation of the month"	number	–	–	–	181	158	122
	Entry for in-house "Innovation competition"	number	–	–	–	102	106	100
	Entry for external competitions	number	–	–	–	6	3	10
	Entry for 'Innovate Jardines' event	number	–	–	–	–	–	55
SOCIAL								
GRI 102	**General disclosures**							
GRI 102-7	*Scale of the organization*							
	Total employees (by region)[5]	number	7,083	8,160	9,062	8,331	7,833	7,265
	Rest of Asia – Mainland China	number	423	507	517	530	522	474
	Singapore	number	836	1,076	1,322	1,158	1,028	595
	Hong Kong & Macau	number	5,824	6,577	7,223	6,643	6,283	6,196
GRI 102-7	**Group turnover (by region)**	US $millions	1,638	1,757	2,252	2,425	2,613	2,633
	Rest of Asia – Mainland China	US $millions	0	0	0.1	0.2	0.3	0.6
	Singapore	US $millions	166	165	195	164	134	118
	Hong Kong & Macau	US $millions	1,471	1,592	2,057	2,260	2,479	2,514
GRI 102-8	*Information on employees and other workers*							
GRI 102-8-b	**Total monthly-paid staff (by location)**	number	4,643	5,069	5,397	4,912	4,576	4,378
	Mainland China	number	423	507	517	530	522	474
	permanent[6]	%	–	–	–	–	–	100
	contract[6]	%	–	–	–	–	–	0
	Singapore	number	448	502	494	424	369	336
	permanent[6]	%	–	–	–	–	–	92
	contract[6]	%	–	–	–	–	–	8
	Hong Kong & Macau	number	3,772	4,060	4,386	3,958	3,685	3,568
	permanent[6]	%	–	–	–	–	–	89
	contract[6]	%	–	–	–	–	–	11

1. Subcontractors are external parties providing services and labour. Suppliers are external parties supplying equipment or materials.
2. Excludes company events.
3. Significant fines only (over HKD100,000).
4. Excludes subcontractor entries.
5. Includes monthly and daily paid employees.
6. Data reported since 2017.

GRI Standard	Performance Indicators		Units	2012	2013	2014	2015	2016	2017
SOCIAL									
GRI 102	**General disclosures** continued								
GRI 102-8	**Total daily-paid workers (all locations)**		number	2,440	3,091	3,665	3,419	3,257	2,887
GRI 102-8-a, GRI 102-8-c	**Employee by contract type**[1]								
	male		permanent %	77.3	74.8	73.4	87	82	80
	female		permanent %	23	25	27	13	18	20
	male		contract %	–	–	–	–	–	93
	female		contract %	–	–	–	–	–	7
GRI 102-8-d	**Total subcontractor workers (all locations)**[2]		number	10,493	7,528	10,536	12,881	10,690	13,381
	Hong Kong		number	9,493	7,015	9,711	12,331	10,198	12,477
	Singapore		number	1,000	513	825	550	492	904
GRI 401	**Employment**								
GRI 401-1	*New employee hires and staff turnover*[3]								
	New employee hires								
	By age group	Under 30 years old	number	–	–	–	–	338	339
		30-50 years old	number	–	–	–	–	248	270
		Over 50 years old	number	–	–	–	–	65	110
	By gender	Male	%	–	–	–	–	80	80
		Female	%	–	–	–	–	20	20
	By region	Hong Kong & Macau	%	–	–	–	–	74	77
		Singapore	%	–	–	–	–	7	10
		Rest of Asia – Mainland China	%	–	–	–	–	19	13
GRI 401-1	**Staff turnover**								
	By age group	Under 30 years old	number	–	–	–	–	290	282
		30-50 years old	number	–	–	–	–	318	298
		Over 50 years old	number	–	–	–	–	55	55
	By gender	Male	%	–	–	–	–	79	76
		Female	%	–	–	–	–	21	24
	By region	Hong Kong & Macau	%	–	–	–	–	13	13.4
		Singapore	%	–	–	–	–	14	12.1
		Rest of Asia – Mainland China	%	–	–	–	–	19	22.2
	Graduate and apprentice recruitment[4]								
	Graduate recruitment		number	135	117	116	83	65	70
	Technician apprentice recruitment		number	73	65	58	34	55	44
GRI 404	**Training and Education**								
GRI 404-1	*Average training hours (monthly paid employees)*[5]								
	Training hours per employee		hrs/employee	22.8	22.3	21.2	19.7	16.2	12.8
	Training by gender								
	Male		%	88.2	85.8	85.7	82.1	84.9	83.8
	Female		%	11.8	14.2	14.3	19.9	15.1	16.2
	Male		hours	–	–	–	–	17.2	12.8
	Female		hours	–	–	–	–	11.3	12.3
	Training completed by management class								
	Director		%	0.4	0.7	0.6	0.5	1.1	1.3
	Managerial		%	14.7	16.6	13.6	14.6	15.1	14.3
	Professional		%	27.8	26.0	27.3	28.0	32.3	29.0
	Supervisory		%	22.0	17.7	16.7	13.9	14.8	15.9
	Technical		%	30.4	33.7	36.3	36.6	32.4	35.2
	Others		%	4.7	5.4	5.5	6.5	4.3	4.2

1. Data reported since 2017.
2. Subcontractors defined as workers supporting construction works on site.
3. Data report since 2016.
4. Hong Kong only. Includes both degree and higher diploma holders.
5. 2017 data includes HK, Macau and Singapore, excludes China data. 2016 and previous data includes HK and Macau only.

GRI Standard	Performance Indicators	Units	2012	2013	2014	2015	2016	2017
SOCIAL								
GRI 404	**Training and Education** continued							
	Training hours by management class[1]							
	Director	hrs/employee	–	–	–	–	37.6	36
	Managerial	hrs/employee	–	–	–	–	16.1	14.3
	Professional	hrs/employee	–	–	–	–	15.8	14.6
	Supervisory	hrs/employee	–	–	–	–	9.6	8.8
	Technical	hrs/employee	–	–	–	–	11.5	15
	Others	hrs/employee	–	–	–	–	4.5	5
GRI 404-3	*Career & performance review (monthly paid employees)*[2]							
	Performance review by gender							
	Male	%	–	–	–	–	–	79
	Female	%	–	–	–	–	–	78
	Performance review by management class							
	Director	%	–	–	–	–	–	100
	Managerial	%	–	–	–	–	–	64
	Professional	%	–	–	–	–	–	80
	Supervisory	%	–	–	–	–	–	93
	Technical	%	–	–	–	–	–	70
	Others	%	–	–	–	–	–	82
GRI 405	**Diversity and equal opportunity**							
GRI 405-1	*Diversity of governance bodies and employees*[3]							
GRI 405-1a	*Diversity of governance bodies*							
	Employee in governance bodies by gender[4]							
	Male	%	–	–	–	–	–	90
	Female	%	–	–	–	–	–	10
	Employees in governance bodies by age group[4]							
	Under 30 years old	%	–	–	–	–	–	0
	30-50 years old	%	–	–	–	–	–	10
	Over 50 years old	%	–	–	–	–	–	90
	Employees in governance bodies by nationality[4]							
	Chinese	%	–	–	–	–	–	60
	British	%	–	–	–	–	–	20
	Singaporean	%	–	–	–	–	–	20
GRI 405-1b	*Diversity of employees*							
	Employee by management class[4]							
	Director level							
	Male	%	–	–	–	–	–	94.7%
	Female	%	–	–	–	–	–	5.3%
	Under 30 years old	%	–	–	–	–	–	0.0%
	30-50 years old	%	–	–	–	–	–	15.8%
	Over 50 years old	%	–	–	–	–	–	84.2%
	Managerial level							
	Male	%	–	–	–	–	–	90.3%
	Female	%	–	–	–	–	–	9.7%
	Under 30 years old	%	–	–	–	–	–	1.1%
	30-50 years old	%	–	–	–	–	–	65.2%
	Over 50 years old	%	–	–	–	–	–	33.6%
	Professional level							
	Male	%	–	–	–	–	–	75.7%
	Female	%	–	–	–	–	–	24.4%
	Under 30 years old	%	–	–	–	–	–	26.2%
	30-50 years old	%	–	–	–	–	–	66.0%
	Over 50 years old	%	–	–	–	–	–	7.8%

1. Data report since 2016.
2. Excludes Pristine.
3. Data reported since 2017.
4. Includes Executive Directors only but excludes shareholders board members.

GRI Standard	Performance Indicators	Units	2012	2013	2014	2015	2016	2017
SOCIAL								
GRI 405	**Diversity and equal opportunity** continued							
GRI 405-1b	**Employee by management class** continued							
	Supervisory level							
	Male	%	–	–	–	–	–	99.9%
	Female	%	–	–	–	–	–	0.1%
	Under 30 years old	%	–	–	–	–	–	11.2%
	30–50 years old	%	–	–	–	–	–	51.0%
	Over 50 years old	%	–	–	–	–	–	37.7%
	Technical							
	Male	%	–	–	–	–	–	89.6%
	Female	%	–	–	–	–	–	10.4%
	Under 30 years old	%	–	–	–	–	–	50.9%
	30–50 years old	%	–	–	–	–	–	34.2%
	Over 50 years old	%	–	–	–	–	–	14.9%
	Others							
	Male	%	–	–	–	–	–	58.8%
	Female	%	–	–	–	–	–	41.2%
	Under 30 years old	%	–	–	–	–	–	20.5%
	30–50 years old	%	–	–	–	–	–	50.8%
	Over 50 years old	%	–	–	–	–	–	28.8%
GRI 102	**General disclosures**							
GRI 102-44	*Key topics and concerns raised*							
	Yearly customer satisfaction							
	Very satisfied	%	17	17	14	13	20	To be updated in Aug-2018
	Satisfied	%	70	63	77	77	60	
	Neutral	%	10	16	8	5	17	
	Dissatisfied	%	3	4	2	4	3	
	Very dissatisfied	%	0	0	0	1	0	
	Corporate social initiatives							
	Volunteer hours	hours	5,225	4,974	3,658	1,649	2,487	4,359
	Number of community activities	number	109	126	106	72	102	147
ENVIRONMENT								
GRI 301	**Materials**							
GRI 301-1	*Materials used – non renewable materials*							
	Major materials used (rebar)	tonnes	82,890	68,803	86,841	99,700	151,230	111,376
	Major materials used (concrete)[1]	m^3	–	–	–	1,026,718	991,747	682,040
GRI 301-1	*Materials used – renewable materials*							
	Major materials purchased (timber formwork)	m^3	–	4,084	3,220	2,271	5,796	1,484
	% of timber purchases that were Forest Stewardship Council (FSC) certified	% of spend	99	97	99	98	98	100
GRI 301-2	*Recycled input materials used*							
	Cement replacements	% replaced	26.8	26.3	27.9	29.2	27.8	26.8
GRI 302	**Energy**							
GRI 302-1	*Energy consumption within the organisation*							
	Fuel Consumption – non renewable sources[2]							
	Total fuel consumption	gigajoules	705,364	624,940	883,699	842,850	840,603	580,243
	Diesel consumption	gigajoules	705,340	455,020	298,705	126,507	140,303	134,614
	B5 Biodiesel	gigajoules	0	169,867	584,924	716,014	700,214	445,367
	Petroleum consumption[3]	gigajoules	24	53	71	329	86	262
	Electricity Consumption	gigajoules	170,509	176,066	187,385	153,134	125,050	146,299

1. Additional data collected, principally due to year-end account reconciliation.
2. Conversion fuel to energy unit (Megajoules, MJ): 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'.
3. Includes reporting of white gasoline usage since 2015.

GRI Standard	Performance Indicators	Units	2012	2013	2014	2015	2016	2017
ENVIRONMENT								
GRI 302	**Energy** continued							
	Fuel Consumption – renewable sources							
	Renewable electricity generated[1]	kWh	7,992	8,873	4,549	5,487	5,833	7,283
		gigajoules	29	32	16	20	21	26
	Energy Consumption – total within organisation							
	Total energy consumption within the organisation	gigajoules	875,901	801,039	1,071,101	996,004	965,674	726,568
GRI 302-2	*Energy consumption outside the organization*							
	Business air travel – aircraft fuel[2]	Litres	–	–	–	–	–	39,632
	Staff cars petrol consumption[3]	Litres	–	–	–	–	667,080	595,896
	Staff cars diesel consumption	Litres	–	–	–	–	8,394	9,970
	Staff cars B5 biodiesel consumption	Litres	–	–	–	–	1,334	155
GRI 302-3	*Energy intensity*							
	Electricity intensity[4]	kWh/HK$1m turnover	3,708	3,569	2,963	2,249	1,704	1,979
	Total diesel intensity[4] (diesel + B5)	litre/HK$1m turnover	1,692	1,386	1,510	1,332	1,237	871
	B5 biodiesel intensity	litre/HK$1m turnover	–	350	939	1,069	977	624
	Petroleum intensity[3, 4]	litre/HK$1m turnover	89.9	95.9	93.6	68.9	23.4	21.5
GRI 303	**Water**							
(GRI 303-1)	Municipal water consumption[4]	m^3	1,250,605	1,240,833	1,541,394	1,362,646	1,131,830	1,373,500
(GRI 303-1)	Municipal water intensity[4]	m^3/HK$1m turnover	97.9	90.6	87.7	72.1	55.5	67
(GRI 303-3)	Recycled water	m^3	2,019,264	2,129,860	1,338,533	436,636	5,523,201	1,788,216
	% of water recycled based on total demand[5]	%	62	63	46	24	83	57
	% of water recycled of total water withdrawal	%	161	172	87	32	488	130
GRI 305	**Emissions**							
GRI 305-1	*Direct (Scope 1) GHG emissions*							
	Carbon dioxide equivalent (CO_2e) emissions (Scope 1)[3, 4, 6]	tonnes	61,031	54,202	75,239	69,354	68,575	49,040
	Biogenic CO_2e emissions (from B100)	tonnes	0	608	2,093	2,565	2,527	1,627
GRI 305-2	*Direct (Scope 2) GHG emissions*							
	Carbon dioxide equivalent (CO_2e) emissions (Scope 2)[4, 6, 7]	tonnes	34,105	35,368	37,206	25,851	20,318	22,859
GRI 305-3	*Indirect (Scope 3) GHG emissions*							
	Total reported carbon dioxide equivalent (CO_2e) emissions (Scope 3)[6]	tonnes	55,978	49,349	56,955	66,676	77,618	76,238
	CO_2e from business air travel[8]	tonnes	254	289	245	256	297	268
	Landfill disposal[9, 10] (Hong Kong)	tonnes	55,720	49,053	56,685	66,377	75,777	74,219
	Waste incineration[11] (Singapore)	tonnes	4	7	25	43	3	8
	Water consumption[12]	tonnes	–	–	–	–	–	362
	Staff cars use[3]	tonnes	–	–	–	–	1,541	1,381
GRI 305-4	*GHG emissions intensity*							
	Carbon dioxide equivalent (CO_2e) emissions (Scope 1)[3, 4, 6]	kg/HK$1m turnover	4,778	3,955	4,283	3,667	3,364	2,388
	Carbon dioxide equivalent (CO_2e) emissions (Scope 2)[4, 6, 7]	kg/HK$1m turnover	2,670	2,581	2,118	1,367	997	1,113
	Carbon dioxide equivalent (CO_2e) emissions (Scope 3)[3, 6]	kg/HK$1m turnover	4,382	3,601	3,242	3,526	3,808	3,712

1. Renewable energy includes solar power (PV panel and solar water heater) and wind power. Estimated based on equipment specification and local conditions.
2. Data reported since 2017.
3. Staff car use reporting moved from direct (Scope 1) to indirect (Scope 3) from 2016.
4. Additional data collected, principally due to year-end account reconciliation.
5. % of water recycled used based on total demand (municipal water consumption + recycled water used).
6. Calculation methodology follows ISO 14064 standard and IPCC AR5 report for Global Warming Potential, including greenhouse gas type (CO_2, CH_4, N_2O, HFCs).
7. 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.
8. Emission factor from 'WBCSD Greenhouse Gas Protocol Mobile Combustion GHG Emission Calculation Tool' version 2.6
9. Emission factor from 'Carbon Audit Toolkit for Small and Medium Enterprises in Hong Kong' published in February 2010 by The University of Hong Kong.
10. Hong Kong construction site only.
11. Emission factor from: NEA Singapore's Second Biennial Update Report 2016' under UNFCCC, (emission factor derived from wet weight – Table 6C).
12. To be verified under ISO14064 in 2018. Hong Kong only. Source: 'Hong Kong Water Supplies Department Annual Report 2015/2016'. Average electricity emission factor from HKE and CLP used.

GRI Standard	Performance Indicators	Units	2012	2013	2014	2015	2016	2017
ENVIRONMENT								
GRI 306	**Effluent and Waste**							
GRI 306-2	*Waste by type and disposal method*[1]							
GRI 306-2a: vii	**Hazardous Waste Disposal**							
	Chemical waste disposal – liquid[2]	litres	237,714	234,314	306,326	202,889	283,429	260,920
	Chemical waste disposal – solid[3]	kg	18,263	11,085	9,985	9,963	8,840	7,833
GRI 306-2b: vii	**Non Hazardous Waste Disposal**[4]							
	Total construction site waste landfilled							
	Hong Kong	tonnes	37,147	32,702	37,790	44,251	50,518	49,479
	Total construction site waste incinerated							
	Singapore	tonnes	286	531	2,026	3,424	241	665
GRI 306-2b: vi	**Non Hazardous Waste Reuse**[4]							
	Total inert material to public fill							
	Hong Kong and Singapore	tonnes	1,507,732	961,273	1,100,769	1,746,608	1,447,808	932,286
	Direct inert material reused	%	47	52	42	30	9	30
	Total quantity	tonnes	1,350,304	1,048,959	790,636	730,029	148,125	408,044
	Hong Kong	tonnes	1,331,386	1,031,646	722,192	702,774	112,542	189,045
	Singapore	tonnes	18,918	17,314	68,444	27,255	35,583	219,000
GRI 306-2b: ii	**Non Hazardous Waste Recycling**							
	Total waste recycled excluding rebar/ steel (diverted from landfill)	tonnes	2,759	2,160	3,880	1,819	3,373	1,812
		%	7	6	9	4	6	4
	Total waste recycled including rebar/ steel (diverted from landfill)	tonnes	22,160	9,985	22,932	16,429	40,139	34,413
		%	36	23	38	27	44	41
	Rebar/steel recycled	kg/HK$1m Turnover	1,519	571	1,085	773	1,804	1,587
		tonnes	19,401	7,825	19,052	14,610	36,767	32,602
GRI 307	**Environmental compliance**							
GRI 307-1	*Non-compliance with environmental laws and regulations*							
	Environmental Convictions	number	1 (HK)	1 (HK)	0	0	0	0
	General Notes 'GRI numbers in paranthesis '(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. Whilst data are generatlly reported according to GRI principles they may not fully comply with disclosure requirements.							
	Joint Venture (JV) projects included and follow an equity share approach							

1. Quantities determined from EPD Construction Waste Disposal Charging Scheme, receipts from waste management service providers or recyclers.
2. The majority is spent lubricant oil.
3. The majority is absorbent material from cleaning machinery.
4. Disposal method determined based on compliance with local government requirements.

Appendix D – Other Initiatives – Awards

Date	Name of Award	Issued by	Name of Project / Division
18-Jan-17	Hong Kong Green Organization	Environmental Campaign Committee	15205 - Express Rail Link Contract 811b - West Kowloon Terminus Approach Tunnel (South)
10-Mar-17	10 Years Plus Caring Company logo	The Hong Kong Council of Social Service	Gammon Construction Limited
19-Mar-17	Construction Industry Safety Award Scheme 2016/2017 Silver Prize in Building Sites (Private Sector) & Meritorious Prize in the Safety Team	Labour Department	13628 - Taikoo Place Phase 2A Development
19-Mar-17	Construction Industry Safety Award Scheme 2016/2017 Meritorious Prize in Building Sites (Private Sector) & Certificate in the Safety Team	Labour Department	13605 - Foundation and Earth Retaining Structure Works for Proposed Hotel Development at Tung Chung Town Lot 38, Lantau Island, Hong Kong
19-Mar-17	Construction Industry Safety Award Scheme 2016/2017 Meritorious Prize in the Safety Team	Labour Department	13538 - MTR Shatin Central Link Contract 1165 - Building Services for HIK, MCV and FTA
19-Mar-17	Construction Industry Safety Award Scheme 2016/2017 Certificate in the Safety Team	Labour Department	13590 - Contract No DC/2015/01, Relocation of Sha Tin Sewage Treatement Works to Caverns - Ground Investigation
24-Mar-17	The Lighthouse Club 2nd International Design for Safety Award 3rd Prize	Lighthouse Club	K-frame
04-May-17	2016 Hong Kong Awards for Environmental Excellence Sectoral Awards (Construction) Certificate of Merit	Environmental Campaign Committee	13609 - Foundation Works for Lyric Theatre Complex and Extended Basement in Zone B, West Kowloon Cultural District
04-May-17	2016 Hong Kong Awards for Environmental Excellence Sectoral Awards (Construction) Certificate of Merit	Environmental Campaign Committee	"13568 - West Rail Tsuen Wan West Station TW5 Cityside Property Development
04-May-17	2016 Hong Kong Awards for Environmental Excellence Sectoral Awards (Construction) Bronze	Environmental Campaign Committee	13588 - Murray Building Hotel Development
04-May-17	2016 Hong Kong Awards for Environmental Excellence Green Innovations Awards Bronze	Environmental Campaign Committee	Gammon Construction Limited & Hong Kong Polytechnic University - Low Carbon Partition Wall Blocks Prepared with 100% Recycled Waste Materials
12-May-17	Structural Excellence Award 2017 Commendation Merit	Hong Kong Institute of Engineer	13468 - Contract P533 Midfield Concourse Works

Date	Name of Award	Issued by	Name of Project / Division
12-May-17	Structural Excellence Award 2017 Commendation Merit	Hong Kong Institute of Engineer	13282 – Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from North Point to Stonecutter Island
31-May-17	Innovation Award for Site Safety 2016	Civil Engineering and Development Department	13629 – Contract No NE/2015/08, Development of Kwu Tung North and Fanling North New Development Areas – Advance Works and First Stage Works – Stage 2 Ground Investigation
02-Jun-17	CIC Employers Appreciation Ceremony Gold Award as the employer who hired the graduates from most trades during 2012 to 2016	Construction Industry Council	
02-Jun-17	CIC Employers Appreciation Ceremony Outstanding Award as the employers who hired the most full-time course graduates	Construction Industry Council	Gammon Construction Limited
05-Jul-17	Construction Safety Forum and Award Presentation 2017 Best Method Statement – Gold	Occupational Safety and Health Council	15665 – Steelwork for Museum Plus M+
05-Jul-17	Construction Safety Forum and Award Presentation 2017 Best Safety Enhancement Program for Working at Height – Merit	Occupational Safety and Health Council	Development of Kwu Tung North and Fanling North New Development Areas -AdvanceWorks and First StageWorks – Stage 2 Ground Investigation Works
05-Jul-17	Construction Safety Forum and Award Presentation 2017 Best Safety Culture Site – Merit & Best Safety Culture Activity Team – Merit	Occupational Safety and Health Council	Foundation Works for Lyric Theatre Complex and the Extended Basement in Zone 3B
05-Jul-17	Construction Safety Forum and Award Presentation 2017 Best Program to Prevent Heat Stroke at Work – Silver	Occupational Safety and Health Council	Marine Ground Investigation and Geophysical Surveys (GE/2016/03)
06-Jul-17	2017 Young Lu Pan Award Merit Award	Hong Kong Lo Pan Kwong Yuet Tong	Man Kwok Keung & Lo Chi Hoi
07-Jul-17	CIHT / Ringway Innovation Award Highly Commended (K-Frame)	Chartered Institution of Highways & Transportation	13518 – Contract No HY/2012/07, Tuen Mun – Chek Lap Kok Link, Southern Connection Viaduct Section
28-Jul-17	Certificate of Recognition as Sustainable Product Supplier	Business Environment Council	Gammon Construction Limited
28-Jul-17	Certificate of Recognition as Sustainable Consumption Enterprise	Business Environment Council	Gammon Construction Limited
26-Sep-17	Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group A Considerate Contractors Site Awards (CCSA) – Gold	Development Bureau and Construction Industry Council	13559 – Construction of Public Rental Housing Development at Tuen Mun Area 54 Site 2 Phases 1 & 2
26-Sep-17	Considerate Contractors Site Award Scheme Non-Public Works – New Works – Group A Outstanding Environmental Management and Performance Awards (OEMPA) – Bronze	Development Bureau and Construction Industry Council	13559 – Construction of Public Rental Housing Development at Tuen Mun Area 54 Site 2 Phases 1 & 2

Date	Name of Award	Issued by	Name of Project / Division
26-Sep-17	Considerate Contractors Site Award Scheme Non-Public Works - New Works - Group B Considerate Contractors Site Awards (CCSA) - Bronze	Development Bureau and Construction Industry Council	13568 - West Rail Tsuen Wan West Station TW5 Cityside Property Development
26-Sep-17	Considerate Contractors Site Award Scheme Public Works - RMAA Works Considerate Contractors Site Awards (CCSA) - Silver	Development Bureau and Construction Industry Council	13590 - Contract No DC/2015/01, Relocation of Sha Tin Sewage Treatement Works to Caverns - Ground Investigation
27-Sep-17	Good MPF Employer Awards	Mandatory Provident Fund Schemes Authority	Gammon Construction Limited
27-Sep-17	Good MPF Employer Awards	Mandatory Provident Fund Schemes Authority	Gammon E&M
03-Nov-17	Wastewi$e Certificate - Excellence Level	Hong Kong Green Organisation	13613 - Main Contract for Harmony Redevelopment
25-Nov-17	Quality Public Housing Construction and Maintenance Awards 2017 New Works Projects Best Site Safety - Safety Innovation Awards	Hong Kong Housing Authority	13478 - Construction of Lower Ngau Tau Kok Estate Redevelopment Phases 2 & 6, Demolition and Minor Works at Tung Tau Estate Redevelopment Phase 8, Alteration & Addition Works at Homantin Estate
25-Nov-17	Quality Public Housing Construction and Maintenance Awards 2017 New Works Projects Best Site Safety - Safety Innovation Awards	Hong Kong Housing Authority	13559 - Construction of Public Rental Housing Development at Tuen Mun Area 54 Site 2 Phases 1 & 2
25-Nov-17	Quality Public Housing Construction and Maintenance Awards 2017 New Works Projects Best Site Safety - Safety Innovation Awards	Hong Kong Housing Authority	13586 - Foundation for Public Housing Development at North West Kowloon Reclamation Site 6 Phases 1, 2 and 3 and Fat Tseung Street West
15-Dec-17	CIC Construction Innovation Award 2017 1st Construction Safety	Construction Industry Council	Bio-Inspired Anti-Vibration Exoskeleton
15-Dec-17	CIC Construction Innovation Award 2017 2nd Construction Productivity	Construction Industry Council	New Machine To Enhance Productivity of Bridge Deck Erection
18-Dec-17	2017 Hong Kong Awards for Industries Equipment and Machinery Design - Merit	The Chinese Manufacturers' Association of Hong Kong	Gammon Formwork Hoist System

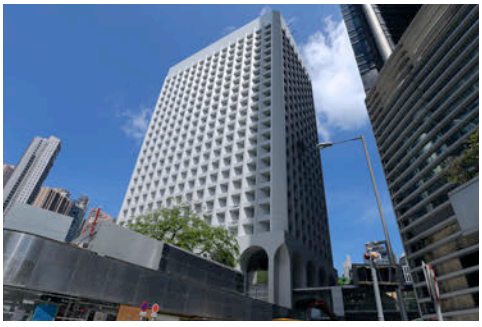
Appendix E – Green Building Projects Undertaken by Gammon

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

Project	Rating	Client
HK-BEAM – Hong Kong		
1 Plantation Road	BEAM Plus NB V1.2 Provisional Gold	Wharf Peak Properties Limited
Fullerton Hotel at Ocean park	BEAM Plus NB V1.2 On-going	Parkland (HK) Limited
Proposed Residential Development at T.P.T.L.226 Pak Shek Kok, Tai Po	BEAM Plus NB V1.2 On-going	K. Wah International Holdings Limited
Proposed Residential Development at T.P.T.L.2214 at Fo Yin Road, Pak Shek Kok, Tai Po	BEAM Plus NB V.1.2 On-going	Ease Treasure Investment Limited
Residential Redevelopment at Ma Tau Wai Road	BEAM Plus NB V.1.2 On-going	Urban Renewal Authority
Foundation works for IE 2.0 Project A	BEAM Plus NB V1.2 On-going	Hong Kong Science & Technology Parks Corporation
Site Formation and Foundation Works for Proposed Residential Development at KIL No.11257 Sheung Shing Street, Homantin	BEAM Plus NB V1.2 On-going	Goldin Financial Holdings Ltd
Foundation Works for Tin Wing Light Rail Stop Property Development	BEAM Plus NB V1.2 On-going	Best Vision Development Ltd
Foundation, Pipe Pile and Sheet Piling Works for West Rail Yuen Long Station Property Development	BEAM Plus NB V1.2 On-going	Sun Hung Kai Properties
Foundation, Piling and ELS Piling Work for Proposed Residential Development at To Shek Street, Shatin	BEAM Plus NB V1.2 On-going	Sun Hung Kai Properties
Demolition and Associated A&A Works for Taikoo Place 2B Development	BEAM Plus NB V1.2 On-going	Swire Properties Limited
Property Development at Tseung Kwan O Town Lot No. 93, Hong Kong	BEAM Plus NB V1.2 Provisional Bronze	Chinachem Group
Proposed Commercial Development at NKIL No. 6512 Kwun Tong	BEAM Plus NB V1.2 On-going	Link & Nan Fung Group
Harmony Redevelopment at Hysan Avenue, Hoi Ping Road and Sunning Road, Causeway Bay, Hong Kong	BEAM Plus NB V1.2 On-going	Hysan Development Co Ltd.
Redevelopment of Somerset House in Taikoo Place	BEAM Plus NB V1.2 On-going	Taikoo Place Holding Ltd.

Project	Rating	Client
HK-BEAM – Hong Kong continued		
One South Lane	BEAM Plus NB V1.1 Gold	Both Talent Ltd.
Foundation, ELS and Piled Caps Works for the Proposed Residential Development at Lohas Park Package 9, Town Lot No. 70 RP (Site J) Park 9	BEAM Plus NB V1.2 On-going	Wheelock Properties Limited
Construction of Pile Cap for Proposed Residential Development at Site N of TKO TL 80RP, Lohas Park Package 6	BEAM Plus NB V1.2 On-going	Nan Fung Group
Foundation works for Lyric Theatre Complex	BEAM Plus NB V1.2 On-going	West Kowloon Cultural District Authority
Global Switch Data Center	BEAM Plus NB V1.2 On-going	Global Switch Hong Kong Limited
Proposed Residential and Commercial Development at TKOTL No.126, Area 69B2 Tseung Kwun O, New Territories	BEAM Plus NB V1.2 On-going	Wheelock Properties Ltd
Murray Building Hotel Development	BEAM Plus NB V1.2 On-going	Smart Event Investments Limited
Proposed Residential and Commercial Development at 33 Tong Yin Street, TKO TL 125, Area 68A1, Tseung Kwan O, N.T. (Capri)	BEAM Plus NB V1.1 Provisional Gold	Amblegreen Company Limited (Subsidiary of Wheelock Properties)
Proposed Residential Development at STTL 565, Area 56A, Kau To Sha Tin, N.T.	BEAM Plus NB V1.2 Silver	Bravo Partner Limited
Foundation for Public Housing Development at North West Kowloon Reclamation Site 6 Phases 1, 2 and 3 and Fat Tseung Street, West, Contract No 20140553	BEAM Plus NB V1.2 On-going	Hong Kong Housing Authority
West Rail Tsuen Wan West Station TW5 Cityside Property Development	BEAM Plus NB V1.1 Provisional Gold	Denny Investment Limited (Chinachem Group)
Proposed Residential Development at Area 54, Siu Hong, Tuen Mun, NT	BEAM Plus NB V1.2 On-going	Pacific Good Investment Limited

One South Lane



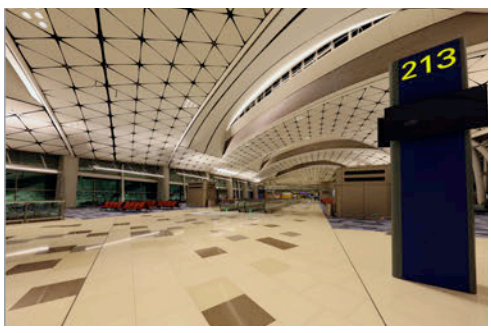
Murray Building Hotel Development

Proposed Residential and Commercial Development at 33 Tong Yin Street, TKO TL 125, Area 68A1, Tseung Kwan O, N.T. (Capri)

Project	Rating	Client
HK-BEAM – Hong Kong continued		
Main Contract for Proposed Commercial and Residential Development at No. 1 Castle Road and No. 2 Castle Lane, Mid-level, Hong Kong	BEAM Plus NB V1.1 Provisional Silver	Best-Rights Company Limited
Maxim's HQ, No. 17 Cheung Shun Street	BEAM Plus NB V1.1 Provisional Platinum	Luk Yeung Restaurant Limited
Science Park Phase 3c building 20E and 22E	BEAM Plus NB V1.2 Provisional Gold	Hong Kong Science & Technology Parks Corporation
TKO Area 66A	BEAM Plus NB V1.1 Provisional Silver	Crown World Investment Limited (Sun Hung Kai Properties Group)
Foundation and Earth Retaining Structure Works for Proposed Hotel Development at TCTL 38, Tung Chung, Lantau Island, Hong Kong	BEAM Plus NB V1.2 Provisional Silver	Shimao Property Holdings Ltd.
Foundation Works for Proposed Development at Tung Chung Town Lot No.11 at Junction of Tat Tung Road and Mei Tung Street	BEAM Plus NB V1.2 Provisional Silver	Newfoundworld Project Management Limited
No 24 Po Shan Road	BEAM Plus NB V1.1 Provisional Gold	Majestic Elite Property Development Ltd.
18 Tong Chun Street Development	BEAM Plus NB V1.1 Provisional Gold	Fortune Precision Limited (Wheelock)
No 8 Mount Nicholson Road	BEAM Plus NB V1.1 Provisional Gold	Market Prospect Limited
Midfield Concourse Works	BEAM Plus NB V1.1 Gold	Airport Authority Hong Kong
Shanghai Commercial Bank	BEAM Plus NB V1.1 On-going	Shanghai Commercial Bank
House Dev at No 724 Cheung Sha (Whitesands)	BEAM Plus NB V1.1 Platinum	Bao Wei Enterprise Ltd (Subsidiary of Swire)
TKO Area 66C1	BEAM Plus NB V1.1 Provisional Silver	Winbox Investment Ltd. (Sun Hung Kai Properties Group)

Maxim's HQ, No. 17 Cheung Shun Street

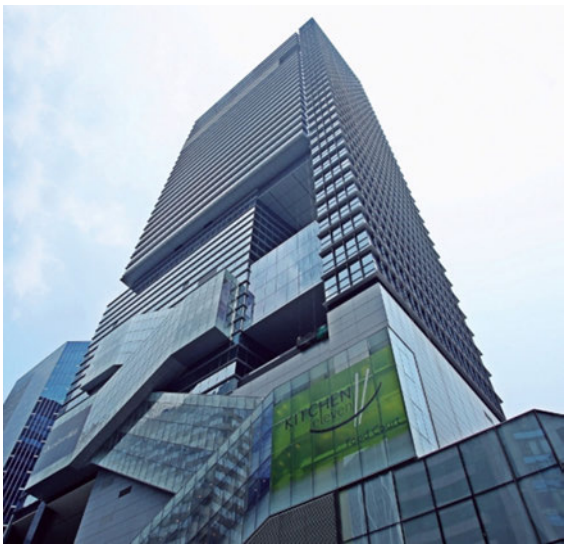

Science Park Phase 3c building 20E and 22E



Midfield Concourse Works

Project	Rating	Client
HK-BEAM – Hong Kong continued		
Foundation Works for Shatin Communication and Technology Centre (SCTC)	BEAM Plus NB V1.1 Gold	The Hong Kong Jockey Club
Proposed resident tower at 33 Seymour road, Hong Kong (Arezzo)	BEAM Plus NB V1.1 Platinum	Excel Free Limited (Swire Properties Limited)
Science Park Phase 3 a&b building 12W, 15W and 16W	BEAM Plus NB V1.1 Platinum	Hong Kong Science and Technology Parks Corporation
Central Police Station Conservation and Revitalisation Project	BEAM Plus NB V1.1 Provisional Bronze	Hong Kong Jockey Club
CIC Zero Carbon Building	BEAM Plus NB V1.1 Platinum	Construction Industry Council
500 Hennessy Road Redevelopment Causeway Bay (Hysan Place)	BEAM Plus NB v1.1 Platinum	Hysan Development Co Ltd
LEED Project – Hong Kong		
Redevelopment of Somerset House in Taikoo Place	LEED CS v2009 On-going	Taikoo Place Holding Ltd.
Harmony Redevelopment at Hysan Avenue, Hoi Ping Road and Sunning Road, Causeway Bay, Hong Kong	LEED CS v2009 On-going	Hysan Development Co Ltd.
Proposed Commercial Development at NKIL No. 6512 Kwun Tong	LEED CS v2009 On-going	Link & Nan Fung Group
Science Park Phase 3 a&b building 12W	LEED CS v2009 Platinum	Hong Kong Science and Technology Parks
HKU Centennial Campus	LEED NB v2009 – Platinum 2013	The University of Hong Kong
500 Hennessy Road Redevelopment Causeway Bay (Hysan Place)	LEED BD+C: Core and Shell (v2.0) Platinum 2012	Hysan Development Co Ltd
Proposed Residential Development at 38-44 Caine Road, Central	LEED BD+C: New Construction (v2.2) Certified 2013	Fine Mean Limited
Foundation Works for Project Symmetry at Sha Tin Shek Mun STTL 433, New Territories	LEED ID+C: Commercial Interiors v3 – LEED 2009 – On-going	The Hong Kong and Shanghai Banking Corporation Ltd.
Foundation Works for Shatin Communication and Technology Centre (SCTC)	LEED NB v2009 – On-going	The Hong Kong Jockey Club

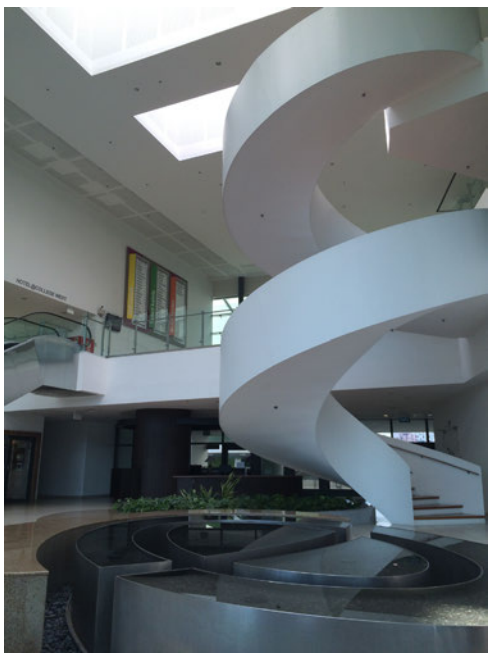
Global Switch Data Centre



Hysan Place

Project	Rating	Client
LEED Project – Hong Kong continued		
HSBC Project Symmetry BS Works	LEED ID+C: v3 – LEED 2009 – 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.
China Mobile Data Cente, MEP1	LEED BD+C:Core and Shell v3 – LEED 2009 – Gold	China Mobile International Limited
Proposed Redevelopment – The Forum, Exchange Square	LEED NC v2009 - Platinum	Hong Kong Land Limited
LEED Project - Singapore		
P&G Singapore Innovation Centre SgIC Project, Singapore	LEED CI v2.0 - Gold 2009	P&G
Diaphragm wall and Piling works to Singapore Innovation Centre (SgIC)	LEED NC 2009 - Gold	CH2M Hill Singapore Pte Ltd
Green Mark - Singapore		
Proposed Erection of New ITE College West PPP Project	GreenMark – Platinum	Gammon Capital (West) Private Limited
Nanyang Polytechnic Extension	GreenMark – Platinum	Nanyang Polytechnic
Design and Construction of Mayflower Station	GreenMark – Gold	Land Transport Authority (LTA)
LTA Contract T221 - Construction of Havelock Station for Thomson Line	GreenMark – Gold	Land Transport Authority
Construction of 3 Intra-Island Cableway Stations, 8 Cableway Tower Foundations and a Fort Siloso Pedestrian Bridge with Lift Tower at Sentosa	GreenMark – Certified	Sentosa Development Corporation
Grace Assembly of God Church	GreenMark – Certified	Grace Assembly of God Church
Mandai Depot	Greenmark	Land Transport Authority
Design and Construction of 6 storey Data Centre at Woodlands	Greenmark - Platinum	Global Switch

ITE West College



ITE West College

Appendix F – Verification Statement

INDEPENDENT ASSURANCE OPINION STATEMENT

By Royal Charter

Statement No.: **SRA-HK-692253**

Gammon Construction Limited Sustainability Report 2017

The British Standards Institution is independent to Gammon Construction Limited (hereafter referred to as "Gammon" in this statement) and has no financial interest in the operation of Gammon other than for the assessment and assurance of this report.

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

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

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

Scope

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

1. The assurance covers the whole Sustainability Report 2017 of Gammon prepared "In accordance" with GRI Sustainability Reporting Standards ("GRI Standards") – Core option, and focuses on systems and activities of Gammon and its subsidiaries in Hong Kong, Macau, Mainland China, and Singapore during the period from 1st January 2017 to 31st December 2017.
2. The AA1000 Assurance Standard, AA1000AS (2008) Type 1 engagement evaluates the nature and extent of Gammon's adherence to all three AA1000 AccountAbility Principles: Inclusivity, Materiality and Responsiveness. The specified sustainability performance information/data disclosed in the report has been evaluated.

bsi.

By Royal Charter

Opinion Statement

Our work was carried out by a team of sustainability report assurors in accordance with the AA1000 Assurance standard, AA1000AS (2008) and GRI Standards. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that Gammon's description of their self-declaration of compliance with the GRI Standards were fairly stated.

We conclude that the Gammon Sustainability Report 2017 review provides a fair view of the Gammon CSR programmes and performances during 2017. We believe that the 2017 economic, social and environment performance indicators are fairly represented. The sustainability performance indicators disclosed in the report demonstrate Gammon's efforts recognized by its stakeholders.

Methodology

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

- A top level review of issues raised by external parties that could be relevant to Gammon's policies to provide a check on the appropriateness of statements made in the report
- Discussion with senior executives on Gammon's approach to stakeholder engagement. We had no direct contact with external stakeholders
- Interview with staff involved in sustainability management, report preparation and provision of report information were carried out
- Review of key organizational developments
- Review of supporting evidence for claims made in the reports
- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality and Responsiveness as described in the AA1000 AccountAbility Principles Standard (2008)

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness and the GRI Standards is set out below:

bsi.

By Royal Charter

Inclusivity

This report has reflected the fact that Gammon is seeking the engagement of its stakeholders through numerous channels such as stakeholder engagement workshop, online sustainability survey, workshop, employee surveys, senior management review, caring visits, director workshops, supply chain workshops, CEO Graduate Prize, 'Shall we Talk' forums, supply chain workshops, Contractor Performance Rating (CPR), ad hoc meetings, institutional functions.

Being a construction company, the principle activities of Gammon are civil engineering, foundation works, building, interiors and façade construction, electrical and mechanical installation, manufacturing and supply of fabricated steel, manufacturing and selling concrete, rental of plant and machinery. This report covers the stakeholder issue together with fair reporting and disclosures for economic, social (including safety) and environmental information. In our professional opinion, the report covers the Gammon inclusivity issues. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement. The above channels help Gammon in stakeholder engagement and we recommend Gammon to keep these numerous stakeholder engagement channels.

Materiality

Gammon publishes sustainability information that enables its stakeholders to make informed judgments about the company's management and performance. In our professional opinion the report covers Gammon's material issues by using Gammon's materiality matrix and boundary mapping. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

Responsiveness

Gammon has implemented the practice to respond to the expectations and perceptions of its stakeholders. It includes client survey and different feedback mechanisms to external stakeholders and internal stakeholders. In our professional opinion the report covers Gammon's responsiveness issues. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

GRI-reporting

Gammon provided us with their self-declaration of compliance with GRI Standards and the classification to align with "In accordance" - Core.

Based on our verification review, we are able to confirm that social responsibility and sustainable development indicators in all 3 categories (Environmental, Social and Economic) are reported with reference to "In accordance" with the GRI Standards – Core option.

In our professional opinion the self-declaration covers Gammon's social responsibility and sustainability issues. Our view of an area for improvement for the report was adopted by Gammon before issue of this opinion statement.

bsi.

By Royal Charter

Competency and Independence

The assurance team was composed of Lead auditors experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEx ESG Guide, UNGC's Ten Principles, ISO20121, ISO10002, ISO 14001, OHSAS 18001, and ISO 9001, etc. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

Assurance Level

The moderate level of assurance provided is in accordance with AA1000 Assurance standard, AA1000AS (2008) in our review as defined by the scope and methodology described in this statement.

Responsibility

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

For and on behalf of BSI:

Mr. Wilfred Chan
Head of Operations, BSI Asia Pacific

Hong Kong
25th May 2018

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000-157

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Annex 1: Response to Stakeholders from the Workshop GRI 102-44

After the stakeholder engagement workshop we sent a letter of appreciation to all stakeholders who participated. This included a written response to some of the common themes and issues raised during the workshop. The response is provided in the table below.

Issue raised	Our response
Application of procurement guidelines for subcontractors	Recently we had an independent assessment done against the new ISO20400 guidance on sustainable procurement. Several useful recommendations were proposed, including the area of supply chain engagement, management and guidance. In the coming year we will review our approaches, process and practices and ensure sufficient training is provided to make sure we are consistent in our approach and practice across the business, especially with our subcontractors.
Communication to suppliers and subcontractors	Currently there are several available communication channels, and our procurement team welcomes direct contact. However, we currently have no formal procedure for post tender follow up. We will consider during upcoming review of our procedures.
Improving waste management and data disclosure	Waste management is still a major challenge for the industry (and Hong Kong as a whole!). We are trying to avoid the waste as a priority where possible (e.g. using system formwork instead of timber, using modular and reusable approaches, and fabricating off-site which cuts down on waste). We have been working with our suppliers to try to cut down on packaging and protection waste, and have some reusable stillages and take-back programmes but there is still some way to go. We are also encouraging clients and designers to rethink approaches to 'design out' the waste in the first place. Data for waste generation and disposal is provided in our report appendix online and broken down into different fractions.
The use of innovation to address safety, aging population and attracting talent	We could do more to share some of these innovations with young people, and particularly try to influence those in high school and make sure they are aware of the many opportunities in construction, especially with the growth of technology innovations. In the interim, we hope the use of exoskeletons and other technology can assist some of older workers but we are still faced with a skills shortage and need to work with the industry to keep training and upskilling.
Increase reporting of both serious injuries and minor injuries	Our Zero Harm commitment is to strive for: zero fatalities, zero permanently disabling injuries and aim for zero accidents and injuries. In our report (appendix) we provide both data on fatalities and our accident / incident rate (based on 'reportable accidents' which are serious and other injuries resulting in more than 3 days sick leave). Internally, we actively encourage reporting on minor accidents, first aid cases, near misses and observations. We will further consider disclosing these minor incidents as well. Our rates of near miss reporting from operational teams this year have increased which is encouraging – indicating that ownership of site safety is a cross-team responsibility and does not purely rest with Safety teams.
Other comments	We will review other suggestions in the coming months and integrate them into our Sustainability Report, strategy development and action plan in the coming year where appropriate and feasible.

Annex 2: Membership of Associations and Industry Bodies

1. Hong Kong Government

Association/ Body	Group/ Committee	Appointment
A. Statutory Bodies		
Construction Industry Council	–	Member
	Subcontractor Registration Scheme	Member
	Task Force on NEC3 Collaborative Contracts	Member
	Working Group of Task Force on Selection of Contractors – Phase 1	Member
	Construction Innovation & Technology Application Centre	Chairman
	Committee on Construction Safety	Member
	Committee on Environment, Innovation and Technology	Member
	Construction Industry Training Board – Task Force on Training	Chairman
	Construction Industry Training Board	Member
	Construction Industry Training Board – Task Force on Collection Scheme in 2016	Member
Development Board	Panel of Enquiry–Site Safety	Member
Hong Kong Council for Accreditation of Academic & Vocational Qualifications	–	Subject Specialists (Construction and Building Service)
Town Planning Board	–	Member
	Metro Planning Committee	Member
Larbour Department	Committee on Occupational Safety and Health	Member
B. Permanent Non Statutory Bodies		
The Hong Kong Construction Association, Limited (HKCA)	–	Representative
	Tripartite Committee on Construction Industry under Labour Department	Member
	Piling Contractors Committee	Member
	Environment Committee	Vice Chairman
Environmental Campaign Committee	–	Member
	Awards Committee on Hong Kong Awards for Environmental Excellence (HKAEE)	Chairman
C. Tertiary Institution		
The University of Hong Kong	Advisory Committee Department of Civil Engineering	Member
	Careers Advisory Board	Member
	MSc Integrated Project Delivery	External examiner
Vocational Training Council	Apprenticeship Training Board	Chairman
	Electrical and Mechanical Services Training Board	Member
	Engineering Discipline Advisory Board	Member
	Higher Education Advisory Committee	Member

2. Non Government Organisation

Association/ Body	Group/ Committee	Appointment
Business Environment Council	Board of Directors	Director
	Energy Advisory Group	Chairman
	Transport and Logistics Advisory Group	Steering Committee Member
	Waste Management Advisory Group	Steering Committee Member
	Climate Change Business Forum Advisory Group	Member
Hong Kong Green Building Council	–	Patron Member
	Green Building Faculty	Member
Hong Kong Institution of Engineers	Geotechnical Division Committee	Member
	Civil Discipline Advisory Panel	Chairman
	Qualification and Membership Board	Member
	Registration Committee	Member
Chartered Institution of Highways and Transportation, HK Branch	–	Committee Member
Temporary Works Forum	–	Member
Engineers Australia Singapore Chapter	–	Committee Member
Hong Kong Institute of Construction	STEM Alliance Steering Group	Member
Tunneling and Underground Construction Society of Singapore	–	Corporate Member
Hong Kong Institute of Human Resource Management	Membership Evaluation Committee	Member
Hong Kong E&M Contractors' Association	–	Honorary Secretary
Construction Workers Registration Authority	Appeal Board Panel	Committee Member
Registered Contractors' Disciplinary Board Panel	–	Member
Hong Kong Federation of Electrical and Mechanical Contractors Ltd	–	Council Member
	Government Liaison Committee	Member
The Singapore Contractors Association Limited	–	Corporate Member
The Hong Kong General Chamber of Commerce	Manpower Committee	Member
	Environment and Sustainability Committee	Member
Hong Kong Management Association	Operations Management Committee	Member
British Chamber of Commerce in Hong Kong	–	Corporate member
	Construction Industry Group	Chairman
	International Infrastructure Form	Member
	Environment and Energy Committee	Member
	CSR Steering Group	Member
Technological and Higher Education Institute of Hong Kong	Faculty Advisory Committee of the Faculty of Science and Technology	Member
Lighthouse Club	–	Member
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We value and encourage dialogue on our sustainability reporting. 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 environment@gammonconstruction.com GRI 102-53

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