



## CORPORATE PROFILE

Established in 1828, Boustead Singapore Limited (SGX:F9D) is a progressive global Infrastructure-Related Engineering and Technology Group listed on the SGX Mainboard.

Focusing on the niche engineering and development of key infrastructure to support sustainable economic growth in global markets, our strong suite of engineering services comprises Energy-Related Engineering and Real Estate Solutions, centred on energy infrastructure and smart eco-sustainable business park and industrial developments.

In addition, we provide technology-driven transformative solutions to improve quality of life for all walks of life. Geospatial Technology provides professional services and exclusively distributes Esri's ArcGIS technology – the world's leading geographic information system and location analytics platform – to major markets across Australia and parts of South East Asia. The software creates digital infrastructure solutions that enable smart nations, smart cities and smart communities by solving the world's largest problems through effective and sustainable planning and management of key infrastructure and resources. Healthcare Technology provides niche

innovative medical solutions that address age-related chronic diseases and mobility issues, with a focus on rehabilitative care, sleep care and sports science in the Asia Pacific.

With a vast global network stretching across Asia, Australia, Europe, Africa and the Americas, we are ready to serve the world. To date, we have undertaken infrastructure-related projects in 87 countries and territories globally.

In 2008 and 2009, we were recognised in the prestigious Forbes Asia 200 Best Under A Billion as one of the Asia Pacific's 200 best public-listed corporations under US\$1 billion in revenue. In 2015, we were also the winner of the Singapore Golden Jubilee Business Award, in recognition of the best 50 Singapore corporations who have achieved and contributed to Singapore's progress and success over the past half-century since independence. In 2017, we were ranked by FinanceAsia as Singapore's Best Small-Cap in the annual Asia's Best Companies Poll. We are also listed on the MSCI World Micro Cap Index, FTSE Global Small Cap Index, FTSE Developed Small Cap Index and FTSE ST Small Cap Index.

Visit us at [www.boustead.sg](http://www.boustead.sg).

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## DEFINING LONGEVITY

# LONGEVITY

1. Long life.
2. Long existence or service.

- *Lexico Powered by Oxford*<sup>1</sup>



Welcome to ***Boustead Singapore Limited's FY2019 Longevity Report***.

This year, as Singapore celebrates its historic Bicentennial, Boustead continues on our journey to build businesses that transcend generations and deliver progress.

Even as sustainability reporting takes centre stage among the world's latest corporate reporting initiatives, we feel that at our age, the term 'Longevity Reporting' is more all encompassing and relevant than 'Sustainability Reporting'.

As a corporation, we have enjoyed a long

life but not only that, a long life in service. We celebrate 191 years of progress and multi-generational success, extending an unrivalled milestone in Singapore's corporate history as we maintain our longstanding position as Singapore's oldest continuous business – a practical and symbolic reflection of longevity. We are in the business of building businesses that can transcend generations and provide a positive impact on future generations, just as they have benefitted multiple generations over the past two centuries.

As you read this report, we hope that you gain an in-depth understanding of how

we ensure the longevity of our business and the wider ecosystem that we are interconnected with. We also share how this translates to delivering sustainable value and progress to key stakeholders, along with the communities that we reside in and our collective home – Planet Earth. Our performance, policies and practices on material economic, environmental, social and governance topics are explained. As a responsible global corporate citizen, we are highly reflective about how our actions 'ripple upon the pond of life'.

1. "Definition of Longevity in English." *Lexico.com*, Dictionary.com and Oxford University Press, [www.lexico.com/en/definition/longevity](http://www.lexico.com/en/definition/longevity). Accessed 18 July 2019.

2. Handscomb, Christopher and Shail Thaker. "Activate Agility: The Five Avenues to Success." McKinsey & Company, 1 February 2018, [www.mckinsey.com/business-functions/organization/our-insights/the-organization-blog/activate-agility-get-these-five-things-right](http://www.mckinsey.com/business-functions/organization/our-insights/the-organization-blog/activate-agility-get-these-five-things-right). Accessed 18 July 2019.

## CHAIRMAN'S LONGEVITY MESSAGE



### Dear Fellow Stakeholders,

It gives me great pleasure to present to you the **Boustead FY2019 Longevity Report** for the financial year ended 31 March 2019.

This year, our heartiest congratulations go out to our home nation, Singapore on the celebration of its historic Bicentennial, 200 years after Sir Stamford Raffles and Major General William Farquhar first stepped onto our shores in 1819. Only nine short years later in 1828, our company's founder, Mr Edward Boustead chose to establish Boustead in Singapore, thanks to Sir Raffles and General Farquhar's early initiatives to turn Singapore's strategic location into the gateway between China, India and South East Asia.

'Transcending Generations' is a phrase that aptly captures the successful transformation of both Singapore as a nation and Boustead as a corporation over these two centuries. Our two heritages

are intertwined, with the common goals of engendering longevity and progress, and constantly seeking competitive positioning in a hyper competitive world. Passing through the passages of change and time together, both nation and corporation have lived through major upheavals – World War I, the Great Depression, World War II, Malaysia's and then Singapore's independence, the Asian Financial Crisis, Dotcom Bubble and Global Financial Crisis. Longevity and progress have been achieved, although these should never be taken for granted.

Connected to this, I highlighted in our inaugural *Longevity Report* how longevity is a combination of key ingredients that has allowed us to thrive in a totally interconnected and interdependent ecosystem of physical, social and symbolic relationships that stretch over time. Our leadership and teams are not only experts in their own respective industries but also have a keen understanding of cultural norms, history, the interconnectedness and interdependence of ecosystems across relationships, space and time, and the megatrends that are present before us and will drive our future. As we sense and adapt to shifts in the global landscape, our embrace of change derives progress which ultimately determines our fate as a responsible global corporate citizen. We are in the business of building businesses that can transcend generations and provide a positive impact on future generations, just as they have benefitted multiple generations over the past two centuries.

We will be actively working on capital deployment for various proposed strategic growth programmes, all of which will help us contribute to achieving most – if not all – of the United Nations' 17 Sustainable Development Goals and underpin our long-term performance.

Our focus will be on areas that promote greater effectiveness and progress in big data, Internet of Things, smart nations, smart cities, smart communities and solve the pain points of society including improving the quality of life for all walks of life. We will continue to invest in transformative technologies across:

- Boustead Projects' smart eco-sustainable business park and industrial real estate solutions that support Singapore's Super Low Energy framework (such as for Surbana Jurong Campus) to satisfying the world's insatiable appetite for data (our partnership with DSCO);
- Our Geospatial Technology Division's smart mapping capabilities underpinning everything from big data location analytics to smart cities and most importantly, helping clients to gain invaluable insights on interconnectedness and interdependence of ecosystems, given that the human brain processes visual information 60,000 times faster than alphanumeric data; and
- Our Healthcare Technology Division's aim to address age-related chronic diseases and mobility issues, helping ageing populations to age gracefully and when afflicted by chronic

diseases, be able to get up and walk again.

Staying true to our mission, vision, steadfast corporate values and the focus on pursuing business with a greater purpose, will help us to ensure long-term progress for stakeholders by knocking down barriers, opening our minds to new ideas and promoting longevity to transcend generations.

As you read this report, we hope that you gain an in-depth understanding of how we ensure the longevity of our business and the wider ecosystem that that we are interconnected with. We also share how this translates to delivering sustainable value and progress to key stakeholders, along with the communities that we reside in and our collective home – Planet Earth. Our performance, policies and practices on material economic, environmental, social and governance topics are explained. Our focus is not just on the end product but every part of the journey that takes us there, the very 'fabric of life'.

Thank you for entrusting us with the role of being a responsible global corporate citizen, one which we hope to honour for many more centuries to come. This journey is an ultramarathon, one which we will continue running and hope to have you join, even if only for part of the way. Have an enjoyable and insightful read.

### Wong Fong Fui

Chairman & Group Chief Executive Officer

## 1.1 MISSION, VISION & BUSINESS MODEL

### 1.1.1 Mission

To utilise our vast experience and expertise accumulated since 1828 to provide progressive smart eco-sustainable solutions to communities around the world.

### 1.1.2 Vision

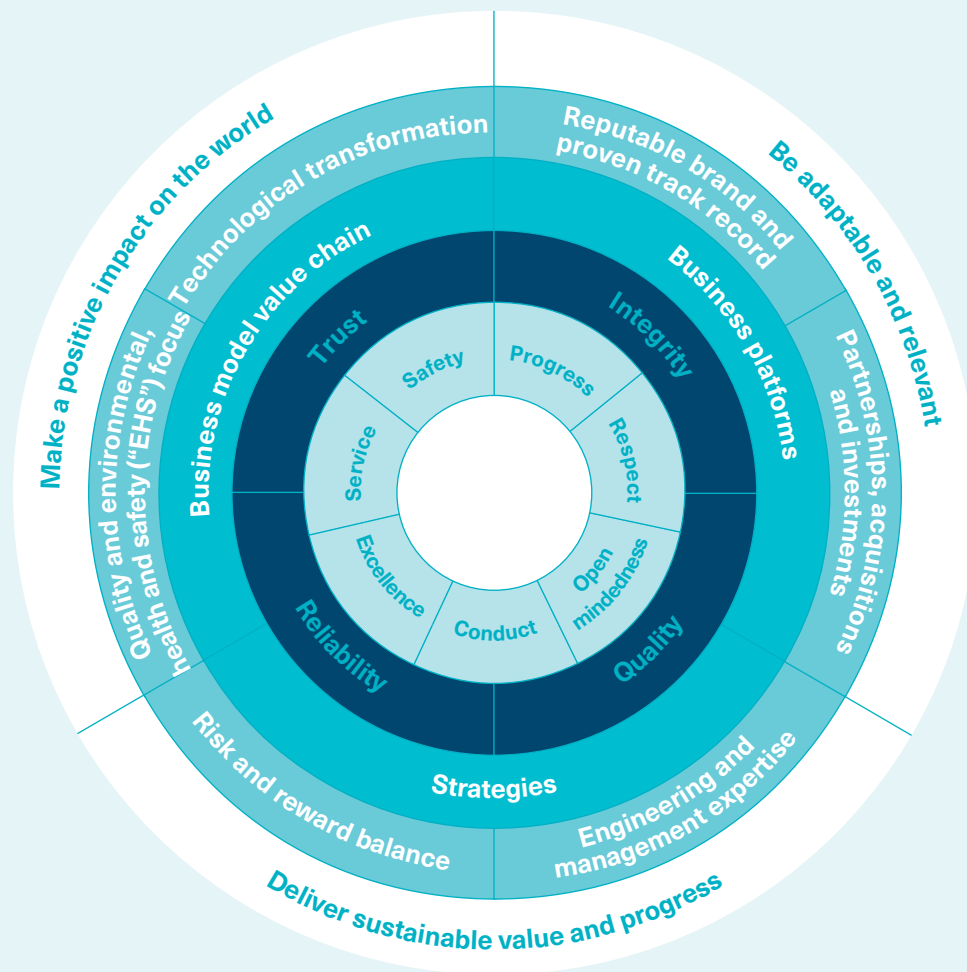
To be the premier global service provider of niche smart eco-sustainable infrastructure-related engineering services and technology solutions.

### 1.1.3 Business Model

Over Boustead’s prestigious and rich heritage of 191 years, we have been delivering sustainable value and progress to key global stakeholders. We owe our success to our experienced and versatile teams who possess in-depth domain expertise and tremendous international experience and generally undertake the high value-added activities across the engineering and technology value chains.

As a knowledge-driven corporation, we employ a business model with inbuilt exportability and flexibility, which has enabled us to adapt our operations to diverse situations and widespread geographic markets covering 87 countries and territories globally.

At our very core is our mission and vision, fortified by our fundamental principles and strong human-centric corporate values: progress, respect, open mindedness, conduct, excellence, service and safety (PROCESS). Over time, we established our reputation for integrity, quality, reliability and trust, which together with our corporate values and business drivers, help us to achieve our long-term objectives to be adaptable and relevant, deliver sustainable value and progress to key stakeholders, and make a positive impact economically, environmentally and socially on the world. We are a responsible global corporate citizen with a greater purpose in mind.



### 1.1.4 Corporate Values

#### a) Striving for progress

We want to be distinguished for:

- Our industry leadership, client-focus and strong suite of smart eco-sustainable products, services and solutions;
- Our professionalism, financial performance, proven business and management model, and successful growth strategies; and
- Our contribution to economic, environmental and social progress in global communities.

#### b) Respecting our team and stakeholders

We believe in creating a work environment that promotes creativity, excitement and growth, and makes our team feel cared for, challenged, empowered and respected because they are our best asset – they are Boustead. Creating the ideal environment for them to thrive in will eventually translate to delivering sustainable value and progress to key stakeholders.

#### c) Keeping an open mind

We endeavour to push the boundaries of paradigms, research and technologies to improve business performance and sustainability.

#### d) Adhering to the highest standards of honourable conduct

We believe in acting honourably in the way that we conduct business. We are committed to building a climate of fairness, honesty, trust and sincerity with all key stakeholders.

#### e) Upholding excellence

We aim to deliver excellence in everything we do.

#### f) Servicing our clients

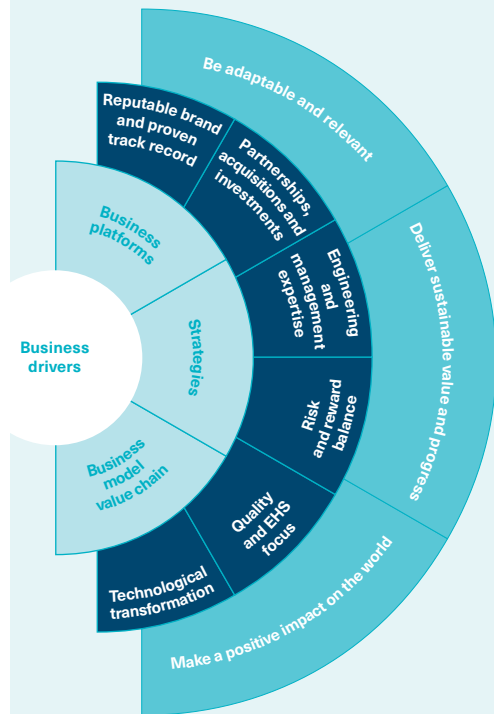
We aim to gain an in-depth understanding of our clients’ needs so that we are able to deliver progressive answers to them in the fast-paced global business environment.

#### g) Prioritising safety

We believe in making safety an inherent part of our products, services, solutions and the environment we operate in.

**1.1.5 Achieving Our Mission, Vision & Long-Term Objectives**

In order to achieve our mission, vision and long-term objectives, we rely on our business drivers: business platforms, strategies and business model value chain.



**Business Platforms**

**Positioning and presence**

- Successful spotting and positioning on global megatrends
- Global view with local market knowledge
- Focus on development in high growth markets
- Broad coverage of industries
- Infrastructure-related projects in 87 countries and territories
- More than 13,000 clients globally including world's best corporations

**Performance**

- Extensive track record
- Delivery of world-class projects
- Solutions in energy, water, real estate, geospatial technology and healthcare
- Commitments to quality and EHS performance

**People**

- World-class teams
- Empowering culture
- Fair and non-discriminatory employment practices
- Ability to attract, develop, motivate and retain talent
- Industry technical experts

**Strategies**

**Reputable brand and proven track record**

With a strong brand heritage, we have established reputable positions in a broad range of industries, bringing together in-depth domain expertise and proven technologies in over 1,300 projects in 87 countries and territories.

**Partnerships, acquisitions and investments**

Our continuous search for strategic partnerships, catalytic acquisitions and investments is aimed at accelerating our business expansion, enhancing capabilities, broadening revenue streams and driving sustainable long-term growth.

**Engineering and management expertise**

Our teams offer in-depth domain expertise and deliver value engineering, helping clients to achieve highly effective and cost competitive solutions that raise efficiency and sustainability while eliminating wastage.

**Risk and reward balance**

We are vigilant in ensuring that our strategies to enhance stakeholder value are well-supported by sound risk management.

**Quality and EHS focus**

We strive to achieve the highest standards in quality and workplace EHS, for the wellbeing and protection of every individual. We are a leader and active participant in the bizSAFE Programme initiated by the Workplace Safety & Health Council.

**Technological transformation**

We aim to incorporate transformative technologies into our products, services and solutions, and be a market leader in the world of Industry 4.0.

**Business Model Value Chain**

Uphold our excellent reputation for integrity, quality, reliability and trust



Be adaptable and relevant, deliver sustainable value and progress, and make a positive impact on the world

## 1.2 CORPORATE STEWARDSHIP & STRATEGIES

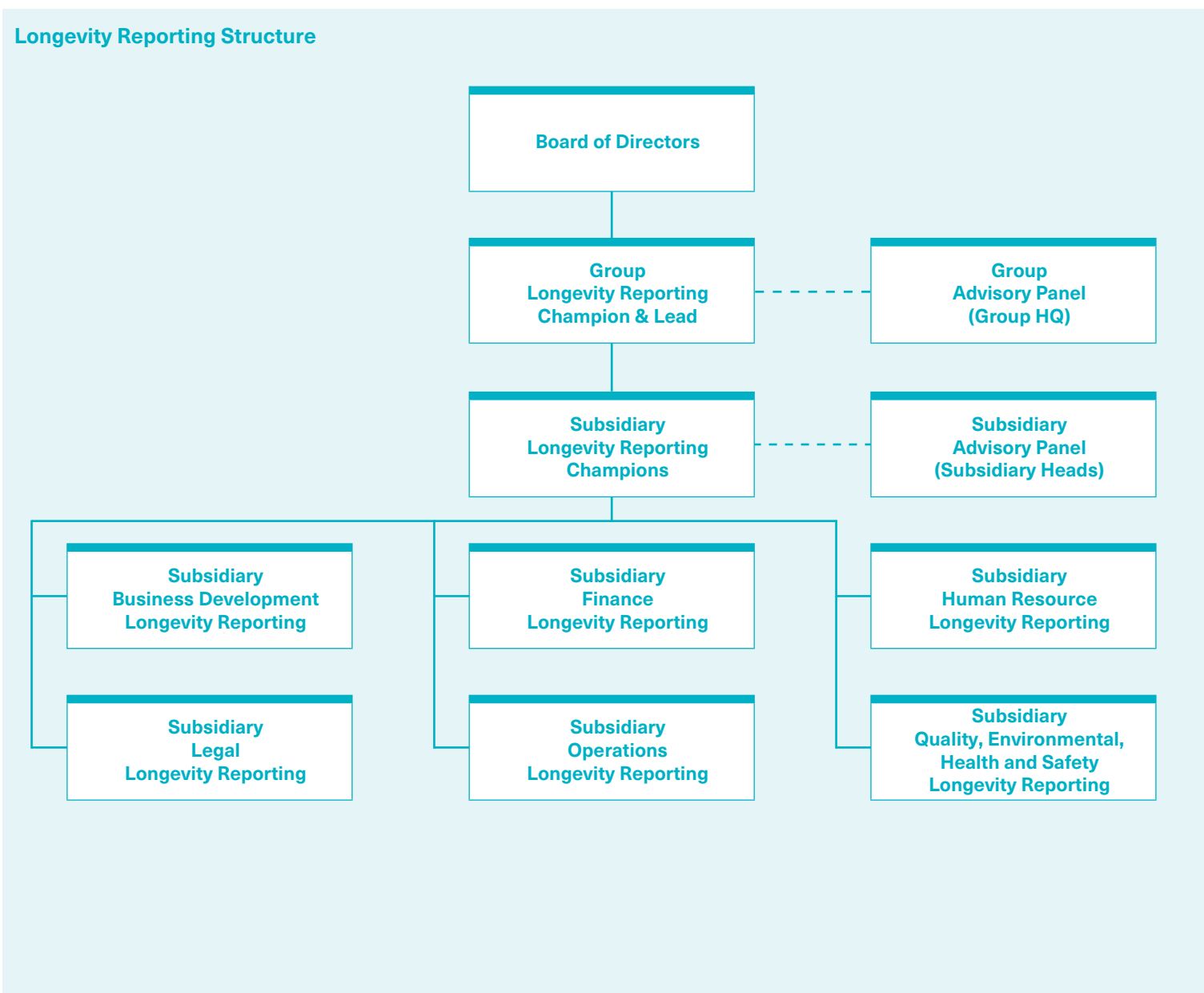
### 1.2.1 Corporate Stewardship for Longevity

Our Board of Directors is responsible for Boustead’s corporate stewardship and strategies. In line with this, our Board also oversees performance, policies and practices in relation to environmental, social and governance (“ESG”) topics.

A Group Longevity Reporting Champion & Lead reports directly to our Board. The Group Longevity Reporting Champion – supported by a Group Advisory Panel – oversees appointed Subsidiary Longevity Reporting Champions who are responsible for implementing the Group Longevity Reporting Framework (with material references to Global Reporting Initiative Standards) and reporting subsidiary level data on material ESG topics on a quarterly basis.

### 1.2.2 Corporate Governance

As part of our Board’s responsibility for our corporate stewardship and strategies, our Board is committed to maintaining a high standard of corporate governance and transparency within our Group, in line with the principles set out in the Code of Corporate Governance 2012 (“CG Code”). This establishes and maintains our Group’s ethical and legal environment to preserve the interests of shareholders and all stakeholders.



Our Board is made up of respected business leaders and individuals with decades of commercial experience and diverse backgrounds. Half of our Board is made up of independent directors, with three Board Committees each headed by an independent non-executive director.

Our Board currently comprises:

1. Wong Fong Fui  
Chairman & Group Chief Executive Officer

- 2. Wong Yu Loon  
Executive Director & Deputy Group Chief Executive Officer
- 3. Loh Kai Keong  
Non-Executive Director & Consultant
- 4. Dr Tan Khee Giap  
Independent Non-Executive Director
- 5. Chong Ngien Cheong  
Independent Non-Executive Director
- 6. Godfrey Ernest Scotchbrook  
Independent Non-Executive Director

More information on the individual profiles of our directors is available within the *Boustead FY2019 Annual Report* from pages 54 to 55 and 62 to 84.

Our latest Corporate Governance Report (“CG Report”) outlines our corporate governance practices with specific reference made to the principles and guidelines of the CG Code, which forms part of our continuing obligations under the SGX Mainboard Listing Manual. Our latest CG Report is available in its full text within the *Boustead FY2019 Annual Report* from pages 66 to 84 and

is referenced in this report, rather than completely repeated.

**1.2.3 Board Longevity Statement**

Our Board is committed to ensuring our longevity and longstanding position as Singapore’s oldest continuous business. This includes reviewing our performance, policies and practices in relation to material ESG topics.

Our Board is assisted in this by our robust existing systems including audit, compliance, enterprise risk, financial, environmental, health and safety, human resource, information technology and operational management systems, along with the implementation of our Longevity Reporting Framework. Our Board assesses opportunities and risks presented by material ESG topics. This helps our Board to determine the appropriate strategies, policies and practices that will provide us with the adaptability and flexibility to seize opportunities to deliver sustainable value and progress to key stakeholders, while being well-supported by sound risk management. Our risk appetite considers material ESG topics that may affect reputational risk, ethical and moral considerations, and have significant financial and non-financial implications.

**Board & Board Committee Oversight Responsibilities**



**Board**

- |   |   |  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Corporate governance</li> <li>• Ethics, values and standards</li> <li>• Sustainability issues</li> <li>• Risk appetite and internal controls</li> <li>• Corporate strategies and policies</li> </ul> | <ul style="list-style-type: none"> <li>• Annual operating and capital budgets</li> <li>• Business affairs and management team performance</li> <li>• Financial performance</li> </ul> | <ul style="list-style-type: none"> <li>• Annual reports, accounts and financial reporting</li> <li>• Shareholders’ meetings</li> <li>• Dividend payments and distributions</li> <li>• Material acquisition and disposal of assets</li> </ul> |
|---|---|--|



**Audit & Risk Committee**

- Internal controls
- External and internal audit plans and results
- External and internal audit functions
- Enterprise risk management
- Interested person transactions and conflict of interest
- Internal investigations and whistle-blowing
- Annual reports, accounts and financial reporting



**Nominating Committee**

- Appointments and reappointments of Board Directors, Board Committee members and senior management
- Board and senior management succession
- Board performance
- Board professional development and training programmes
- Board independence and conflict of interest



**Remuneration Committee**

- Remuneration policies and packages of Board Directors and senior management



### 1.3 FY2019 LONGEVITY PERFORMANCE SUMMARY

	Unit of Measurement	Attained in FY2019	Cumulative Capacity Attained Prior to FY2019	Estimated Cumulative Annual Capacity or Savings	Page
<b>Smart Eco-Sustainable Solutions Performance</b>					
Waste heat recovery units' estimated annual energy recovery	GWh	498.4	32,892.9	33,390	29
Water and wastewater treatment plants' estimated annual treatment and recycling	million cu m	42.0	545.1	587	29
Green Mark Platinum developments' estimated annual energy savings	GWh	1.7	35.4	37	30
Green Mark Platinum developments' estimated annual water savings	cu m	4,390	82,715	87,000	30

### 1.3 FY2019 LONGEVITY PERFORMANCE SUMMARY (cont'd)

	Unit of Measurement	FY2018 Group Performance	FY2019 Group Performance	2018 Comparable Industries Average	2018 National Average	Page
<b>Operational Performance</b>						
<b>Team Development Programme</b>						
Net hiring growth rate	% of average headcount	+4.9	+12.5	3.9	1.2	53
Monthly hiring rate	% of average headcount	2.4	3.2	2.5	2.3	53
Monthly turnover rate	% of average headcount	2.0	2.2	1.7	1.8	57
Performance appraisals rate	% of year-end headcount	90	80	n.a.	n.a.	54
Average annual training hours per team member	# of hours	9.2	10.6	n.a.	n.a.	55
Average annual medical leave taken per team member	# of days	4.2	4.7	n.a.	n.a.	56
Succession planning	% of key managing directors and chief executive officers covered by named deputy or successor	60	82	n.a.	n.a.	56

### 1.3 FY2019 LONGEVITY PERFORMANCE SUMMARY (cont'd)

	Unit of Measurement	FY2018 Group Performance	FY2019 Group Performance	2018 Comparable Industries Average	2018 National Average	Page
<b>Operational Performance</b>						
<b>Workplace Safety and Health Performance</b>						
Accident frequency rate among team and suppliers	# of workplace accidents per million man-hours	1.2	0.7	1.0	1.6	59
Accident severity rate among team and suppliers	# of lost man days to workplace accidents per million man-hours	17	12	48	66	59
Occupational disease incidence rate among team and suppliers	# of occupational disease cases per 100,000 employees	0	0	10.6	16.4	59
<b>Environmental Stewardship</b>						
Average annual energy intensity:						
Design-and-build projects for Singapore only	kWh per sq m of constructed GFA	60.6	186.5	n.a.	n.a.	65
	MJ per sq m of constructed GFA	218.1	671.5	n.a.	n.a.	65
Administrative workplaces	kWh per employee	2,202.1	2,523.0	n.a.	n.a.	66
	MJ per employee	7,927.2	9,082.5	n.a.	n.a.	66
Edward Boustead Centre	kWh per sq m of GFA	154.5	146.1	268	255	67
Average annual water intensity:						
Design-and-build projects for Singapore only	cu m per sq m of constructed GFA	0.3	2.1	n.a.	n.a.	65
Administrative workplaces	cu m per employee	15.6	15.3	n.a.	n.a.	66
Edward Boustead Centre	cu m per sq m of GFA	1.1	1.2	1.1	n.a.	67

**1.3 FY2019 LONGEVITY  
PERFORMANCE SUMMARY (cont'd)**

	Unit of Measurement	FY2018 Group Performance	FY2019 Group Performance	2019 Comparable Industries Average	2019 National Average	Page
<b>Operational Performance</b>						
<b>Legal Compliance</b>						
Significant fines, non-monetary sanctions and cases brought against the Group through dispute resolution mechanisms in:						
Customer privacy	# of incidents	0	0	n.a.	n.a.	49
Economic areas	# of incidents	0	0	n.a.	n.a.	69
Environmental areas	# of incidents	0	1	n.a.	n.a.	69
Social areas	# of incidents	0	1	n.a.	n.a.	69

## SECTION 2 – LONGEVITY REPORTING FRAMEWORK

### 2.1 ABOUT THIS REPORT

#### 2.1.1 Report Period & Scope

This is the ***Boustead FY2019 Longevity Report***, a publication dedicated to providing a more holistic review of our performance, especially covering non-financial areas such as environmental, social and governance (“ESG”) topics that are material to our business and key stakeholders.

This report contains at least two full-years of data on material ESG topics and is aligned with our financial reporting period from 1 April 2018 to 31 March 2019 (“FY2019”). Our previous report – inaugural report – was aligned with our financial reporting period from 1 April 2017 to 31 March 2018 (“FY2018”) and issued on 22 November 2018.

This report should be read in conjunction with the *Boustead FY2019 Annual Report*, *Boustead Projects FY2019 Annual Report* and *Boustead Projects FY2019 Longevity Report* for context. It should also be noted that the governance topic has not been fully discussed in this report. Our latest Corporate Governance Report is available in its full text within the *Boustead FY2019 Annual Report* from pages 66 to 84.

The term ‘Longevity’ has been used in direct replacement of the term ‘Sustainability’.

#### 2.1.2 Report Content

Content in this report was defined by identifying and prioritising our material ESG topics through an ESG materiality assessment process.

This report has been prepared with material references to Global Reporting Initiative (“GRI”) Standards: Core, with at least two years of comparative data as required by GRI Standards: Core. The respective GRI Standards that have been applied are available in the GRI Content Index listed on pages 74 to 79. References have also been made to the United Nations Sustainable Development Goals.

This report fully complies with the requirements of the SGX-ST Listing Rules Practice Note 7.6 Sustainability Reporting Guide.

Where the relevant material ESG topics have already been discussed in detail in the *Boustead FY2019 Annual Report*, we shall make reference to such discussions without directly repeating them in this report.

Data is presented using the International System of Units where possible or standard international units of measurement, with conversion factors mentioned in relevant sections.

Monetary values are presented in our functional reporting currency, Singapore dollars, unless otherwise indicated.

#### 2.1.3 Report Boundaries

This report covers Boustead and our major subsidiaries globally including our global headquarters and subsidiaries within four divisions – Energy-Related Engineering, Real Estate Solutions, Geospatial Technology and Healthcare Technology.

For a complete list of our significant subsidiaries as at 31 March 2019, please refer to the *Boustead FY2019 Annual Report* from pages 155 to 157.

We have not sought external assurance for this report.

#### 2.1.4 Accessibility

In line with our commitment to environmental sustainability, we will not be printing any hard copies of this report. This report is available online at **[www.boustead.sg/investor\\_centre](http://www.boustead.sg/investor_centre)**.

The ***Longevity Report*** is an annual publication.

#### 2.1.5 Feedback Channel

We welcome comments and feedback from our stakeholders in relation to this report and our performance, policies and practices discussed in this report. If you have any comments or feedback, please e-mail **[ir.team@boustead.sg](mailto:ir.team@boustead.sg)**.

**Boustead Singapore Limited**  
Company Registration Number:  
197501036K

82 Ubi Avenue 4  
#08-01 Edward Boustead Centre  
Singapore 408832  
Main +65 6747 0016  
Fax +65 6741 8689

**[www.boustead.sg](http://www.boustead.sg)**

INTRODUCTION	<b>LONGEVITY REPORTING FRAMEWORK</b>	PURSUING BUSINESS WITH A GREATER PURPOSE	DEVELOPING OUR BEST ASSET – BOUSTEAD MEN & WOMEN	CONSERVING OUR COLLECTIVE HOME – PLANET EARTH	OTHER INFORMATION
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## 2.2 ENVIRONMENTAL, SOCIAL & GOVERNANCE MATERIALITY ASSESSMENT

Boustead conducts an environmental, social and governance (“ESG”) materiality assessment process in order to determine material ESG topics that should be included in this report. ESG topics are considered to be material if they may have a significant impact on our business and ability to achieve our long-term objectives to be adaptable and relevant, deliver sustainable value and progress, and make a positive impact economically, environmentally and

socially on the world. The views of both external and internal stakeholders are taken into account when determining ESG materiality.

To ensure that material ESG topics remain up-to-date, we periodically review current and emerging megatrends, changes in the economic, political, regulatory and ESG landscape in the geographic markets and industry clusters that we operate in, along with the views of key stakeholders, and update these into our assessment process.

### 2.2.1 Key Stakeholder Engagement

We define key stakeholders as being groups that our business may have a significant impact on or vice versa, and who have a vested interest in the way that we conduct business. After a thorough review, nine key stakeholders were identified as shown here.

In FY2018, we conducted materiality assessment workshops with our key team members including senior management and department heads at seven major subsidiaries, who acted as proxies for the nine key stakeholders that

have been identified, and highlighted and prioritised material ESG topics of relevance to these key stakeholders. Where materiality assessment workshops could not be conducted face-to-face, they were conducted by teleconferencing and videoconferencing methods. Following completion of the materiality assessment workshops, we were able to consolidate and validate 12 material ESG topics for inclusion in this report. Community development was not material but reported due to its significance to the business environment.

## Key Stakeholders, Significance & Key Conversations

Key Stakeholders	Significance	Key Conversations
<b>Board and Team</b> <ul style="list-style-type: none"> <li>Board of Directors</li> <li>Managers</li> <li>Executives</li> <li>Non-executives</li> </ul>	Boustead Men and Women are our best asset. Attracting, developing, managing and retaining our team is a core priority given our knowledge-driven business model, which generally focuses on high-value added activities across the engineering and technology value chains. These activities include design, engineering, project management and the application of proprietary domain expertise and extend over a global network of key stakeholder relationships. Creating the ideal environment for our team to thrive in will eventually translate to delivery of sustainable value and progress to key stakeholders.	<ul style="list-style-type: none"> <li>Economic performance</li> <li>Business model, strategy and outlook</li> <li>Smart eco-sustainable products and services (together “solutions”)</li> <li>Corporate governance, policies and practices</li> <li>Legal and regulatory compliance</li> <li>Talent acquisition, development, management and retention</li> <li>Succession planning</li> <li>Quality, environmental, health and safety (“QEHS”)</li> <li>Data and information security</li> <li>Responsible communications</li> </ul>
<b>Clients</b> <ul style="list-style-type: none"> <li>Direct clients</li> <li>End-user clients (clients of clients)</li> </ul>	We aim to gain an in-depth understanding of clients’ needs so that we are able to deliver progressive answers to them in the fast-paced global business environment. Collaborating with clients allows us to push the boundaries of paradigms, research and technologies to help clients improve business performance and sustainability.	<ul style="list-style-type: none"> <li>Solutions</li> <li>Legal and regulatory compliance</li> <li>QEHS</li> <li>Data and information security</li> </ul>
<b>Strategic Partners</b> <ul style="list-style-type: none"> <li>Product principals</li> <li>Associated companies</li> <li>Joint ventures</li> <li>Co-investment partners</li> </ul>	Working with like-minded and reputable partners globally has allowed us to pool our complementary capabilities and expertise to widen our offerings and concurrently take on larger-scale projects, while simultaneously reducing commercial, operational and ESG risks related to a particular geographic market or industry cluster. Our search and tie-ups with product principals that offer proven transformative technologies also enable us to ensure that our solutions are relevant.	<ul style="list-style-type: none"> <li>Economic performance</li> <li>Business model, strategy and outlook</li> <li>Solutions</li> <li>Corporate governance, policies and practices</li> <li>Legal and regulatory compliance</li> <li>QEHS</li> <li>Data and information security</li> </ul>

## Key Stakeholders, Significance &amp; Key Conversations (cont'd)

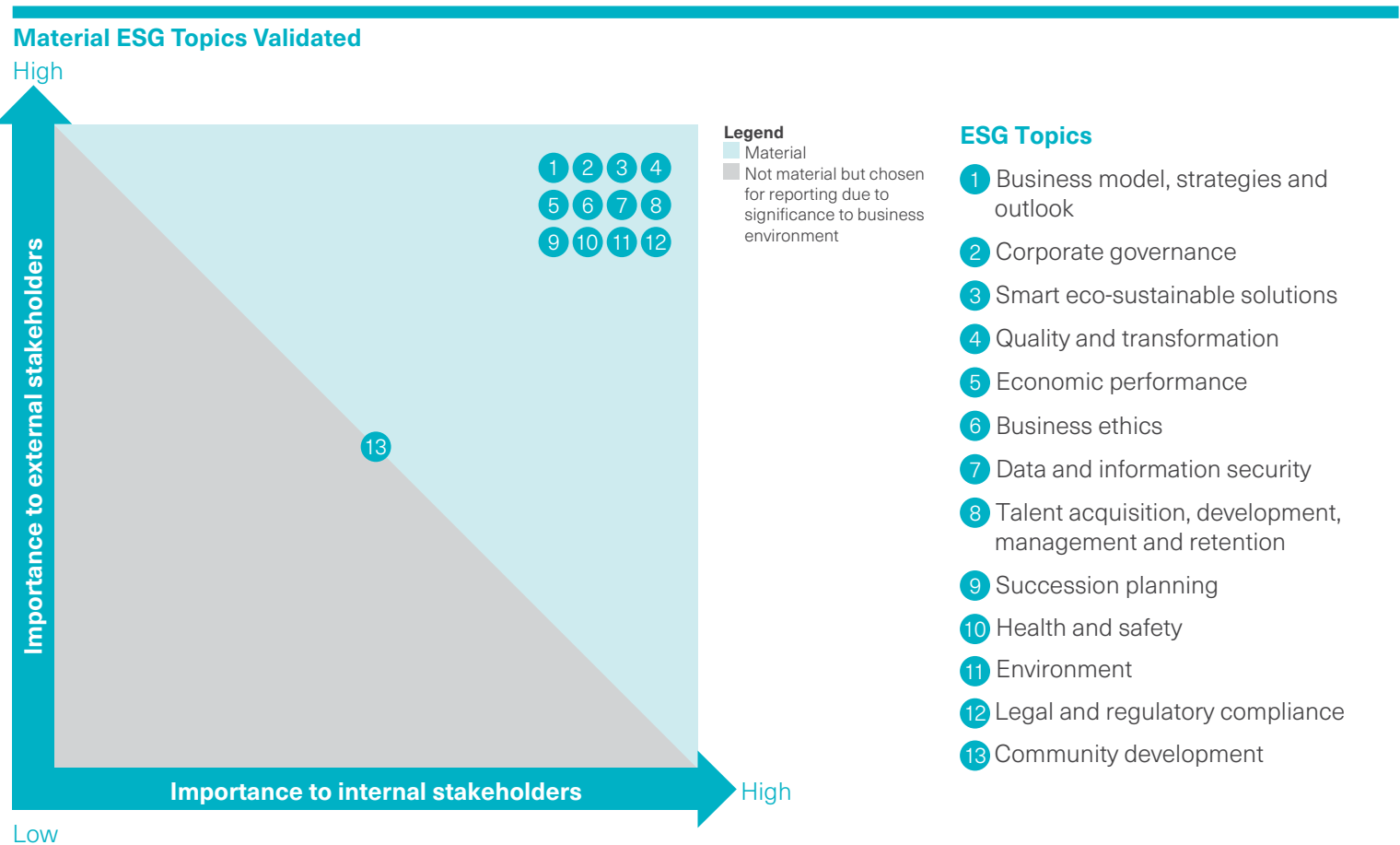
Key Stakeholders	Significance	Key Conversations
<b>Suppliers</b> <ul style="list-style-type: none"> <li>• Consultants</li> <li>• Subcontractors</li> <li>• Suppliers</li> </ul>	We have a global network of major suppliers that supports the manufacturing and fabrication of solutions according to our designs. Major suppliers are selected based on pre-qualification assessments that include QEHS and other ESG factors, along with price.	<ul style="list-style-type: none"> <li>• Economic performance</li> <li>• Solutions</li> <li>• Legal and regulatory compliance</li> <li>• QEHS</li> <li>• Data and information security</li> </ul>
<b>Lenders</b> <ul style="list-style-type: none"> <li>• Banks</li> <li>• Financial institutions</li> <li>• Trustees</li> </ul>	We have several principal bankers and lenders who support our business through the provision of bank loans and trade finance.	<ul style="list-style-type: none"> <li>• Economic performance</li> <li>• Business model, strategy and outlook</li> <li>• Corporate governance, policies and practices</li> <li>• Legal and regulatory compliance</li> </ul>
<b>Investors</b> <ul style="list-style-type: none"> <li>• Institutional investors</li> <li>• Research analysts</li> <li>• Retail investors</li> </ul>	As owners, shareholders share in our mission, vision, corporate values and goal to be a responsible global corporate citizen with a greater purpose in mind. Ultimately, profit-driven motivations need to be aligned with our strong human-centric corporate values and allow us to deliver on our long-term objectives.	<ul style="list-style-type: none"> <li>• Economic performance</li> <li>• Business model, strategy and outlook</li> <li>• Solutions</li> <li>• Corporate governance, policies and practices</li> <li>• Talent acquisition, development, management and retention</li> <li>• Succession planning</li> <li>• Legal and regulatory compliance</li> <li>• QEHS</li> <li>• Data and information security</li> <li>• Open and transparent communications</li> </ul>
<b>Media</b> <ul style="list-style-type: none"> <li>• Mainstream journalists</li> <li>• Online social media influencers</li> </ul>	The media continues to share our corporate story with the world, from economic performance to milestone achievements. As unofficial historians of our performance, the media helps us to stay on track.	<ul style="list-style-type: none"> <li>• Economic performance</li> <li>• Business model, strategy and outlook</li> <li>• Solutions</li> <li>• Legal and regulatory compliance</li> <li>• QEHS</li> <li>• Fact-based and timely communications</li> </ul>
<b>Governments and regulators</b> <ul style="list-style-type: none"> <li>• National government agencies</li> <li>• State government agencies</li> <li>• Municipal government agencies</li> <li>• Regulators</li> </ul>	Apart from being clients in certain divisions, governments and regulators provide us with our business licences to operate.	<ul style="list-style-type: none"> <li>• Corporate governance, policies and practices</li> <li>• Legal and regulatory compliance</li> <li>• Corporate taxes and relevant taxes</li> <li>• Talent acquisition, development, management and retention</li> <li>• QEHS</li> <li>• Data and information security</li> <li>• Proactive communications</li> </ul>
<b>Local Communities</b> <ul style="list-style-type: none"> <li>• Citizens</li> <li>• Communities surrounding projects</li> <li>• Beneficiaries of philanthropic contributions</li> <li>• Indirect beneficiaries of projects undertaken for end-user clients</li> </ul>	Given our global business, we understand that we have an impact on communities around the world, who may be direct beneficiaries of the gainful employment we provide, community development programmes or indirect beneficiaries of projects undertaken for end-user clients that benefit those communities. Local communities provide us with our social licences to operate.	<ul style="list-style-type: none"> <li>• Legal and regulatory compliance</li> <li>• Solutions</li> <li>• QEHS</li> <li>• Interactive communications</li> </ul>

### 2.2.2 Material ESG Topics



### 2.2.3 Opportunities & Risks

We are vigilant in ensuring that our strategies to enhance stakeholder value are well-supported by sound risk management. Our material ESG topics present us with both opportunities (if we embrace the right approaches to managing these ESG topics) and risks (if we neglect these ESG topics), which are supplemented by our robust existing systems and Enterprise Risk Management Framework.





**Material ESG Topics Boundaries, Impact & Disclosures**

Material ESG Topic	Boundary and Impact	GRI Standard Disclosures	Addressed in this Report
Business model, strategies and outlook	• Most key stakeholders	• General disclosures	Section 1: Introduction
Corporate governance	• Most key stakeholders	• General disclosures	Section 1: Introduction
Smart eco-sustainable solutions	• Most key stakeholders	• GRI Standards not available	Section 3: Pursuing Business with a Greater Purpose
Quality and transformation	• Most key stakeholders	• GRI Standards not available	Section 3: Pursuing Business with a Greater Purpose
Economic performance	• Most key stakeholders	• Economic performance	Section 3: Pursuing Business with a Greater Purpose
Business ethics	• Most key stakeholders	• General disclosures • Customer privacy	Section 4: Developing Our Best Asset – Boustead Men & Women
Data and information security	• Board and team • Clients • Strategic partners • Suppliers • Investors • Governments and regulators	• Customer privacy	Section 4: Developing Our Best Asset – Boustead Men & Women
Talent acquisition, development, management and retention	• Board and team • Investors • Governments and regulators	• Employment • Occupational health and safety • Training and education	Section 4: Developing Our Best Asset – Boustead Men & Women
Succession planning	• Board and team • Investors	• Employment • Training and education	Section 4: Developing Our Best Asset – Boustead Men & Women
Health and safety	• Most key stakeholders	• Occupational health and safety • Socioeconomic compliance	Section 4: Developing Our Best Asset – Boustead Men & Women
Environment	• Most key stakeholders	• Energy • Water and effluents • Environmental compliance	Section 5: Conserving Our Collective Home – Planet Earth
Legal and regulatory compliance	• Most key stakeholders	• Environmental compliance • Customer privacy • Socioeconomic compliance	Section 5: Conserving Our Collective Home – Planet Earth

In addition, on 1 January 2016, the United Nations (“UN”) officially rolled out 17 Sustainable Development Goals (“SDGs”) of the 2030 Agenda for Sustainable Development. The UN SDGs universally apply to all countries with the ultimate aim of mobilising all stakeholders – governments, civil societies, the private sector and others – to collectively contribute to ending poverty, fighting inequality and tackling climate change through three dimensions of sustainable development: economic growth, social inclusion and environmental protection.

We have summarised opportunities and risks from material ESG topics here, including how we can contribute to achieving the UN SDGs through our business and performance, policies and practices in relation to material ESG topics.



## Material ESG Topics Opportunities, Risks &amp; United Nations Sustainable Development Goals

Material ESG Topic	Opportunities	Risks	Supporting UN SDG
Business model, strategies and outlook	<ul style="list-style-type: none"> <li>Enable adaptability, flexibility and capability to seize good opportunities in timely manner</li> <li>Generate reasonable free cash flow, sustainable value and progress for key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Industry cycle recovery in global oil &amp; gas ("O&amp;G") industries may be derailed by current global trade war</li> <li>Industry cycle recovery in Singapore's industrial real estate sector may be derailed by property cooling measures and restrictions</li> <li>Business model may be disrupted by disruptive technologies, loss of product distributorships, industry cycles and megatrends</li> </ul>	8, 11, 17
Corporate governance, policies and practices	<ul style="list-style-type: none"> <li>Set business, compliance and ethical framework to enable us to continue role as responsible global corporate citizen pursuing business with greater purpose in mind</li> </ul>	<ul style="list-style-type: none"> <li>Under-compliance may create greater risks in all areas</li> <li>Over-compliance may restrict adaptability, flexibility and unnecessarily tie up resources</li> </ul>	16
Smart eco-sustainable solutions	<ul style="list-style-type: none"> <li>Boost natural demand for solutions aligned with climate change and ESG initiatives, particularly for waste heat recovery units, water and wastewater treatment plants, smart eco-sustainable business park and industrial developments, geospatial technology and healthcare technology</li> </ul>	<ul style="list-style-type: none"> <li>Demand may decline for specific solutions misaligned with climate change and ESG initiatives, particularly for equipment used by O&amp;G industries, non-eco-sustainable developments and wasteful construction methods</li> </ul>	All
Quality and transformation	<ul style="list-style-type: none"> <li>Strengthen market leadership positions in respective industries</li> <li>Gain competitive advantages through design, productivity and cost improvements</li> <li>Widen offerings and solutions</li> <li>Help clients to successfully shift to Industry 4.0 transformation standards</li> </ul>	<ul style="list-style-type: none"> <li>Business model may be disrupted by disruptive technologies, loss of product distributorships, industry cycles and megatrends</li> <li>Market leadership positions and competitiveness may be eroded</li> <li>Sustainable value creation may be impeded with inability to uphold quality and transformation</li> </ul>	All
Economic performance	<ul style="list-style-type: none"> <li>Provide capital to incubate and grow new and existing businesses</li> <li>Build trust with multiple generations of key stakeholders</li> <li>Generate reasonable free cash flow, sustainable value and progress for key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Business model may be disrupted by disruptive technologies, loss of product distributorships, industry cycles and megatrends</li> <li>Sustainable value creation may be impeded with loss of economic performance</li> </ul>	8, 9
Business ethics	<ul style="list-style-type: none"> <li>Build goodwill and trust with multiple generations of key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Unethical behaviour may undo goodwill and trust with multiple key stakeholders</li> </ul>	12, 16
Data and information security	<ul style="list-style-type: none"> <li>Build goodwill and trust with key stakeholders, especially clients, governments and regulators</li> <li>Ensure data governance and integrity, particularly through deployment of integrated digital delivery, 7D building information modelling and geospatial technology</li> </ul>	<ul style="list-style-type: none"> <li>Cyber attacks, hacking and phishing strategies are more sophisticated and may pose greater threats to even extremely secure IT networks</li> <li>Data and information security breaches may result in significant fines, losses of sensitive proprietary data and information, and affect competitiveness</li> </ul>	12, 16
Talent acquisition, development, management and retention	<ul style="list-style-type: none"> <li>Create work environment that promotes creativity, excitement and growth, and makes our team feel cared for, challenged, empowered and respected</li> <li>Translate to delivery of sustainable value and progress to key stakeholders</li> <li>Safeguard domain expertise</li> </ul>	<ul style="list-style-type: none"> <li>Aggressive competitors may poach team members</li> <li>Domain expertise may be lost</li> <li>Hiring and retraining costs may be more expensive in both monetary terms and time</li> <li>Sustainable value creation may be impeded with loss of team members</li> </ul>	3, 5, 8, 10

## Material ESG Topics Opportunities, Risks &amp; United Nations Sustainable Development Goals (cont'd)

Material ESG Topic	Opportunities	Risks	Supporting UN SDG
Talent acquisition, development, management and retention	<ul style="list-style-type: none"> <li>Create work environment that promotes creativity, excitement and growth, and makes our team feel cared for, challenged, empowered and respected</li> <li>Translate to delivery of sustainable value and progress to key stakeholders</li> <li>Safeguard domain expertise</li> </ul>	<ul style="list-style-type: none"> <li>Aggressive competitors may poach team members</li> <li>Domain expertise may be lost</li> <li>Hiring and retraining costs may be more expensive in both monetary terms and time</li> <li>Sustainable value creation may be impeded with loss of team members</li> </ul>	3, 5, 8, 10
Succession planning	<ul style="list-style-type: none"> <li>Provide talent with career prospects and ability to scale into leadership positions</li> <li>Safeguard domain expertise</li> <li>Provide corporate stability and continuity in execution of strategies</li> </ul>	<ul style="list-style-type: none"> <li>Earmarked leadership talent may leave or be poached due to misperceptions about career prospects or misaligned expectations</li> <li>Domain expertise may be lost</li> <li>Hiring and retraining costs may be more expensive in both monetary terms and time</li> <li>Sustainable value creation may be impeded with loss of team members</li> </ul>	5, 8, 10
Health and safety	<ul style="list-style-type: none"> <li>Promote what is essential to longevity, which is prioritisation of life over profit</li> <li>Attract new team members and retain existing team members</li> </ul>	<ul style="list-style-type: none"> <li>Stricter legal and regulatory frameworks for health and safety issues may raise compliance costs</li> <li>Business licences to operate may be revoked under extreme non-compliance, resulting in existential threat</li> <li>Significant fines, imprisonment, lawsuits, loss of economic performance and severe reputational damage may result from non-compliance</li> </ul>	3
Environment	<ul style="list-style-type: none"> <li>Boost natural demand for solutions aligned with climate change and environmental initiatives, particularly for waste heat recovery units, water and wastewater treatment plants, smart eco-sustainable business park and industrial developments, and geospatial technology</li> <li>Save costs over long-term</li> </ul>	<ul style="list-style-type: none"> <li>Demand may decline for specific solutions misaligned with climate change and environmental initiatives, particularly for equipment used by O&amp;G industries, non-eco-sustainable developments and wasteful construction methods</li> <li>Business licences to operate may be revoked under extreme non-compliance, resulting in existential threat</li> <li>Significant fines, imprisonment, lawsuits, loss of economic performance and severe reputational damage may result from non-compliance</li> </ul>	11, 12, 13
Legal and regulatory compliance	<ul style="list-style-type: none"> <li>Build goodwill and trust with key stakeholders, especially governments and regulators</li> <li>Translate to delivery of sustainable value and progress to key stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Stricter legal and regulatory frameworks for socio-economic issues may raise compliance costs, in line with global ESG recognition and increased cross-border cooperation between jurisdictions</li> <li>Business licences to operate may be revoked under extreme non-compliance, resulting in existential threat</li> <li>Significant fines, imprisonment, lawsuits, loss of economic performance and severe reputational damage may result from non-compliance</li> </ul>	12, 16
Community development	<ul style="list-style-type: none"> <li>Build goodwill and trust with communities, who are providers of future talent</li> <li>Gain support of communities for projects globally</li> </ul>	<ul style="list-style-type: none"> <li>Poor economic performance may hamper ability to contribute to community development, both directly and indirectly</li> </ul>	8, 10

## SECTION 3 – PURSUING BUSINESS WITH A GREATER PURPOSE

### TRANSCENDING GENERATIONS

Over Boustead's prestigious and rich heritage of almost two centuries, we have performed our role as a responsible global corporate citizen, incubating and growing businesses and trust with multiple generations of key stakeholders globally, and delivering sustainable value and progress to them. We are in the business of building businesses that can transcend generations and provide a positive impact on future generations, just as they have benefitted multiple generations over the past two centuries. Through our pursuit of business with a greater purpose, we have generated and distributed tremendous economic value and environmental, social and governance ("ESG") benefits to key stakeholders including our team, clients, strategic partners, suppliers, lenders, shareholders, the media, governments and communities. This has been achieved through our involvement with many businesses and industries. In some cases, we played important roles in the early development of industries such as the commodities (1828), shipping (1828), rubber (1877), tin (1887) and oil & gas (1892) industries, which today are mature industries that underpin global economic development and trade. Since our current management team took over in FY1997, we have registered continuous profitability every year – except for FY2002 – which we believe to be absolutely necessary if we are to be able to maintain our multi-generational

sustainable value and progress to key stakeholders, and reinvest in building businesses that transcend generations for long-term success and longevity. A common consideration in evolving our business model and establishing, acquiring and investing in new and existing businesses, industries and geographic markets has been based on assessing whether specific business expansions would not only provide sustainable profit but also serve a greater purpose through the direct and indirect benefits shared with as many key stakeholders in as many economic and ESG facets as possible. We have refrained from specific business expansions that could be highly profitable but yet are questionable on ethical and moral grounds, considered exploitative in nature or deemed as short-term and unsustainable to begin with. The long and short of it is that business expansions must make good sense and instil a sense of good. This is aligned with our mission to utilise our vast experience and expertise accumulated since 1828 to provide progressive smart solutions to communities around the world.

In line with this, our team, organisational ecosystem, and niche products and services (together "solutions") have to inherently uphold the high honourable conduct and quality standards that have been associated with the Boustead Group under Boustead Singapore

Limited over the past two centuries. In addition, we embrace transformation or aim to be transformative where possible, in order to promptly adapt to new megatrends and the prevailing global landscape that has emerged over time.

In FY2019, our businesses were categorised into four key revenue-generating divisions – Energy-Related Engineering, Real Estate Solutions, Geospatial Technology and Healthcare Technology – as shown on page 21.

This section covers how we are pursuing business with a greater purpose through our knowledge-driven business model, smart eco-sustainable solutions, quality, transformation initiatives and generation of economic value, which are derived from the combined depth of all six capitals – financial, manufactured, intellectual, human, social and relationship, and natural – and ultimately deliver positive net effects for all six capitals.

### 3.1 KNOWLEDGE-DRIVEN BUSINESS

As a knowledge-driven corporation, we employ a business model with inbuilt exportability and flexibility, which has enabled us to adapt our operations to diverse situations and widespread geographic markets covering 87 countries and territories globally. We owe our success to our experienced and versatile teams who possess in-depth domain expertise and tremendous

international experience, and generally undertake the high-value added activities across the engineering and technology value chains as shown on page 22.

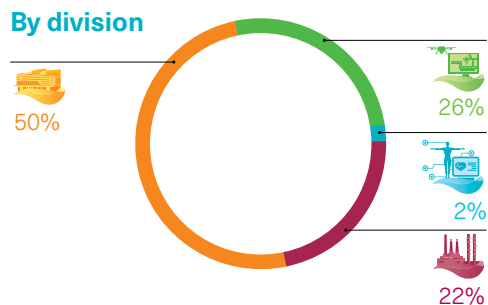
Our business model allows us to focus on the high-value added activities that we are best at and retain the intellectual proprietary knowledge and domain expertise that we have developed as critical differentiators, while outsourcing low-value added activities to a global network of fabricators, subcontractors and suppliers (together "suppliers"). Across all phases, we take responsibility for other high-value added activities including project management, procurement, quality, and environmental, health and safety ("EHS") supervision to ensure that projects are delivered as promised. We do not own fabrication and manufacturing facilities, which allows us to reinvest in people, domain expertise, solutions know-how and new acquisitions rather than in heavy capital expenditures for operational property, plant and equipment. In addition, we have been able to take our business global due to the flexibility of this business model. This is extremely important in our context given that our home market in Singapore is not large enough to be solely relied upon as the only market for most of our solutions, especially in relation to solutions provided by our Energy-Related Engineering, Geospatial Technology and Healthcare Technology Divisions.

**Group at a Glance**

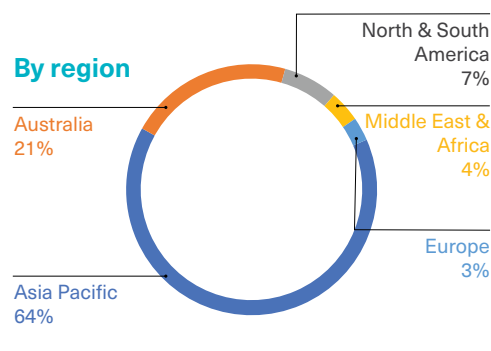
**Group Revenue**  
**\$470.6 million**

FY18: S\$385.1 million

**By division**

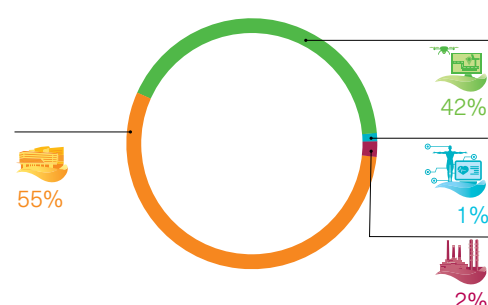


**By region**



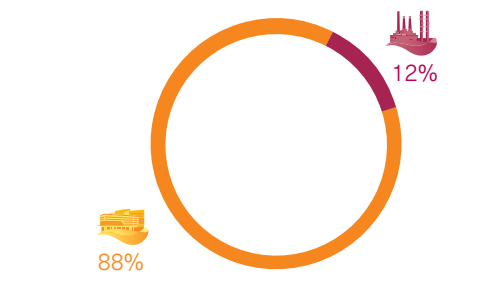
**Group Profit Before Income Tax**  
**\$62.4 million**

FY18: S\$55.7 million



**Group Contracts Secured**  
**\$722 million**

FY18: S\$313 million



**Group Net Profit**  
**\$32.5 million**

FY18: S\$26.3 million

**Group Net Assets**  
**\$482.4 million**

FY18: S\$443.0 million

**Group Net Cash Position**  
**\$99.3 million**

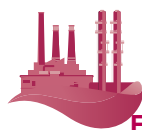
FY18: S\$194.9 million

**Earnings Per Share**  
**6.6¢**

FY18: 5.1¢

**Net Asset Value Per Share**  
**68.2¢**

FY18: 64.2¢



**Energy-Related Engineering**

Our Energy-Related Engineering Division provides key process technologies to the global oil & gas (“O&G”), petrochemical and energy industries.

The division has undertaken over 1,300 projects in 86 countries and territories globally.



**Real Estate Solutions**

Our Real Estate Solutions Division under Boustead Projects Limited (“Boustead Projects”) provides core engineering expertise in the design-and-build and development of smart eco-sustainable business park and industrial developments.

The division has undertaken over 190 projects totalling over 3,000,000 square metres of real estate in four countries regionally.



**Geospatial Technology**

Our Geospatial Technology Division provides professional services and exclusively distributes Esri’s ArcGIS technology – the world’s leading geographic information system (“GIS”) and location analytics platform – along with related GIS solutions.

The division has over 13,000 clients including key government agencies and multinational corporations in eight countries regionally.



**Healthcare Technology**

Our Healthcare Technology Division provides niche innovative medical solutions that address age-related chronic diseases and mobility issues, with a focus on rehabilitative care, sleep care and sports science in the Asia Pacific.

The division’s clients include government and private hospitals, nursing homes and outpatient centres in seven countries and territories regionally.

Value Creation across Engineering & Technology Value Chains

Engineering and Technology Value Chains			
	Consulting, Design and Engineering Phases	Fabrication and Manufacturing Phases	Delivery and Post-Delivery Phases
<b>Energy-Related Engineering</b>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Feasibility studies</li> <li><input checked="" type="checkbox"/> Consulting</li> <li><input checked="" type="checkbox"/> Upgrading and revamp studies</li> <li><input checked="" type="checkbox"/> Design</li> <li><input checked="" type="checkbox"/> Process engineering</li> <li><input checked="" type="checkbox"/> Detailed engineering</li> <li><input checked="" type="checkbox"/> Structural engineering</li> <li><input checked="" type="checkbox"/> Systems architecture</li> </ul>	Outsource low-value added: <ul style="list-style-type: none"> <li>Fabrication</li> <li>Manufacturing</li> <li>Modularisation</li> </ul>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Installation</li> <li><input checked="" type="checkbox"/> Static testing and commissioning</li> <li><input checked="" type="checkbox"/> Performance testing</li> <li><input checked="" type="checkbox"/> Training</li> <li><input checked="" type="checkbox"/> Completion and handover</li> <li><input checked="" type="checkbox"/> Technical support and spare parts supply</li> </ul>
<b>Real Estate Solutions</b>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Feasibility studies</li> <li><input checked="" type="checkbox"/> Land sourcing and acquisition</li> <li><input checked="" type="checkbox"/> Development planning</li> <li><input checked="" type="checkbox"/> Architecture, design and BIM</li> <li><input checked="" type="checkbox"/> Value engineering</li> <li><input checked="" type="checkbox"/> Structural engineering</li> </ul>	Outsource low-value added: <ul style="list-style-type: none"> <li>Construction trades</li> </ul>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Leasehold portfolio management</li> <li><input checked="" type="checkbox"/> Static testing and commissioning</li> <li><input checked="" type="checkbox"/> Performance testing</li> <li><input checked="" type="checkbox"/> Practical completion and handover</li> </ul>
<b>Geospatial Technology</b>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Scoping studies</li> <li><input checked="" type="checkbox"/> Consulting and professional services</li> <li><input checked="" type="checkbox"/> Enterprise systems planning</li> <li><input checked="" type="checkbox"/> Applications design</li> <li><input checked="" type="checkbox"/> Systems architecture</li> </ul>		In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Installation</li> <li><input checked="" type="checkbox"/> User testing</li> <li><input checked="" type="checkbox"/> Completion and handover</li> <li><input checked="" type="checkbox"/> After-sales maintenance services and technical support</li> <li><input checked="" type="checkbox"/> Training</li> </ul>
<b>Healthcare Technology</b>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Scoping studies</li> <li><input checked="" type="checkbox"/> Consulting and professional services</li> <li><input checked="" type="checkbox"/> Applications design</li> <li><input checked="" type="checkbox"/> Diagnostics and rehabilitation centre architecture</li> </ul>	In-house expertise for: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Manufacturing of simple medical devices and equipment</li> </ul>	In-house expertise for high-value added: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Diagnostics and rehabilitation centre management and operations</li> <li><input checked="" type="checkbox"/> Installation</li> <li><input checked="" type="checkbox"/> User testing</li> <li><input checked="" type="checkbox"/> Completion and handover</li> <li><input checked="" type="checkbox"/> After-sales maintenance services and technical support</li> <li><input checked="" type="checkbox"/> Training</li> </ul>

Across all phases, we undertake project management, procurement, quality and environmental, health and safety supervision.

At our Real Estate Solutions Division under Boustead Projects, our business model incorporates integrated capabilities – development, design-and-build, leasehold portfolio management and ownership, and facilities management – and are reinforced by our excellent quality and EHS track records, and outright market leadership in building smart eco-sustainable industrial developments. More information on Boustead Projects' integrated industrial real estate solutions business model is available in the *Boustead Projects FY2019 Longevity Report*.

### 3.2 SMART ECO-SUSTAINABLE SOLUTIONS

Each division continues to develop solutions that are smart and eco-sustainable, meaning that they have a positive ecological impact. 'Eco-' based on the root word 'ecological' is defined as 'relating to or concerned with the relation of living organisms to one another and to their physical surroundings.'<sup>1</sup> Our smart eco-sustainable solutions are expected to deliver primary benefits to clients, usually economic in nature, and secondary

benefits to clients and other key stakeholders, which transcend economic value into ESG benefits, with an overall positive bottomline for the entire ecosystem that our solutions fit into.

This is extremely important given that our Energy-Related Engineering and Real Estate Solutions Divisions operate in the global energy and industrial sectors that together accounted for 61% of global primary energy usage in 2018.<sup>2</sup> Furthermore, it has been noted by the United Nations in its *The Emissions Gap Report 2017* that these sectors could contribute 50% of total emissions reduction potential in 2030.<sup>3</sup> As such, our smart eco-sustainable solutions which are already directly influencing and reducing energy loss, emissions, pollution, and energy and water consumption have the potential to do so into the future in some of the most energy-intensive sectors.

Our major solutions are shown on pages 24 to 26 in terms of their primary and secondary benefits, industry and geographic diversification, and long-term market outlook.

#### 3.2.1 Solutions Supporting Economic Activities

Our engineered solutions under our Energy-Related Engineering and Real Estate Solutions Divisions have been implemented to support niche segments of hard infrastructure, primarily upstream and downstream O&G infrastructure, power plants, and business and industrial parks that form the backbone of economic activities in both developed and emerging markets. Our digital solutions under our Geospatial Technology Division including digital infrastructure management systems have been implemented to support niche segments of hard and soft infrastructure that underpin a smart world. Our technology solutions under our Healthcare Division have been implemented to support better patient outcomes and recovery rates from chronic age-related diseases, address pain points of mainstream healthcare providers by reducing the strain on healthcare resources and improve the quality of life for all walks of life. Today, our solutions are integrating Industry 4.0 transformation standards that increasingly support clients who

are adapting to and creating solutions and technologies for smart nations, smart cities, smart communities, smart buildings, Internet of Things ("IoT") applications and ageing populations.

#### 3.2.2 Solutions with Additional ESG Benefits

Outside of the economic value that our clients receive, our engineered and digital eco-sustainable solutions also offer significant secondary benefits in ESG facets. These eco-sustainable solutions include waste heat recovery units ("WHRUs"), water and wastewater treatment plants, smart eco-sustainable business park and industrial developments, geospatial technology and healthcare technology. With the eco-sustainability practices of clients coming under increased scrutiny from their own key stakeholders, we have been delivering smart eco-sustainable solutions that help them to match their global growth strategies with better management of their ecological footprints and compliance with environmental regulations. Clients who embrace our smart eco-sustainable solutions also receive social benefits

1. "Definition of Ecological in English." *Lexico.com*, Dictionary.com and Oxford University Press, [www.lexico.com/en/definition/ecological](http://www.lexico.com/en/definition/ecological). Accessed 18 July 2019.

2. "Total Energy: Table 2.1 Energy Consumption by Sector." *Monthly Energy Review*, United States Government, US Energy Information Agency, July 2019, page 35, [www.eia.gov/totalenergy/data/browser/?tbl=T02.01#/?f=A&start=1949&end=2017&charted=3-6-9-12](http://www.eia.gov/totalenergy/data/browser/?tbl=T02.01#/?f=A&start=1949&end=2017&charted=3-6-9-12). Accessed 18 July 2019.

3. "Table 4.1: Overview of Emission Reduction Potential." *The Emissions Gap Report 2017: A UN Environment Synthesis Report*, United Nations, UN Environment Programme, November 2017, page 35, [www.unenvironment.org/resources/emissions-gap-report](http://www.unenvironment.org/resources/emissions-gap-report). Accessed 18 July 2019.



INTRODUCTION	LONGEVITY REPORTING FRAMEWORK	<b>PURSUIING BUSINESS WITH A GREATER PURPOSE</b>	DEVELOPING OUR BEST ASSET – BOUSTEAD MEN & WOMEN	CONSERVING OUR COLLECTIVE HOME – PLANET EARTH	OTHER INFORMATION
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**Solutions**

Division/Major Subsidiary	Solutions	Primary Benefits	Secondary Benefits	Long-Term Market Outlook
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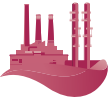


**Energy-Related Engineering**

Boustead International Heaters (“BIH”)

<ul style="list-style-type: none"> <li>Global business centred in O&amp;G industries with projects delivered in 56 countries</li> </ul>	<ul style="list-style-type: none"> <li>Process heater systems for:                             <ul style="list-style-type: none"> <li>Refineries</li> <li>Gas processing and liquefied natural gas (“LNG”) plants</li> <li>Petrochemical plants</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>High temperature heat transfer for distilling:                             <ul style="list-style-type: none"> <li>Petroleum products</li> <li>Natural gas products and LNG</li> <li>Petrochemical products</li> <li>Hydrogen</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Cost effective energy resource used as:                             <ul style="list-style-type: none"> <li>Feed stock for most consumer and industrial products</li> <li>Fuel for gas-fired and combined cycle power plants</li> <li>Fuel for global transportation fleet</li> </ul> </li> <li>Resource security</li> </ul>	<ul style="list-style-type: none"> <li>Weaker demand in refining activities aligned with climate change and legislative trends</li> <li>Stronger demand in gas processing activities as natural gas replaces crude oil in multi-decade transition to relatively cleaner fuels in climate change and legislative trends</li> </ul>
	<ul style="list-style-type: none"> <li>WHRUs for:                             <ul style="list-style-type: none"> <li>Refineries</li> <li>Gas processing and LNG plants</li> <li>Petrochemical plants</li> <li>Production platforms</li> <li>Floating production, storage and offloading (“FPSO”) vessels</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Recycled exhaust and flue gases for reuse in processes</li> <li>Reduced thermal energy loss and fuel to heat processes</li> <li>Potential doubling of gas turbine efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Reduced fuel costs</li> <li>Reduced emissions and pollution</li> <li>Resource security</li> </ul>	<ul style="list-style-type: none"> <li>Stronger demand in gas processing activities aligned with climate change and legislative trends</li> </ul>

## Solutions (cont'd)

Division/Major Subsidiary	Solutions	Primary Benefits	Secondary Benefits	Long-Term Market Outlook
 <b>Energy-Related Engineering</b>				
Boustead Controls & Electrics (BC&E") <ul style="list-style-type: none"> <li>Regional business centred in O&amp;G industries with projects delivered in 31 countries</li> </ul>	<ul style="list-style-type: none"> <li>Process control systems for:               <ul style="list-style-type: none"> <li>Production platforms</li> <li>FPSO vessels</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Safe process startup, management and shutdown of O&amp;G production</li> </ul>	<ul style="list-style-type: none"> <li>Protected O&amp;G assets, infrastructure and natural environment</li> <li>Enhanced safety for O&amp;G personnel</li> <li>Resource security</li> </ul>	<ul style="list-style-type: none"> <li>Weaker demand in oil production activities aligned with climate change and legislative trends</li> <li>Stronger demand in gas production activities aligned with climate change and legislative trends</li> <li>Potential to be deployed to other process industries</li> </ul>
Boustead Salcon Water Solutions ("BSWS") <ul style="list-style-type: none"> <li>Global business centred in O&amp;G and power industries with projects delivered in 61 countries</li> </ul>	<ul style="list-style-type: none"> <li>Water and wastewater treatment plants for:               <ul style="list-style-type: none"> <li>Power plants</li> <li>Refineries</li> <li>Gas processing and LNG plants</li> <li>Petrochemical plants</li> <li>Production platforms</li> <li>FPSO vessels</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Treated high quality pure and ultra pure water for processes</li> <li>Treated wastewater for safe release into natural environment or zero discharge</li> <li>Reclaimed and recycled wastewater for reuse in processes</li> </ul>	<ul style="list-style-type: none"> <li>Reduced water pollution</li> <li>Resource security</li> </ul>	<ul style="list-style-type: none"> <li>Stronger demand aligned with rejuvenation of world's most precious resource, and climate change and legislative trends</li> <li>Potential to be deployed to other process industries</li> </ul>

**Solutions (cont'd)**

Division/Major Subsidiary	Solutions	Primary Benefits	Secondary Benefits	Long-Term Market Outlook
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**Real Estate Solutions**

Boustead Projects

<ul style="list-style-type: none"> <li>Regional business in wide range of heavy and light industries with projects delivered in four countries</li> </ul>	<ul style="list-style-type: none"> <li>Advanced industrial developments</li> <li>Business park and commercial developments</li> </ul>	<ul style="list-style-type: none"> <li>Smart eco-sustainable business park and industrial developments that meet Industry 4.0 transformation standards</li> <li>Client ownership model</li> <li>Client leasing model</li> </ul>	<ul style="list-style-type: none"> <li>Reduced construction time, waste, emissions and pollution during design, construction and building operations</li> <li>Reduced energy and water consumption during building operations</li> <li>Resource security</li> </ul>	<ul style="list-style-type: none"> <li>Stronger demand aligned with climate change, legislative and Industry 4.0 transformation trends</li> </ul>
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**Geospatial Technology**

Esri Australia, Esri Singapore, Esri Malaysia, Esri Indonesia

<ul style="list-style-type: none"> <li>Regional business across almost all industries with projects delivered in eight countries</li> </ul>	<ul style="list-style-type: none"> <li>Geographic information system (“GIS”) and location analytics platform related to world-leading Esri ArcGIS enterprise platform</li> </ul>	<ul style="list-style-type: none"> <li>Smart solutions</li> <li>Authoritative, effective and efficient big data governance and management for government, infrastructure, resources and IoT</li> </ul>	<ul style="list-style-type: none"> <li>Support for all kinds of private and public sector economic and ESG initiatives</li> <li>Planetary security</li> </ul>	<ul style="list-style-type: none"> <li>Stronger demand aligned with smart cities, big data, IoT, climate change, legislative and Industry 4.0 transformation trends</li> </ul>
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**Healthcare Technology**

WhiteRock Incorporation (“WRI”), United BMEC

<ul style="list-style-type: none"> <li>Regional business across niche healthcare industry with projects delivered in seven countries</li> </ul>	<ul style="list-style-type: none"> <li>Healthcare technology distribution and applications for rehabilitative care, sleep care and sports science</li> </ul>	<ul style="list-style-type: none"> <li>Smart solutions</li> <li>Effective and efficient patient care</li> <li>Better patient outcomes and recovery rates</li> </ul>	<ul style="list-style-type: none"> <li>Support for mainstream and acute healthcare system</li> <li>Health and financial security</li> </ul>	<ul style="list-style-type: none"> <li>Stronger demand aligned with ageing population trends</li> </ul>
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such as boosting and protecting their relationships and reputations with their key stakeholders.

### a) Waste Heat Recovery Units

BIH's WHRUs help clients to recycle turbine exhaust and flue gases generated by extremely high temperature O&G processes – and in some cases, power processes – so that these waste gases are reused in processes instead of being lost to atmosphere. Clients benefit from significantly reduced thermal energy loss, emissions and pollution, and further fuel cost savings as recycled waste heat keeps processes at optimal temperatures without having to use additional fuel. As an example, for every gigawatt-hour (“GWh”) of thermal energy that escapes or is lost through the stack or surface of a process heater system operating at about 927°C and 10% excess air with ambient combustion air, 2GWh of thermal energy are required to replace the lost GWh of thermal energy.<sup>4</sup> In the US alone, it is estimated that industries produce over 75,000GWh of waste heat at temperature levels over

148°C.<sup>5</sup> This represents a significant opportunity to achieve sizeable efficiency gains, environmental benefits and fuel cost savings. When our WHRUs are utilised in combination with gas turbines (generally known to be inefficient to begin with), gas turbine efficiency can be potentially doubled. During FY2019, we were contracted to supply WHRUs with a total recovery capacity of over 116MW, representing expected total recovery of over 1,022GWh of thermal energy per year.

### b) Water & Wastewater Treatment Plants

BSWS' water and wastewater treatment plants help clients to produce high quality pure and ultra pure water for power, O&G and industrial processes, treat wastewater for safe release into the natural environment or for zero liquid discharge, and reclaim and recycle wastewater to be reused in processes or as potable water, saving an extremely precious resource. Clients benefit from significantly reduced pollution and depletion of raw water resources. Industrial water demand accounts for

about 19% of global water withdrawals,<sup>6</sup> of which about 75% of all industrial water withdrawals are used in water-intensive energy production. During FY2019, we were contracted to supply water and wastewater treatment plants with a total treatment capacity of over 112,000 cubic metres (“cu m”) per day, representing expected treatment of over 40 million cu m per year, with most of the capacity dedicated to water treatment applications in the power and O&G industries.

### c) Green Buildings

Boustead Projects' smart eco-sustainable business park and industrial developments help clients to own or lease custom-built smart eco-sustainable developments that match their global growth strategies and significantly reduce energy loss, emissions, pollution, waste, and energy and water consumption throughout the multi-decade building lifecycle. Boustead Projects' smart eco-sustainable built environment is conducive to create a healthy and productive internal environment for clients, while

reducing the ecological impact on the natural environment and surrounding communities.

Reporting to the Singapore Government's Ministry of National Development, the Building & Construction Authority (“BCA”) is the agency responsible for championing the development of an excellent built environment for Singapore. In 2009, Boustead Projects broke new ground with the delivery of Singapore's first Green Mark Platinum-rated industrial development in the heavy industry category for a Forbes Fortune 500 corporation, Applied Materials under the BCA's Green Mark Programme. Since then, Boustead Projects has proceeded to become the outright market leader in delivering Green Mark Platinum-rated industrial developments and also delivered LEED-rated industrial developments under the US Green Building Council (“USGBC”)’s internationally-recognised Leadership in Energy & Environmental Design (LEED) Program. Boustead Projects' milestones include delivering

4. “Figure 8: Multiplying Effect of Available Heat on Furnace Losses.” *A Best Practices Process Heating Technical Brief: Waste Heat Reduction and Recovery for Improving Furnace Efficiency, Productivity and Emissions Performance*, United States Government, US Department of Energy, November 2004, page 6, [www.energy.gov/sites/prod/files/2014/05/f15/35876.pdf](http://www.energy.gov/sites/prod/files/2014/05/f15/35876.pdf). Accessed 18 July 2019.

5. “Waste Heat Recovery: Technology and Opportunities in US Industry [3].” *Waste Heat Recovery Technology Assessment*, United States Government, US Department of Energy, 2015, page 4, [www.energy.gov/sites/prod/files/2015/02/f19/QTR%20Ch8%20-%20Waste%20Heat%20Recovery%20TA%20Feb-13-2015.pdf](http://www.energy.gov/sites/prod/files/2015/02/f19/QTR%20Ch8%20-%20Waste%20Heat%20Recovery%20TA%20Feb-13-2015.pdf). Accessed 18 July 2019.

6. “Water Demand and Use.” *United Nations World Water Development Report 2019: Leaving No One Behind*, United Nations, UN Educational, Scientific and Cultural Organization, UNESCO World Water Assessment Programme, 2019, page 13, [en.unesco.org/themes/water-security/wwap/wwdr/2019#download](http://en.unesco.org/themes/water-security/wwap/wwdr/2019#download). Accessed 18 July 2019.

Singapore’s first Green Mark Platinum-rated industrial developments in the heavy industry, aerospace and logistics industry categories, and 20% and 40% of all Green Mark Platinum-rated new private sector industrial developments and logistics developments respectively on Business 1 and Business 2 industrial-zoned land.<sup>7</sup>

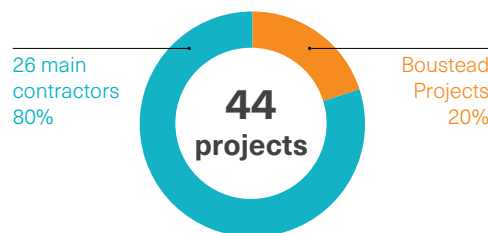
During FY2019, Boustead Projects added to their Green Mark Platinum track record shown here with their landmark private sector design-and-build project captured for the year and also largest private sector contract in their history for Surbana Jurong Campus (“SJC”), Singapore’s first large-scale industrial development to be awarded the Green Mark Platinum – Super Low Energy (“GM-SLE”), a huge step towards minimal to zero carbon footprints. Introduced in 2018, the GM-SLE rating is the BCA’s latest higher benchmark for best-in-class green buildings in Singapore. SJC achieved the GM-SLE with significant eco-sustainability features geared towards the highest levels of energy efficiency and huge reductions in energy usage. Elsewhere, two more design-and-build projects – Bolloré Blue Hub and Veolia Singapore Office@Tuas View Circuit – were awarded the Green Mark Platinum.

As the outright market leader in the design-and-build of smart eco-sustainable industrial developments, Boustead Projects is taking their commitment further to attain higher Green Mark ratings in their role as a developer for multi-tenanted developments that they intend to own and lease out in Singapore. In line with this, Boustead Projects designed and built our global headquarters – Edward Boustead Centre – to attain Green Mark Platinum in 2015, leading by example and showcasing to clients how extensive green building features can be incorporated into the design of all future buildings. Similarly, the same path was taken for ALICE, which attained the Green Mark Platinum in 2018. In addition, Boustead Projects’ latest multi-tenanted smart development under construction at Braddell Road is planned to have zero emissions across common areas. Moving forward, Boustead Projects will continue to explore ways to further introduce smart eco-sustainable solutions including the introduction of the Green Lease Scheme at their multi-tenanted developments in Singapore. More information on Boustead Projects’ smart eco-sustainable solutions is available in the *Boustead Projects FY2019 Longevity Report*.

### BCA Green Mark Programme for Non-Residential Buildings 2015

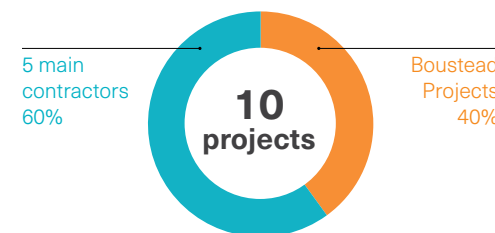
Green Mark Rating	Score
Green Mark Platinum	<b>Above 69</b>
Green Mark Gold Plus	60 to 69
Green Mark Gold	51 to 59
Green Mark Certified	Applies to all new projects submitted for URA planning permission on or after 15 April 2008

### Green Mark Platinum Market Share for New Private Sector Industrial Developments



Boustead Projects has built **1 out of every 5** Green Mark Platinum-rated new private sector industrial developments.

### Green Mark Platinum Market Share for New Private Sector Logistics Developments



Boustead Projects has built **2 out of every 5** Green Mark Platinum-rated new private sector logistics developments.

7. Track record updated to include 2019 BCA Green Mark Awards held in May 2019.

### Eco-Sustainable Solutions in Action



#### Energy-Related Engineering

#### BIH

13 WHRUs recovering

153 WHRUs recovering

166 WHRUs recovering

1,022.3 GWh



33,390.5 GWh



over 34,413 GWh of thermal energy



Heating used by over 3.6 million homes in the UK



or taking over 5.1 million cars off the road



or CO<sub>2</sub> stored by over 28.9 billion trees



or £828 million

Attained in FY2019

Cumulative capacity attained prior to FY2019

Estimated cumulative annual recovery

Note: Calculations are based on contractual specifications, with the main conversion calculations based on the UK Government Department for Business, Energy & Industrial Strategy's published statistics for industrial gas tariffs for 2018. Other supplementary conversion calculations are based on the US Environmental Protection Agency's green house gas equivalents calculator.

#### BSWS

5 water and wastewater treatment plants treating

135 water and wastewater treatment plants treating

140 water and wastewater treatment plants treating or recycling

41.0 million cu m



587.1 million cu m



over 628 million cu m of water



Water used to fill over 251,000 Olympic size swimming pools



or US\$1.3 billion

Attained in FY2019

Cumulative capacity attained prior to FY2019

Estimated cumulative annual treatment or recycling

Note: Calculations are based on contractual specifications, with conversion calculations based on the Global Water Intelligence's 2018 Global Water Tariff Survey where the global average water tariff was US\$2.04 per cu m. Capacity supplied prior to FY2019 is based on our track record dating back to completed projects after Boustead Salcon Water Solutions was acquired in 2002.

Eco-Sustainable Solutions in Action (cont'd)



Real Estate Solutions

Boustead Projects

2 developments under construction saving

5.1 GWh

and

37,483 cu m

Green Mark Platinum ratings attained in FY2019



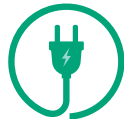
10 developments saving

39.1 GWh

and

94,202 cu m

Green Mark Platinum ratings attained prior to FY2019



12 developments saving

over 44 GWh of electricity

and

over 131,000 cu m of water

Green Mark Platinum developments' estimated annual savings



Electricity used by 9,800 homes in Singapore



or taking over 6,600 cars off the road



or CO<sub>2</sub> stored by over 37.1 million trees



or S\$9.1 million



Water used to fill 52 Olympic size swimming pools



or S\$0.2 million

Note: Calculations are based on BCA Green Mark Programme assessments at the time when the Green Mark Platinum was awarded to a specific building, with the main conversion calculations based on the Energy Market Authority's and PUB's published statistics for electricity tariffs and industrial water tariffs respectively for 2018. Other supplementary conversion calculations are based on the US Environmental Protection Agency's green house gas equivalents calculator.

### d) A Smart World Grounded in Geospatial Intelligence

Our Geospatial Technology Division's location intelligence solutions related to the world-leading Esri ArcGIS enterprise platform help clients to create smart nations, smart cities and smart communities by solving the world's largest problems through effective and sustainable planning and management of key infrastructure and resources. In a world inundated with big data and IoT, and also severe underutilisation and wastage of limited resources, Esri technology works to effectively and efficiently govern and manage all kinds of private and public sector data. These include economic and ESG initiatives such as tackling urban planning, disease, poverty and social inequality, and working towards the ideal of planetary security by achieving the United Nations ("UN")'s 17 Sustainable Development Goals ("SDGs"). Please review our FY2019 Geospatial Projects Feature: Mapping ESG, as shown on page 32.

In December 2017, Environmental Systems Research Institute Inc or better known as Esri Inc, our principal for Esri technology announced that they are working with the UN Statistics Division and a number of member states to develop a new data hub named the Federated Information System for SDGs ("FIS4SDGs").<sup>8</sup> The FIS4SDGs will allow

countries to measure, monitor, report and visualise progress towards SDGs in a geographic context on a global scale and supports an interoperable data ecosystem where independent global and national SDG Data Hubs can publish and share SDG data on a common user-friendly platform, with strong data governance, accountability and traceability.

In July 2018, Esri Inc pushed further on meeting the SDGs when they announced that they are working with the World Bank to integrate location intelligence into the World Bank's Survey Solutions software to improve the accuracy and efficiency of data collection, analysis and decision making in developing nations.<sup>9</sup> This will allow the World Bank to put in place a global statistical geospatial framework and work towards the goal of global poverty reduction.

Crime, epidemics like Ebola, SARS and Zika, inadequate housing, pollution, sanitation hazards and transport issues are all consequences of decades of unplanned urbanisation. As a result, we are now seeing the rise of concepts like 'adaptive urbanism' and 'smart cities'. Effective management of our complex urban ecosystems fundamentally comes down to our geographic understanding of the environments – both engineered and natural – that we inhabit. From a

global perspective, the complementary 'Smart City' and 'Smart Government' concepts continue to be some of the biggest drivers of demand for GIS and location intelligence solutions. New Esri technology deployment opportunities appeared from 'Smart City 4.0' phenomena – a rethink of the traditional smart city approach to account for Industry 4.0, where IoT and other technologies seamlessly fuse the digital and physical worlds. In this era, smart cities and smart governments are positioned as the facilitators of smart services, while citizens are co-collaborators who contribute data and insights through IoT sensors and other technology channels. 'Smart City Thinking' – a thought process that underpins all efforts to engineer urban environments where the quality of life for citizens is the central focus – has also been embraced across South East Asia, with GIS deployed to connect disparate data sources in a manner that enables the weaving of intricate networks of intelligent applications, information hubs and smart workflows.

It goes without saying that this is a challenging job. However, it is a job made easier with digitalisation and visualisation of insight and most importantly foresight – delivered through Esri technology. Esri technology consumes masses of data from all types

of sources including satellite data to real-time IoT sensor feeds, through to databases, spreadsheets, social media updates and everything in between. The insights that Esri technology produces are what informs decisions makers. Globally, Esri technology is recognised as a foundation technology that both supports and enables the building of smart cities. Esri technology's inherent ability to provide unprecedented context to both evolving and proposed urban ecosystems has made it the 'go to' tool for planners, policymakers, health authorities, security agencies, environmentalists and many more stakeholders for five decades. During FY2019, smart city transformations that our division continues to provide support to include Australia's Virtual Brisbane and Queensland Globe, Singapore's Smart Nation and Malaysia's Iskandar Regional Development Authority, among many others.

2019 marks Esri Inc's 50th Anniversary, a fitting milestone to achieve during one of the brand's most successful periods in Australia and South East Asia. During their 50-year journey, Esri Inc – the pioneering architect behind the development of GIS products for the analysis and management of location-based data – has stood as the unrivalled global market leader in geospatial technology. Esri Inc stands as

8. "The Federated Information System for the SDGs: From Vision to Scale." United Nations, United Nations Statistics Division, 7 March 2019, [unstats.un.org/unsd/statcom/50th-session/side-events/20190307-1L-Federated-Information-System-for-the-SDGs.pdf](https://unstats.un.org/unsd/statcom/50th-session/side-events/20190307-1L-Federated-Information-System-for-the-SDGs.pdf). Accessed 18 July 2019.

9. "Esri Enters into Memorandum of Understanding with World Bank." Esri Inc, 31 July 2018, [www.esri.com/about/newsroom/announcements/esri-enters-into-memorandum-of-understanding-with-world-bank/](https://www.esri.com/about/newsroom/announcements/esri-enters-into-memorandum-of-understanding-with-world-bank/). Accessed 18 July 2019.



## FY2019 Geospatial Projects Feature: Mapping ESG

### Smart Cities

Esri Singapore continued to help lay the foundations for a new initiative called 'Living Singapore', which highlights its position as a smart city thought leader and enabler. The concept was shaped by Esri Founder & President, Jack Dangermond, following his visit to Singapore where he met with the nation's most senior government leaders.

Specifically, the 'Living Singapore' concept highlights the necessity for the government to establish its smart city platforms in a more dynamic and distributed way. A smart city cannot simply be a digital twin created to run simulations and tests; rather, it has to be based on a city as a living ecosystem where community policies and urban planning decisions rely on real-time data. Given that the ideal smart city platform is required to manage dynamic flows of information, facilitate collaboration among stakeholders and work towards impactful citizen-centric outcomes, Esri technology is one of the most effective ways to establish a platform that supports the 'Living Singapore' concept.

Singapore's government agencies leverage ArcGIS to underpin intelligent applications and smart workflows, key in establishing Singapore's credentials as a Smart Nation.

### Environment

Esri Australia's client, the Northern Territory's Power & Water Corporation ("PWC") was awarded an Esri Special Achievement in GIS ("SAG") Award for its Living Water Smart Programme, a water efficiency project for Darwin that is expected to save four billion litres of water over the next four years.

PWC's Water Meter Replacement Programme initially involved checking and replacing 650 commercial meters and 10,000 retail meters over a 12-month period, using ArcGIS to increase efficiencies during the project, particularly in how information was being captured and communicated.

With the solution deployed on mobile devices, staff and contractors were able to efficiently collect and update field information to an operations centre in near real-time, resulting in increases in accuracy and reliability which saw duplication of efforts reduced and efficiency gains snowball, with meter replacement rates increased by up to 70% – a compelling result from a solution that took just two weeks to deploy.

Following this initial project, PWC has now used ArcGIS in more than 30,000 water meter inspections to detect almost 3,000 leaks, saving even more of a valuable resource.

### Social

Esri Indonesia responded as the country was hit by a series of disasters. The Esri Indonesia Emergency Spatial Support Centre – a disaster response programme run by Esri Indonesia to support government agencies during crises and disasters – developed a portal to coordinate disaster relief efforts for Sulawesi's Palu-Donggala earthquake and tsunami aftermath.

The portal provided actionable insights needed by disaster relief agencies to conduct search and rescue operations, efficiently mobilise limited resources, optimise supply routes for relief goods and leverage data from the Meteorological, Climatological & Geophysical Agency, Geospatial Information Agency, Indonesian National Board for Disaster Management, Ministry of Home Affairs, Ministry of Public Works & Housing and National Institute of Aeronautics & Space; as well as crowdsourced data from the Gajah Mada University and image analytics from the Bandung Institute of Technology.

Also featured are affected population and demographics, impacted buildings and infrastructure, before and after satellite image comparisons, available hospitals and evacuation centres, and live reports from social media.

### Governance

New opportunities continue to flow from Geocentric Datum of Australia 2020 ("GDA2020"), Australia's new official datum. GDA2020 seeks to accurately align the country's national coordinates with global satellite positioning systems to enable smart devices and other positioning technologies to accurately locate mapped features.

Failure to update location data to GDA2020 risks exposing discrepancies of up to 1.8 metres, making it imperative for organisations nationwide to update their data and programmes. Esri Australia has been a driving force encouraging organisations – in particular key government agencies – to create a GDA2020 strategy and work plan.

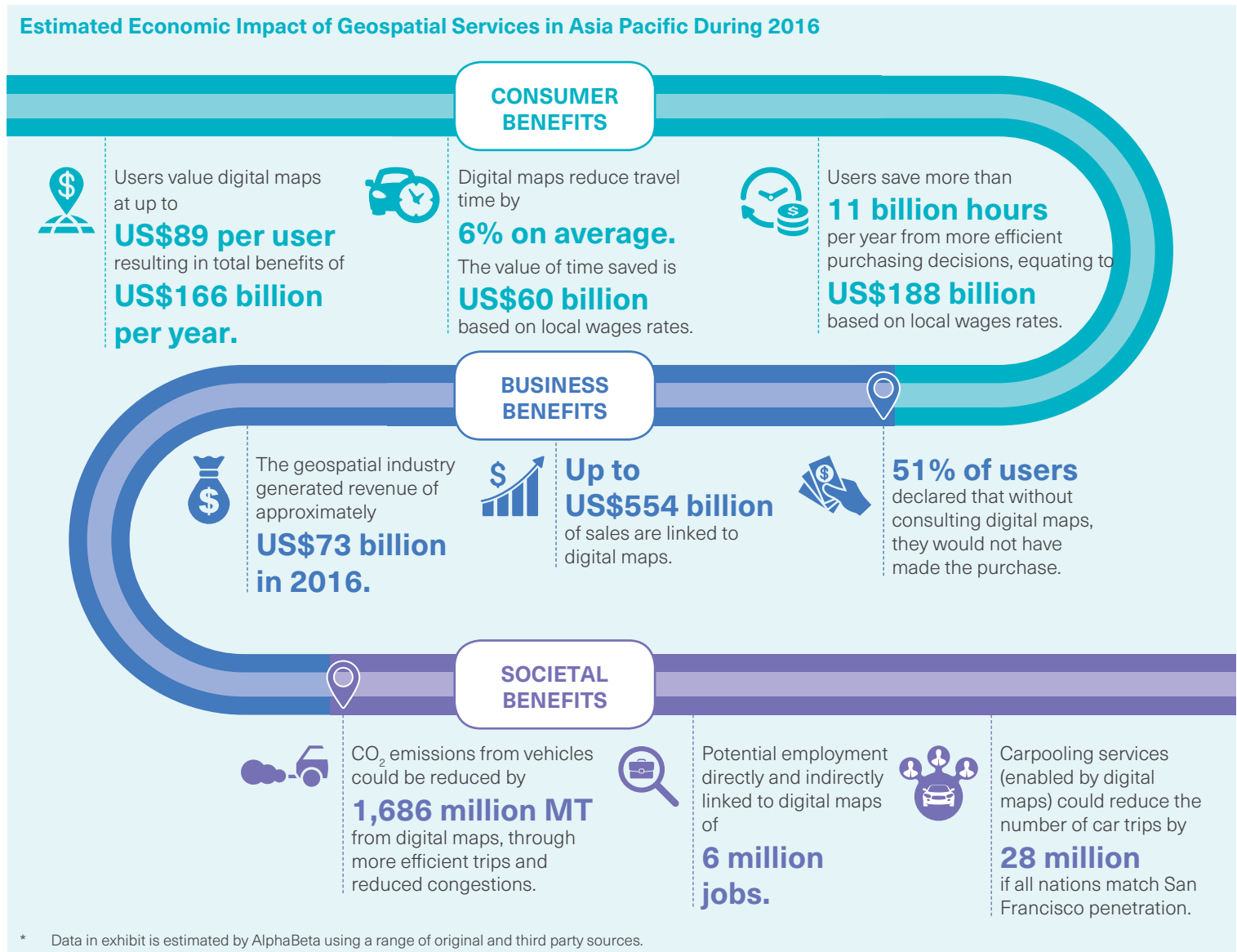
Engaged by the Moreton Bay Regional Council ("MBRC") to provide a high-level GDA2020 implementation plan, Esri Australia's professional services team delivered recommendations to ensure that the MBRC's GDA2020 data migration is sufficiently understood across MBRC and a sound data migration plan is now in place.

National initiatives such as GDA2020 continue to drive data governance across countries, cities and organisations, and feed into greater governance practices.

a rare multi-generational force that has transformed through five tectonic shifts in the technology industry within the past five decades.

According to AlphaBeta Advisors' published study for Google, they assessed that the global economic impact of geospatial services likely had a significant productivity impact in sectors representing 75% of global gross domestic product and direct and indirect benefits for businesses, consumers and society at large.<sup>10</sup> AlphaBeta Advisors' study was conducted with a survey of 9,000 Internet users in 22 countries spread across six continents, including three of our division's exclusive markets: Australia, Singapore and Indonesia. AlphaBeta went on to quantify the estimated economic impact of geospatial services in the Asia Pacific as shown on here.

Furthering the vision towards a smart world, during FY2019 at the 2018 Esri User Conference held in July 2018, nine clients within our respective exclusive distribution network in Australia, Singapore, Malaysia and Indonesia were internationally recognised as winners of the prestigious Special Achievement in GIS ("SAG") Award, selected from a pool of more than 100,000 private and public sector organisations globally. The SAG Award honours organisations who demonstrate innovative use of GIS



10. "Global Economic Impact of Geospatial Services During 2016." *The Economic Impact of Geospatial Services: How Consumers, Businesses and Society Benefit from Location-Based Information*, AlphaBeta Advisors Pty Ltd, September 2017 [www.alphabeta.com/wp-content/uploads/2017/09/GeoSpatial-Report\\_Sept-2017.pdf](http://www.alphabeta.com/wp-content/uploads/2017/09/GeoSpatial-Report_Sept-2017.pdf). Accessed 18 July 2019.

technology to solve pressing real world challenges.

Shortly after the end of FY2019 at the 2019 Esri User Conference held in July 2019, ten clients within our respective exclusive distribution network were internationally recognised with the prestigious SAG Award, the highest annual number of clients in our history, breaking the previous record set one year earlier. Our track record in supporting SAG Award winners is shown on pages 35 and 36.

Esri technology continues to become an integral key enterprise platform for numerous clients, as evidenced by increasing enterprise agreements (“EAs”), multi-year agreements that

facilitate an expanding consumption of software and services. At the end of FY2019, we had 93 ongoing EAs, compared with 86 ongoing EAs at the end of FY2018.

### 3.3 QUALITY

Quality has always been a defining factor in the total client experience. As part of our quality assurance and improvement programmes, all of our major subsidiaries under our Energy-Related Engineering, Real Estate Solutions and Healthcare Technology Divisions obtained ISO 9001 certifications for Quality Management Systems (“QMS”) from at least 2005 onwards. All of these same subsidiaries had received an upgrade to the latest ISO 9001:2015 standard. Our QMS

set out quality management system enablers, commitments, targets and responsibilities for our team. Our QMS are both externally and internally audited, and ensure quality management performance at all workplaces and project sites under our control on a daily basis. In addition, our largest subsidiary under our Geospatial Technology Division also has a QMS, which although not certified, adheres to ISO 9001:2000.

As the delivery of quality is emphasised throughout all potential client touch points, our solutions are not always the lowest priced among competing solutions but do consistently deliver high quality client experiences and outcomes. Due to positive client experiences and outcomes, numerous

clients have become repeat clients which is important in the context where almost all client relationships are business-to-business arrangements involving a smaller client base but larger transactional value as compared to what is typically seen in business-to-consumer arrangements. The embedding of quality into all potential client touch points is extremely important since a client team’s project journey together with us typically lasts for over one year and is made up of thousands of interactions between key stakeholders, especially between our team and clients, strategic partners, suppliers, lenders, government agencies and regulators, all within a single project.

## ISO 9001 Certifications

	BIH	BC&E	BSWS	Boustead Projects	Esri Australia	United BMEC
<b>ISO 9001 Initiation</b>	1992	2005	1999	1999	1999	2000
<b>ISO 9001 Latest Standard</b>	Upgraded to ISO 9001:2015 in Mar 2018	Upgraded to ISO 9001:2015 in Jan 2018	Upgraded to ISO 9001:2015 in Jul 2018	Upgraded to ISO 9001:2015 in Apr 2018	Current QMS not certified	Upgraded to ISO 9001:2015 in Jul 2017
<b>Other Industry-Specific Quality Standards</b>	<ul style="list-style-type: none"> <li>ISO/TS 29001:2011</li> <li>EN 1090-1:2009 +A1:2011 (EXC 3) in compliance with CPR 305/2011/EU</li> <li>PED 2014/68/EU (Module H1)</li> </ul>				Current QMS adheres to intent of ISO 9001:2000 where critical processes are controlled and monitored	Good Distribution Practice for Medical Devices

## Special Achievement in GIS Awards

Geospatial Technology				
	Australia	Singapore	Malaysia	Indonesia
Total	25 awards	19 awards	13 awards	12 awards
<b>2019</b>	<ul style="list-style-type: none"> <li>• APA Group – Infrastructure Planning &amp; Protection for utilities management GIS solution</li> <li>• Australian Capital Territory Emergency Services Agency (“ACT ESA”) for emergency management GIS solution</li> <li>• South Australia’s Department of Planning, Transport &amp; Infrastructure for state planning GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>• Sembcorp Industries Ltd for utilities management GIS solution</li> <li>• Singapore Land Authority (“SLA”) for Singapore Advanced Map</li> <li>• Urban Redevelopment Authority (“URA”) for Master Plan Review</li> </ul>	<ul style="list-style-type: none"> <li>• Department of Survey &amp; Mapping Malaysia (“JUPEM”), Geospatial Defence Division (“BGSP”) for Centralised Geo Centric Disaster Management</li> <li>• Mass Rapid Transit Corporation Sdn Bhd for SSP Line Geospatial Web Portal</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Public Works &amp; Public Housing, Directorate General of Highway Construction &amp; Maintenance for infrastructure GIS solution</li> <li>• PT Astra Honda Motor for corporate GIS solution</li> </ul>
<b>2018</b>	<ul style="list-style-type: none"> <li>• Geoscience Australia for MH370 search GIS solution</li> <li>• Power &amp; Water Corporation for utilities management GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>• National Parks Board for MAVEN</li> <li>• PUB for Geographic Resource Information System (“GERI”)</li> </ul>	<ul style="list-style-type: none"> <li>• Kerajaan Negeri Sembilan for GIS9</li> <li>• Sabah Lands &amp; Surveys Department for Jabatan Tanah dan Ukur Web Mapping Application</li> <li>• Petronas Carigali Sdn Bhd for Play Based Exploration</li> </ul>	<ul style="list-style-type: none"> <li>• National Resilience Institute for Siskurtannas</li> <li>• PT Telekomunikasi Indonesia for Sales IndiHome Information System</li> </ul>
<b>2017</b>	<ul style="list-style-type: none"> <li>• Australian Army for defence GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>• URA for GEMMA</li> </ul>	<ul style="list-style-type: none"> <li>• Penang Geographical Information System Centre for e-Peta</li> </ul>	<ul style="list-style-type: none"> <li>• Indonesian Navy for Hydro-Oceanography Data Centre</li> <li>• Bank Muamalat for banking GIS solution</li> </ul>
<b>2016</b>	<ul style="list-style-type: none"> <li>• Queensland Urban Utilities for Q-Hub</li> </ul>	<ul style="list-style-type: none"> <li>• Housing &amp; Development Board for Integrated Planning &amp; Analysis Platform</li> </ul>	<ul style="list-style-type: none"> <li>• Malaysian Centre for Geospatial Data Infrastructure (“MaCGDI”) for Malaysia Geospatial Online Services</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Home Affairs for population data management GIS solution</li> </ul>
<b>2015</b>	<ul style="list-style-type: none"> <li>• Australian Geospatial-Intelligence Organisation for Enterprise Production Management</li> <li>• Hema Maps Pty Ltd for Hema Explorer Map</li> <li>• Victoria’s Department of Environment, Land, Water &amp; Planning for FloodZoom</li> </ul>	<ul style="list-style-type: none"> <li>• Land Transport Authority (“LTA”) for Planning for Land Transport Network</li> <li>• Municipal Services Office for OneService@SG</li> </ul>	<ul style="list-style-type: none"> <li>• JUPEM for Geospatial Data Acquisition System</li> </ul>	<ul style="list-style-type: none"> <li>• PT Freeport Indonesia for mining GIS solution</li> </ul>

## Special Achievement in GIS Awards (cont'd)

	Australia	Singapore	Malaysia	Indonesia
<b>Total</b>	<b>25 awards</b>	<b>19 awards</b>	<b>13 awards</b>	<b>12 awards</b>
<b>2014</b>	<ul style="list-style-type: none"> <li>Queensland's Department of Natural Resources &amp; Mines for stock route management GIS solution</li> <li>South Australia's Department of Communities &amp; Social Inclusion for Evidence Based Management Framework</li> </ul>	<ul style="list-style-type: none"> <li>SLA for Spatial Challenge</li> </ul>	<ul style="list-style-type: none"> <li>JUPEM, BGSP for uGeo for Defence</li> </ul>	<ul style="list-style-type: none"> <li>PT Pertamina EP for upstream O&amp;G GIS solution</li> </ul>
<b>2013</b>	<ul style="list-style-type: none"> <li>Western Power for utilities enterprise GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>URA for Integrated Planning &amp; Land Use System ("URA iPLAN")</li> </ul>	<ul style="list-style-type: none"> <li>Sarawak Land &amp; Survey Department for Land &amp; Survey Information System</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Energy &amp; Minerals Resources, Directorate General of Mineral &amp; Coal Mining for mining GIS solution</li> </ul>
<b>2012</b>	<ul style="list-style-type: none"> <li>VicRoads for VicTraffic</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Health for healthcare GIS solution</li> <li>PUB for GERI</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Housing &amp; Local Government, Federal Department of Town &amp; Country Planning for Safe City Monitoring System</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Transportation for transportation GIS solution</li> </ul>
<b>2011</b>	<ul style="list-style-type: none"> <li>Brisbane City Council for Flood Map</li> <li>Queensland Fire &amp; Rescue Service for Total Operational Mapping</li> </ul>	<ul style="list-style-type: none"> <li>SLA for GeoSpace</li> </ul>		
<b>2010</b>	<ul style="list-style-type: none"> <li>Australian Department of Climate Change for National Carbon Accounting System</li> <li>Victoria's County Fire Authority for EIMS Mapper</li> </ul>	<ul style="list-style-type: none"> <li>SLA for OneMap</li> </ul>		
<b>2009</b>	<ul style="list-style-type: none"> <li>ACT ESA for emergency management GIS solution</li> <li>Tasmania's Department of Primary Industries &amp; Water for state GIS solution</li> </ul>		<ul style="list-style-type: none"> <li>MaCGDI for Malaysia Geospatial Data Infrastructure</li> </ul>	
<b>2008</b>	<ul style="list-style-type: none"> <li>Royal Australian Navy Directorate of Oceanography &amp; Meteorology, Australia for marine GIS solution</li> <li>Thiess Pty Ltd for engineering GIS solution</li> <li>WestNet Energy Alinta Gas Networks for utilities GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>LTA for Land Transport Infrastructure Data Hub</li> </ul>	<ul style="list-style-type: none"> <li>JUPEM, Utility Mapping Section for National Utility Database</li> </ul>	<ul style="list-style-type: none"> <li>National Coordinator for Survey &amp; Mapping Agency for national mapping GIS solution</li> </ul>
<b>2007</b>	<ul style="list-style-type: none"> <li>City of Greater Geelong for municipal GIS solution</li> </ul>	<ul style="list-style-type: none"> <li>Defence Science &amp; Technology Agency for national security GIS solution</li> <li>SLA for Singapore Street Directory</li> </ul>		
<b>2006</b>	<ul style="list-style-type: none"> <li>BHP Billiton Ltd for Enterprise Spatial Data Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>URA for URA iPLAN</li> </ul>		

**3.3.1 Quality, Domain Expertise & Project Track Records as Client Pre-Qualifiers**

Our clients range from the world’s largest energy corporations and engineering, procurement and construction (“EPC”) corporations to global clients including Forbes Fortune 500, S&P 500 and Euronext 100 corporations, as shown here. Given the strong brand reputation of our clients and potential clients, there are usually more stringent expectations on quality, domain expertise and project track records since our solutions have such a significant impact on the achievement

of clients’ global growth strategies and their own relationships with their key stakeholders. Many clients conduct financial, quality, EHS and project track record reviews on our business and at times, those of our suppliers, before pre-qualifying and inviting us to submit proposals, bids and tenders for potential projects. Once we become a pre-qualified main contractor to a specific EPC corporation or end-user client, we are routinely invited to submit proposals, bids and tenders for potential projects whenever the specific EPC corporation or end-user client reviews a potential new investment or project globally.

**3.3.2 Construction Awards & Construction Quality Assessment System**

Boustead Projects is a regular feature at the BCA Awards, an annual awards programme hosted by the BCA to recognise the best in building and construction practices and projects.

During FY2019 at the BCA Awards 2018 held in May 2018, Boustead Projects received the Green & Gracious Builder Award (Excellent) for overall excellent environmental, professional and sustainability practices, an upgrade from the Green & Gracious Award (Merit)

attained in 2015. Separately at the BCA Awards 2018, ALICE received the Green Mark Platinum for its outstanding eco-sustainable features.

Shortly after the end of FY2019 at the BCA Awards 2019 held in May 2019, Boustead Projects received the Construction Productivity Award – Projects (Gold) for Continental Building Phase 3. Separately at the BCA Awards 2019, SJC received the distinguished GM-SLE, while Bolloré Blue Hub and Veolia Singapore Office@Tuas View Circuit received the Green Mark Platinum.

**Clients**



**Energy-Related Engineering**

The majority of clients are among the world’s largest energy corporations and EPC corporations and include:

- Global EPC corporations;
- O&G supermajors and majors;
- National O&G corporations; and
- National power and utilities corporations.

Our division has delivered projects for more than 60% of the world’s 50 largest O&G corporations.



**Real Estate Solutions**

Clients range from reputable small and medium-sized enterprise clients to global clients and include:

- Forbes Fortune 500 corporations;
- S&P 500 corporations; and
- Euronext 100 corporations.

Boustead Projects is approved by the BCA for Grade CW01-A1 and General Builder Class 1 Licence<sup>11</sup> to execute building construction contracts of unlimited value.



**Geospatial Technology**

The majority of clients are national, state and municipal government agencies in Australia, Singapore, Malaysia and Indonesia, while private sector clients include:

- Engineering, mining, O&G and utilities corporations;
- Financial and insurance corporations; and
- Retail and telecommunications corporations.

Our division is the leading authority on GIS in respective exclusive distribution markets.



**Healthcare Technology**

The majority of clients are private and public sector healthcare institutions in Singapore, China, Hong Kong, Malaysia and Thailand and include:

- Acute care and community hospitals;
- Nursing homes; and
- Outpatient and rehabilitation centres.

Our division is a leading niche healthcare technology distributor in the region.

11. Our BCA licence registrations are available at [www.bca.gov.sg/bcadirectory/company/details/201432108g](http://www.bca.gov.sg/bcadirectory/company/details/201432108g).

Boustead Projects also continues to hold the Singapore Quality Class (“SQC”) certification under Enterprise Singapore’s Business Excellence Framework. SQC recognises organisations that have attained robust business fundamentals and met standards for good business performance based on global benchmarks in areas including leadership, customers, strategy, people and process, knowledge and results.

To date, Boustead Projects’ construction excellence, productivity, quality and eco-sustainable efforts have been recognised with 31 construction-related and Green Mark awards at the BCA Awards as shown on pages 39 to 40.

As a promoter of quality, Boustead Projects is a leader in the BCA’s Construction Quality Assessment System (“CONQUAS”), which is used to measure the quality achieved in a completed construction project in Singapore in respect of structural, architectural, and mechanical & electrical works. CONQUAS is a voluntary quality assessment in respect to most private sector industrial design-and-build and development projects.

During FY2019, a design-and-build project, ST Omega 2 for Singapore Technologies Electronics received

a CONQUAS score of 91.5%, while a joint development project, Continental Building Phase 3 for Continental Automotive received a CONQUAS score of 89.6%, placing them at 12th and 27th respectively on the all-time top 100 industrial projects list.<sup>12</sup> To date, Boustead Projects’ efforts in construction quality have been recognised with eight projects ranked in the CONQUAS all-time top 100 industrial projects list, making them the top main contractor on the list. Boustead Projects’ track record of 10 projects on the CONQUAS is shown here.

### 3.4 TRANSFORMATION INITIATIVES

With shorter business cycles due to disruptive technologies, we need to embrace transformation or be transformative where possible, in order to adapt to new megatrends and the prevailing global landscape that emerges over time. In general, two new megatrends that are having a profound effect on our respective industries are Industry 4.0 and climate change.

#### 3.4.1 Industry 4.0

According to Boston Consulting Group (“BCG”), Industry 4.0 – the fourth industrial revolution – is a transformation that makes it possible to gather and analyse data across machines, enabling faster, more flexible and more efficient processes to produce higher quality

### Projects on BCA CONQUAS List

Project	CONQUAS Score	Rank on All-Time Top 100 Industrial Projects List (June 2019)
Seagate Singapore Design Center – The Shugart	92.2%	n.a. (commercial project)
ST Omega 2	91.5%	12th
Edward Boustead Centre	91.3%	15th
Kerry Logistics Centre	90.7%	18th
Bolloré Green Hub	90.3%	21st
Continental Building Phase 3	89.6%	27th
ST Electronics Building	89.1%	34th
ST Engineering Hub	85.1%	61st
Rolls-Royce Test Bed Facility	82.9%	85th
Sun Venture Investments@50 Scotts Road	81.5%	n.a. (commercial project)

12. “IQUAS: Information on Construction Quality.” Singapore Government, Building & Construction Authority, [www.bca.gov.sg/professionals/iqas/iqas/default.aspx](http://www.bca.gov.sg/professionals/iqas/iqas/default.aspx). Accessed 18 June 2019.

## BCA Awards

Awarded by:				
BCA			USGBC	
	Construction Excellence, Productivity & Quality Awards	Green Mark Platinum & Super Low Energy	Green Mark Gold Plus & Gold	LEED Gold
Total	8 awards	12 awards	11 awards	3 awards
2019	<ul style="list-style-type: none"> <li>BP E&amp;C: Construction Productivity Award – Projects (Gold) for Continental Building Phase 3</li> </ul>	<ul style="list-style-type: none"> <li>Surbana Jurong Campus (Super Low Energy) <b>/ 1st Super Low Energy in large-scale industrial category /</b></li> <li>Bolloré Blue Hub</li> <li>Veolia Singapore Office@Tuas View Circuit</li> </ul>		
2018	<ul style="list-style-type: none"> <li>BP E&amp;C: Green &amp; Gracious Builder Award (Excellent)</li> </ul>	<ul style="list-style-type: none"> <li>ALICE@Mediapolis</li> </ul>		
2017	<ul style="list-style-type: none"> <li>BP E&amp;C: Singapore Quality Class Certification under Enterprise Singapore Business Excellence</li> <li>BP E&amp;C: BIM Gold Award – Organisation Category</li> <li>BP: Construction Excellence Award for Seagate Singapore Design Center – The Shugart</li> </ul>		<ul style="list-style-type: none"> <li>Markono M-Cube (Gold)</li> <li>XP Power (Gold Overseas) <b>/ 1st Green Mark in non-residential building category in Vietnam /</b></li> </ul>	
2016		<ul style="list-style-type: none"> <li>Kuehne+Nagel Singapore Logistics Hub</li> </ul>		<ul style="list-style-type: none"> <li>Kuehne+Nagel Singapore Logistics Hub</li> </ul>
2015	<ul style="list-style-type: none"> <li>BP: Green &amp; Gracious Builder Award (Merit)</li> <li>BP: Construction Productivity Award – Projects (Gold) for Edward Boustead Centre</li> </ul>	<ul style="list-style-type: none"> <li>Edward Boustead Centre</li> <li>Seagate Singapore Design Center – The Shugart</li> </ul>	<ul style="list-style-type: none"> <li>Greenpac Greenhub (Gold Plus)</li> </ul>	



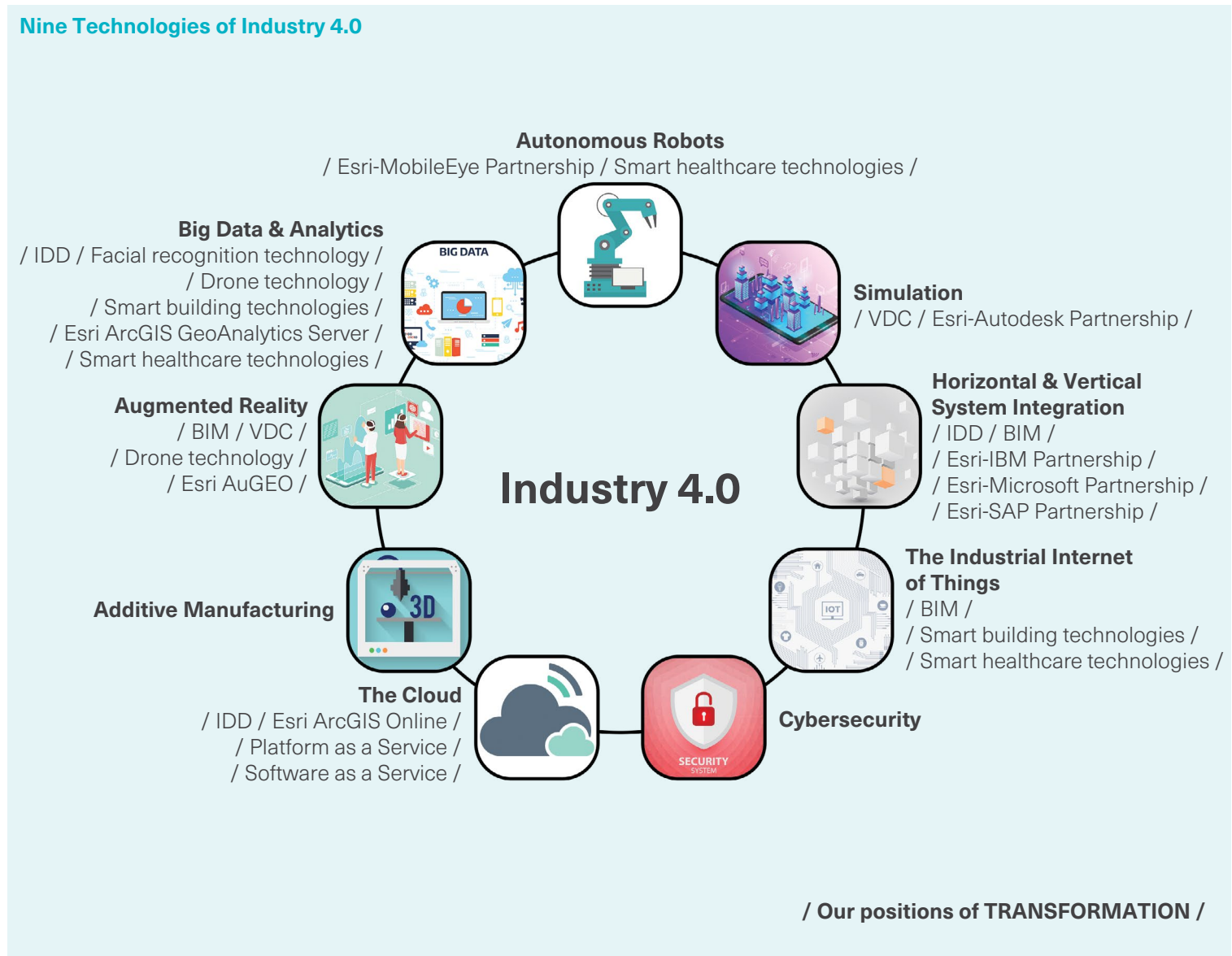
## BCA Awards (cont'd)

Awarded by:				
BCA			USGBC	
	Construction Excellence, Productivity & Quality Awards	Green Mark Platinum & Super Low Energy	Green Mark Gold Plus & Gold	LEED Gold
Total	8 awards	12 awards	11 awards	3 awards
2014	<ul style="list-style-type: none"> <li>BP: Construction Excellence Certificate of Merit for Bolloré Green Hub</li> </ul>	<ul style="list-style-type: none"> <li>DB Schenker Shared Logistics Center 3 (Tampines LogisPark)</li> </ul>	<ul style="list-style-type: none"> <li>Greenpac Greenhub (Office Interior Gold Plus)</li> <li>Kerry Logistics Centre (Gold)</li> <li>Satair Airbus Singapore Centre (Gold)</li> </ul>	
2013			<ul style="list-style-type: none"> <li>Greenpac Greenhub (Gold)</li> <li>Jabil Circuit (Gold)</li> </ul>	<ul style="list-style-type: none"> <li>Kerry Logistics Centre</li> <li>Bolloré Green Hub</li> </ul> <b>/ 1st LEED Gold in logistics industry in Asia /</b>
2012		<ul style="list-style-type: none"> <li>Bolloré Green Hub</li> </ul> <b>/ 1st in logistics industry category /</b>		
2011		<ul style="list-style-type: none"> <li>Rolls-Royce Wide Chord Fan Blade Manufacturing Facility</li> <li>Rolls-Royce Test Bed Facility</li> </ul> <b>/ 1st in aerospace industry category /</b>		
2010			<ul style="list-style-type: none"> <li>IBM Singapore Technology Park (Gold)</li> <li>Sun Venture Investments@50 Scotts Road (Gold)</li> </ul>	
2009		<ul style="list-style-type: none"> <li>Applied Materials Building</li> </ul> <b>/ 1st in heavy industry category /</b>	<ul style="list-style-type: none"> <li>StarHub Green (Gold)</li> </ul>	

goods at reduced costs. This will increase productivity, shift economics, foster industrial growth and modify the profile of the workforce and ultimately change the competitiveness of corporations and regions.<sup>13</sup> BCG went on to name nine technologies that are transforming industrial production as shown here. We have overlaid our already implemented technologies in eight of these areas.

**a) Integrated Digital Delivery**

For over two decades, our Real Estate Solutions Division under Boustead Projects has been a pioneering force in Singapore’s industrial real estate sector, demonstrating pioneership and transformation in business model and activities including design-and-build (1996), design-build-and-lease (2003), advanced eco-sustainable buildings (2009) and integrated digital delivery (“IDD”) (2017), among others. As the latest capability in Boustead Projects’ pioneering approach, their IDD platform deploys digitalisation and cloud-based technologies, and transformative methodologies like building information modelling (“BIM”), virtual design and construction (“VDC”), and design for manufacturing and assembly (“DfMA”).



13. “Embracing Industry 4.0 and Rediscovering Growth.” The Boston Consulting Group, [www.bcg.com/capabilities/operations/embracing-industry-4.0-rediscovering-growth.aspx](http://www.bcg.com/capabilities/operations/embracing-industry-4.0-rediscovering-growth.aspx). Accessed 18 July 2019.

INTRODUCTION	LONGEVITY REPORTING FRAMEWORK	<b>PURSUIING BUSINESS WITH A GREATER PURPOSE</b>	DEVELOPING OUR BEST ASSET – BOUSTEAD MEN & WOMEN	CONSERVING OUR COLLECTIVE HOME – PLANET EARTH	OTHER INFORMATION
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These methodologies were extensively adopted in ALICE’s design, construction, project management and delivery, further complemented by Boustead Projects’ use of drones for aerial imaging, site progress and surveillance, and eventually ALICE’s marketing through the deployment of virtual reality technologies. ALICE was constructed virtually using BIM and VDC (before the actual construction) so that most issues could be anticipated during construction, operation and maintenance, and proactive solutions could be generated,

thereby significantly boosting productivity. Another first in the industry, ALICE adopted large-scale prefabricated bathroom units (“PBUs”) using prefabricated, prefinished volumetric construction (“PPVC”), moving beyond the norm of small PBUs in the residential sector.

On the operational side, an ALICE mobile app designed as a collaboration between Boustead Projects and a leading homegrown proptech firm, will be driven by big data analytics and Internet of

Things (“IoT”) for tenant interface tied to ALICE’s smart building management system. The single and comprehensive backend system for operations and facilities management will greatly automate processes and reduce manual tasks. Please review our Industry 4.0 Future Feature on ALICE as shown on page 43, a taste of how Boustead Projects is converging the ideals of the Singapore Government’s ITP and ITMs for three industries: construction, real estate and infocomm media. Simultaneously, Boustead Projects is

using IDD and proven technologies to reshape smart eco-sustainable developments for clients shifting into Industry 4.0 under their respective ITMs.

**b) Smart Cities & IoT Offerings**  
Underpinning Industry 4.0 digitalisation efforts, our Geospatial Technology Division is mapping the future of Industry 4.0 with the delivery of location intelligence solutions related to the world-leading Esri ArcGIS enterprise platform. For 50 years, Esri technology has been providing location-based big

**Transformational Technologies Deployed Today**

	Development	Design-and-Build	Facilities Management and Building Operations
<b>Construction Industry Transformation</b>	DfMA • PPVC		
	Green Building • Green Mark Platinum, LEED, BiodiverCity		
	IDD • 7D BIM to be used throughout multi-decade building lifecycle • VDC		
		<ul style="list-style-type: none"> <li>• Drone technology integrated with BIM for aerial imaging, site progress and surveillance</li> <li>• Facial recognition technology used for site management and security</li> </ul>	Digital asset delivery and management
<b>Real Estate Industry Transformation</b>			Digital delivery and smart building technologies <ul style="list-style-type: none"> <li>• Tenant management and facilities management through single portal</li> <li>• Drone technology combined with augmented reality to create line-of-sight views from marketable units before completion of construction</li> </ul>
<b>Infocomm Media Industry Transformation</b>	Boustead Development Partnership awarded first JTC Corporation concept-and-price tender in Mediapolis <ul style="list-style-type: none"> <li>• ALICE promotes several cross-sector innovation initiatives</li> <li>• Use of immersive media in VDC</li> <li>• Use of BIM-to-Field inspection method to carry out paper-free, timely site inspections</li> </ul>		Infrastructure and support <ul style="list-style-type: none"> <li>• Successful fast-growing ventures from JTC LaunchPad and smart community</li> <li>• Shared media facilities</li> <li>• Offers ecosystem to bring different sectors with solutions boosting productivity and catalysing digitalisation, helping to grow local digital champions</li> <li>• Smart building solutions use IoT and data analytics</li> </ul>

Industry 4.0 Future Feature: ALICE

# ALICE

A T M E D I A P O L I S

## INTRODUCING THE FIRST TRULY SMART BUILDING IN ANY BUSINESS PARK IN SINGAPORE



### Solar Power

100 kWp photovoltaic system above green roof



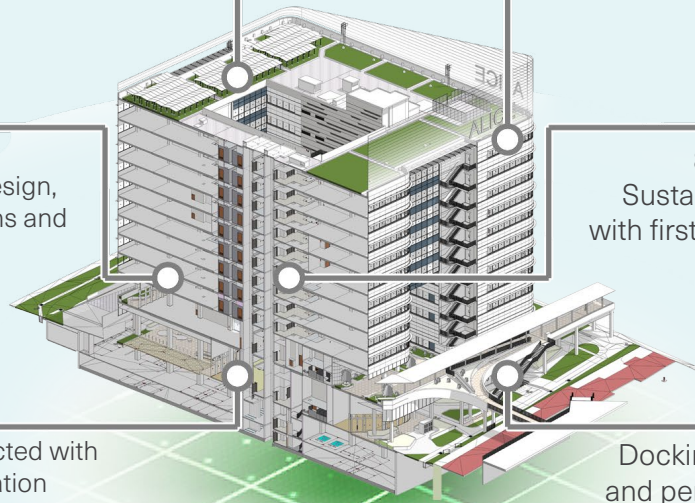
### 7D BIM

BIM used throughout building lifecycle for design, construction, operations and maintenance



### IDD

Designed and constructed with Industry 4.0 transformation standards



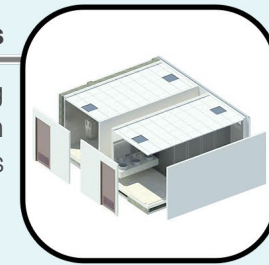
### Smart App

One-stop tenant services linked to smart building management system



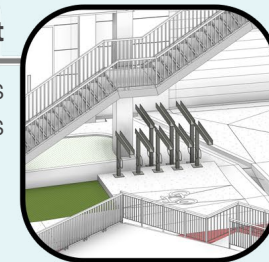
### PBUs

80% of area built using Sustainable Building System with first ever large-scale PBUs



### Clean Transport

Docking stations for bicycles and personal mobility devices

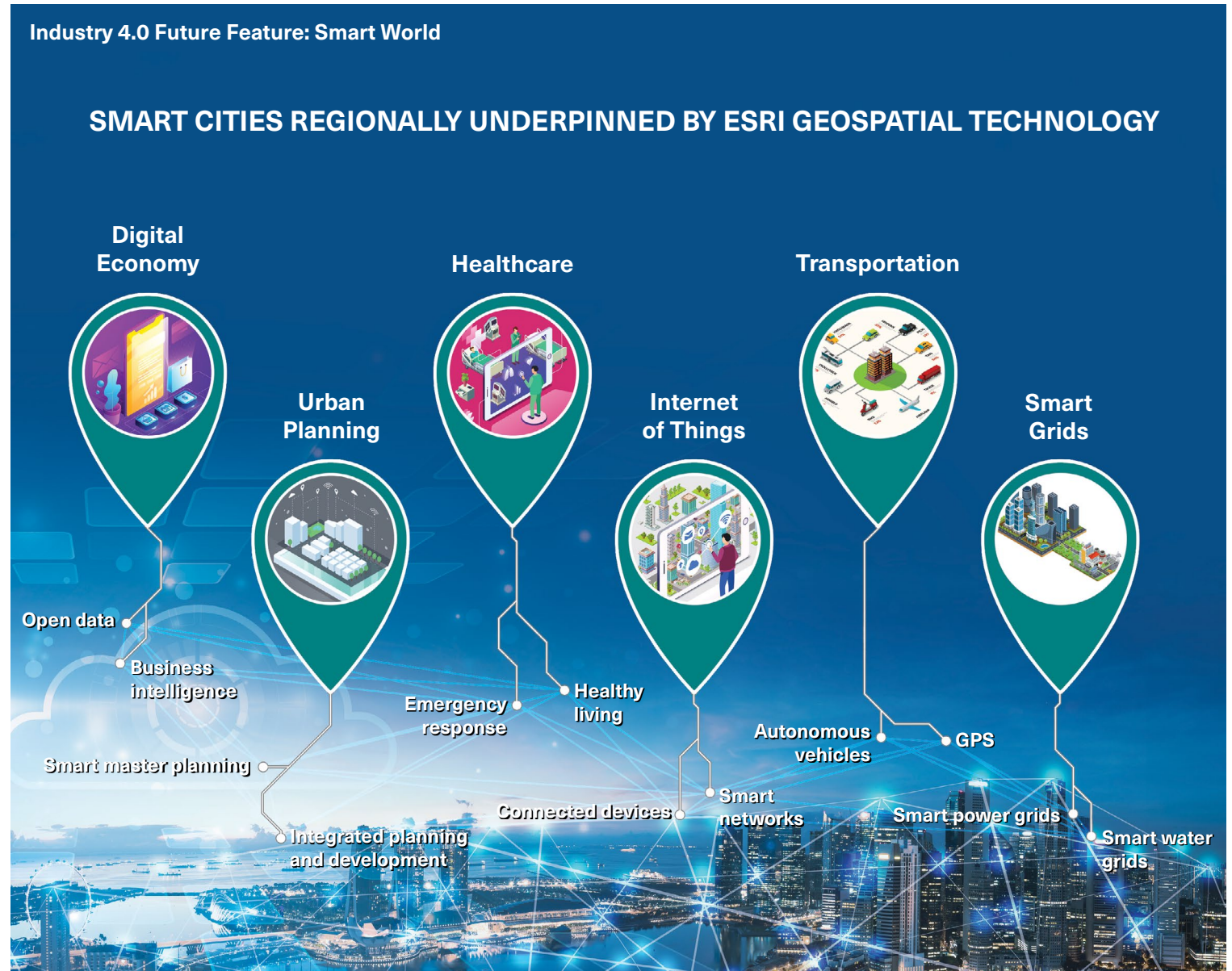


data analytics, which today is critical in the advancement of smart nations, smart cities, smart communities and IoT applications. Our division continues to benefit from our principal, Esri Inc's R&D investments which exceed 25% of Esri Inc's revenue annually, and from the technology alliances and partnerships that Esri Inc has cultivated with numerous world-leading technology corporations globally including Autodesk, IBM, Microsoft and SAP, among others. Our division has also evolved their business model to ensure the inclusion of Cloud-hosted GIS 'As a Service' offerings including 'Platform as a Service' and ArcGIS Online 'Software as a Service' offerings in line with evolving client requirements for software delivery models. Please review our Industry 4.0 Future Feature on Smart World as shown here to see where we are shaping smart cities.

**c) Smart Healthcare Offerings**

Our Healthcare Technology Division provides niche innovative medical solutions that address age-related chronic diseases and mobility issues, with a focus on rehabilitative care, sleep care and sports science in the Asia Pacific.

Our division searches for breakthrough medical solutions for distribution through their wide regional network to help address the pain points of



healthcare institutions by promoting faster recovery and higher productivity, both aimed at reducing resource shortages faced by national healthcare systems and the healthcare industry at large, and improving the quality of life for all walks of life. These solutions often help healthcare professionals and physiotherapists to be able to assist more patients with rehabilitation in a shorter span of time and also help patients to begin the recovery stage faster through using rehabilitation that rides on automation, robotics, big data analytics and IoT applications. Patients can potentially be under the care and monitoring of healthcare professionals without having to be confined to hospitals or inpatient facilities. In addition, research has proven that stroke patients recover more quickly the faster that they can begin rehabilitation, which may eventually allow these patients to recover full mobility and quality of life and avoid placing a further burden on caregivers in terms of financial, stress and time costs.

### 3.4.2 Climate Change

Opening for signatures on 22 April 2016 – Earth Day – at the UN Headquarters in New York, the Paris Agreement entered

into force on 4 November 2016 and has been ratified by 185 out of 197 parties to the Convention to date. The Paris Agreement brings together all nations in an extremely important common goal to combat climate change and adapt to its effects, with the aim of keeping global temperature rise this century at well below 2°C above pre-industrial levels and pursue efforts to limit temperature increase even further to 1.5°C.<sup>14</sup> The Singapore Government ratified the Paris Agreement on 21 September 2016.

In line with this, we acknowledge that we have a shared responsibility as a responsible global corporate citizen to work towards uplifting our business in material ESG topics, especially in relation to industries where we operate. Given the high energy intensity and emissions contributed by these industries, we aim to promote our smart eco-sustainable solutions as previously shown on pages 23 to 24. As explained earlier, we provide smart eco-sustainable solutions that have the potential to directly influence and reduce energy loss, emissions, pollution, and energy and water consumption in some of the most energy-intensive sectors, and work towards the extremely important

common goal to combat climate change and protect our environment. More information on our performance, policies and processes in relation to climate change will be shared in subsequent sections of this report.

During FY2019, Boustead Projects secured their largest contract in history and first Singapore Government GeBIZ contract for the S\$242 million JTC Multi-Storey Recycling Facility (“JTC MSRF”), earmarked to achieve Green Mark Platinum. JTC MSRF has been touted as one of the Singapore Government’s landmark projects to shift the nation increasingly towards the circular economy, where maximum value is extracted from resources through recovery, recycling and regeneration. With extremely limited space and landfill capacity – currently confined to Semakau Island – the Singapore Government has been reviewing major initiatives to boost recycling infrastructure in the most efficient and cost-effective manner. We are proud to be participating in a national project of strategic importance in Singapore’s contributions to combat climate change, protect the natural environment and solve a pressing waste storage problem.

### 3.5 FY2019 ECONOMIC VALUE GENERATION & DISTRIBUTION

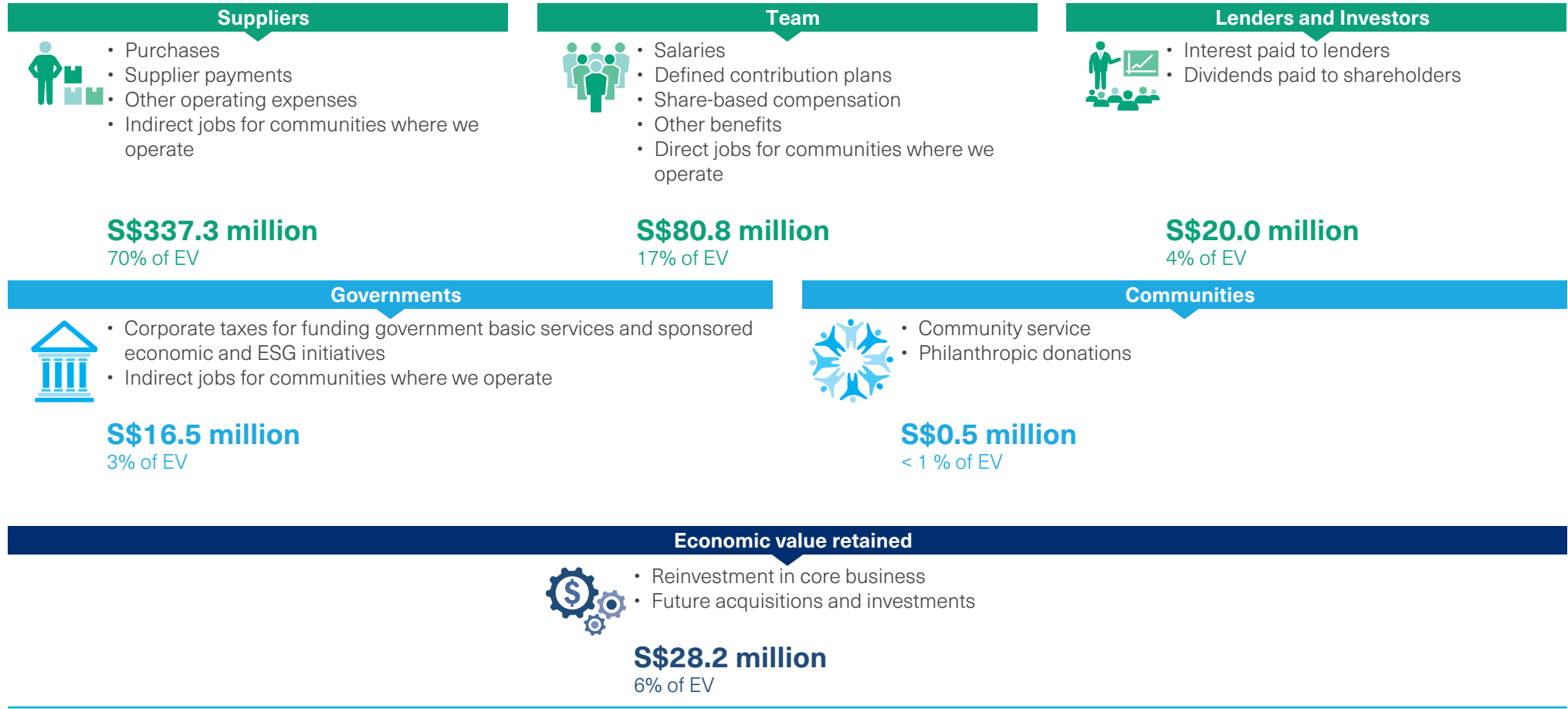
Our continuous profitability every year since our current management team took over in FY1997 – except for FY2002 – has enabled us to maintain our generation of sustainable value and progress to key stakeholders, and reinvest in building businesses that transcend generations for long-term success and longevity.

In FY2019, S\$483.3 million in direct economic value (“EV”) was generated, which was distributed to key stakeholders as shown on page 46.

We have built a fundamentally-sound balance sheet, reinvested in business expansions and continue to have the capability to make new acquisitions and investments. Since resuming annual dividend payments to shareholders in FY2003, we have made 17 consecutive years of annual dividend payments to shareholders and did so again in FY2019 as part of our dividend tradition. Our five-year financial performance summary is shown on page 47.

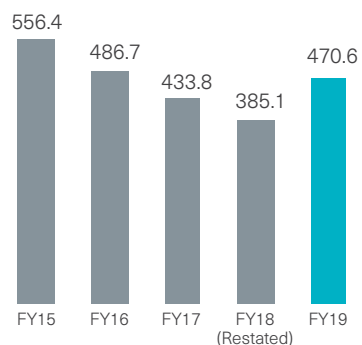
14. “What is the Paris Agreement?” United Nations, UN Framework Convention on Climate Change, [unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement](http://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement). Accessed on 18 July 2019.

**FY2019 Direct Economic Value Generated**

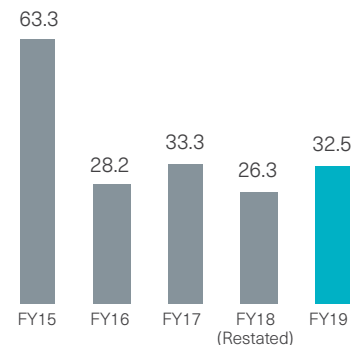


### 5-Year Financial Performance Summary

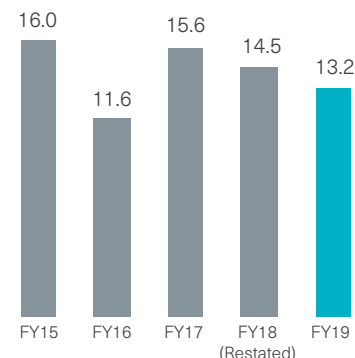
**Group Revenue  
(S\$m)**



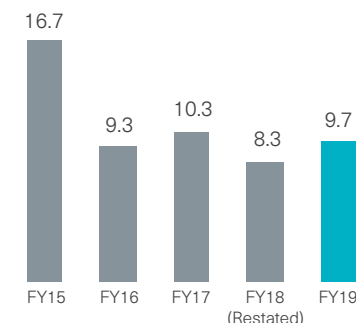
**Group Net Profit  
(S\$m)**



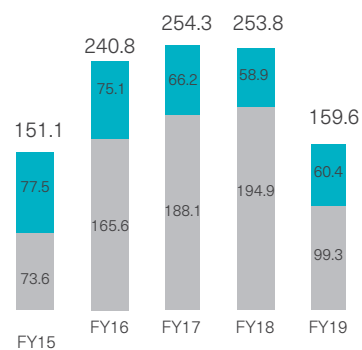
**Operating Profit Over Turnover  
(%)**



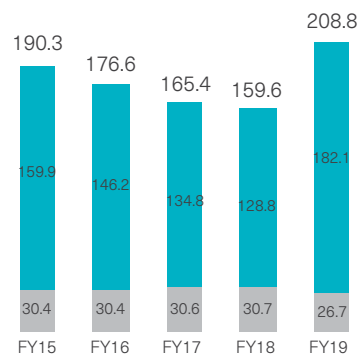
**Return on Equity  
(%)**



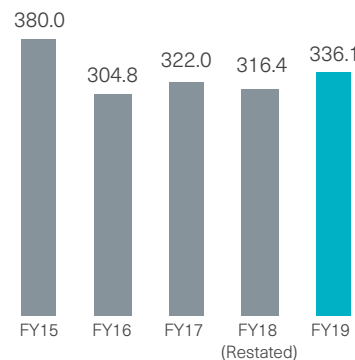
**Net Cash and Available-for-Sale  
Financial Assets  
(S\$m)**



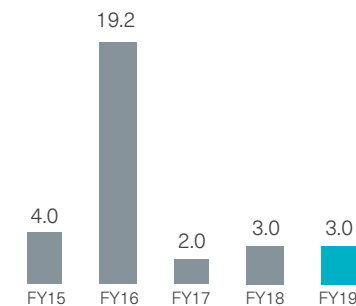
**Properties Held for Sale and  
Investment Properties  
(S\$m)**



**Equity Attributable to Equity Holders  
of the Company  
(S\$m)**



**Dividend Per Share  
(¢)**



Net cash Available-for-sale financial assets and investment securities

Properties held for sale Investment properties



## SECTION 4 – DEVELOPING OUR BEST ASSET – BOUSTEAD MEN & WOMEN

### A PEOPLE-TO-PEOPLE BUSINESS

An organisation is only as good as its people. At Boustead, this is absolutely true.

We are a knowledge-driven, business-to-business and people-to-people corporation, where achieving our mission, vision and long-term objectives are highly dependent on the values, conduct and performance of our best asset – our team known affectionately as Boustead Men and Women.

Our team is expected to demonstrate our seven human-centric corporate values or PROCESS – progress, respect, open mindedness, conduct, excellence, service and safety – in interactions with key stakeholders. Developing a high performance team capable of delivering our engineered and digital products and services (together “solutions”) aligned with our fundamental principles and strong human-centric corporate values, strengthens our trusted partnerships with client teams at many of the world’s best corporations, helping them to achieve their strategic goals, derive true value from their sizeable investments and deliver economic value and environmental, social and governance (“ESG”) benefits to their own stakeholders, while keeping us at the forefront of our respective industries.

A client team’s project journey together with us typically lasts for over one year and is made up of thousands of interactions between key stakeholders, especially between our team and clients, strategic partners, suppliers, lenders, government agencies and regulators, all within a single project. As our business ambassadors, our team is the first ranking enabler of developing strong relationships with key stakeholders and the main contributor to our long-term success and longevity. All systems, policies and processes (together “system enablers”) are there to support a high performance team capable of meeting the expectations of key stakeholders.

With our prestigious and rich heritage, fundamental principles have been passed down from generation to generation that continue to guide our daily actions and decisions today. We believe in acting honourably in the way that we conduct business and staying true to our strong human-centric corporate values. We have zero tolerance for accidents, bribery, corruption, fraud and violence. We do not condone the use of child labour or forced labour, whether at project sites under our direct control or project sites under our subcontractors and suppliers (together “suppliers”)’s control. We believe in providing our team with fair

employment and human rights.

This section covers our Code of Conduct, Team Development Programme, positive work environment and supply chain management which are mainly derived from the combined depth of three capitals – intellectual, human, and social and relationship – and ultimately deliver positive net effects for all six capitals.

### 4.1 CODE OF CONDUCT

We are highly committed to building a climate of fairness, honesty, trust and sincerity with key stakeholders, beginning with our team’s honourable conduct. Our Code of Conduct (“COC”) sets the foundation for our daily actions

and decisions, and helps our team to adhere to the highest standards of honourable conduct.

Our team members are inducted in, updated on and expected to adhere to our COC as a condition of employment, with orientation briefings when new team members join, followed by annual acknowledgements and reviews of our COC. Policies on anti-bribery and anti-corruption (“ABAC”), fair dealing and competition, proper use of corporate positions and resources, confidentiality and privacy obligations, insider trading and whistle-blowing are covered in our COC, among other guidance areas on honourable conduct as shown here.

### Code of Conduct Coverage & Data Protection Governance Framework Policies

COC Coverage	Data Protection Governance Framework Policies Coverage
<ul style="list-style-type: none"> <li>• Legal compliance</li> <li>• Business integrity</li> <li>• ABAC</li> <li>• Fair dealing and competition</li> <li>• Proper use of corporate positions and resources</li> <li>• Gifts and entertainment</li> <li>• Political and charitable donations</li> <li>• Confidentiality and privacy obligations</li> <li>• Conflict of interest</li> <li>• Insider trading</li> <li>• Whistle-blowing</li> </ul>	<ul style="list-style-type: none"> <li>• IT</li> <li>• Information security</li> <li>• External data protection</li> <li>• Internal data protection</li> <li>• Document retention</li> <li>• Third-party outsourcing</li> </ul>
Available Feedback Channels	
<ul style="list-style-type: none"> <li>• Whistle-blowing mechanism</li> </ul>	<ul style="list-style-type: none"> <li>• Data Protection Committee and Data Protection Officers</li> </ul>

**4.1.1 Anti-Bribery & Anti-Corruption**

We have zero tolerance for bribery and corruption. We expect our team and all third parties whom we have business dealings with to comply with Singapore's Prevention of Corruption Act (Chapter 241) and all applicable ABAC laws and regulations in countries where we operate. Our team members are bound by our ABAC Policy regardless of whether they are employed in Singapore, stationed overseas or employed outside of Singapore. We may also be required to comply with applicable foreign ABAC laws and regulations imposed in business dealings with multinational clients who are headquartered in a foreign country where we have no operational presence.

**4.1.2 Fair Dealing & Competition**

We engage only in fair and vigorous competition. We expect our team members to fairly deal and interact with fellow team members, clients and competitors, and not to take unfair advantage of all third parties whom we have business dealings with. This includes avoiding abuse of confidential or privileged information, concealment, illegal conduct, manipulation, misrepresentation of material facts, undue influence or any other unfair dealing practices.

**4.1.3 Proper Use of Corporate Positions & Resources**

We expect our team members to apply and use corporate positions and resources in a responsible manner, which broadly includes duties to act in good faith and in our best interests as a whole.

**4.1.4 Confidentiality, Data Protection & Privacy**

Information is a valuable asset, particularly in our knowledge-driven business model. In the ordinary course of business, we may receive clients' confidential data, in which case we may be subject to various non-disclosure agreements and confidentiality clauses. Clients expect us to abide by confidentiality obligations, exposing us to a wide range of risks from non-compliance. In addition, we have to comply with Singapore's Personal Data Protection Act 2012 ("PDPA") that requires organisations that collect, use or disclose personal data to abide by PDPA requirements, again exposing us to a wide range of risks from non-compliance.

We are highly committed to adhering with all confidentiality obligations, applicable data protection, privacy laws and regulations in countries where we

operate. Our data protection and IT system enablers ensure that information assets are properly governed, managed and secured both in digital and physical environments. This allows us to effectively comply with confidentiality, data protection and privacy obligations over the long-term.

In data protection, we have implemented a Data Protection Governance Framework ("DPG Framework") that covers governance principles, structure and system enablers. We opted for a governance structure with centralised formulation of system enablers and decentralised implementation of system enablers. Our Data Protection Committee ("DPC") comprising our senior management team, department heads and key executives has overall responsibility for the effective implementation of system enablers, while appointed Data Protection Officers ("DPOs") coordinate activities. Our DPOs also act as the external interface with the general public. Other than our DPC and DPOs, team members are also briefed and trained to understand the PDPA and our DPG Framework including any department data and information flows that may require protection. Policies for IT, information security, external data protection, internal data protection,

document retention and third-party outsourcing are covered in our DPG Framework and reviewed by our senior management team and DPC at least once every two years.

During FY2019, we had no substantiated complaints on breaches of client privacy, which was the same in FY2018.

**4.1.5 Insider Trading**

We expect our team members with access to price-sensitive information to comply with Singapore's Securities & Futures Act (Chapter 289) and insider trading laws and regulations. Team members with access to price-sensitive information are not allowed to trade in Boustead's securities on short-term considerations and in the two weeks and one month before quarterly and full-year financial results announcements respectively, ending only after release of relevant announcements. Team members are reminded on a quarterly basis to comply with trading black-out periods and insider trading laws and regulations.

**4.1.6 Whistle-Blowing Mechanism**

Implemented in 2008, our whistle-blowing mechanism allows our team members and all third parties to raise and report in good faith and in

confidence, any concerns about possible misconduct in financial reporting matters or suspected bribery, corruption, fraud and dishonourable conduct. Procedures are in place to ensure that whistle-blowers are protected. More information on our Whistle-Blowing Policy is available within the *Boustead FY2019 Annual Report* on pages 77 to 78.

COC violations will result in appropriate disciplinary actions being taken against the violating team member including potential dismissal and referral to legal authorities for serious violations that may be illegal. A compliance plan sets forth how our COC is to be implemented and monitored including how violations are detected, reported and investigated, as well as follow-up actions to be taken.

## 4.2 TEAM DEVELOPMENT PROGRAMME

The purpose of our Team Development Programme (“TDP”) is to attract, develop, motivate and retain team members with values, attitudes, skillsets and work practices aligned with our mission, vision, strong human-centric corporate values and high performance team culture. Our TDP is structured to create a work environment that promotes creativity, excitement and growth, and make team members feel cared for, challenged, empowered and respected. Our TDP sets out human resource management (“HRM”) system

enablers, commitments, targets and responsibilities for our team, with implementation responsibility belonging to our Group Human Resource Team (“Group HR Team”) headed by our Senior Vice President of Human Resources, a member of our senior management team at our Group Headquarters. Our Group HR Team provides HRM leadership and support to all subsidiaries globally.

We have always embraced diversity in our team. This diversity has not just been in terms of gender balance but also in age, race, religion, marital status, family responsibilities, work experience and nationality, with a multi-cultural and multi-faceted team from Asia, Australia and Europe.

During FY2019, our overall team size grew 23% or 178 team members on a net basis to 951 team members, compared to 773 team members in FY2018, the breakdown as shown on page 51. However, 40% of that growth was due to WhiteRock Incorporation (“WRI”), which was acquired in FY2019 and is accounted for in our overall team size from the beginning of FY2019.

### 4.2.1 Talent Attraction

As part of our TDP, we are highly committed to complying with Singapore’s Employment Act and all applicable employment laws and regulations in countries where we

operate. We are further committed to fair, responsible and progressive employment practices and strive to adopt the latest HRM best practices, which is essential to attracting the right talent to contribute to our long-term success and longevity. Our team members are considered to be employed by us only within the context and terms of their employment contracts.

### a) The Employers’ Pledge of Fair Employment Practices

Singapore’s Tripartite Alliance for Fair & Progressive Employment Practices (“TAFEP”) promotes the adoption of fair, responsible and progressive employment practices among employers, employees and the general public. Boustead Services, our management services arm is one of over 5,000 signatories to the TAFEP’s Employers’ Pledge of Fair Employment Practices (“Pledge”)<sup>1</sup> and is also a member of the Singapore National Employers Federation. Through Boustead Services, all of our subsidiaries are indirectly a party to the Pledge, adhering to the fair employment practices adopted by the Boustead Group.

Under the Pledge, we have committed to work towards fair employment practices including:

- Recruiting and selecting employees on the basis of merit, regardless of age, race, gender, religion, marital

## Team Development Programme Policies

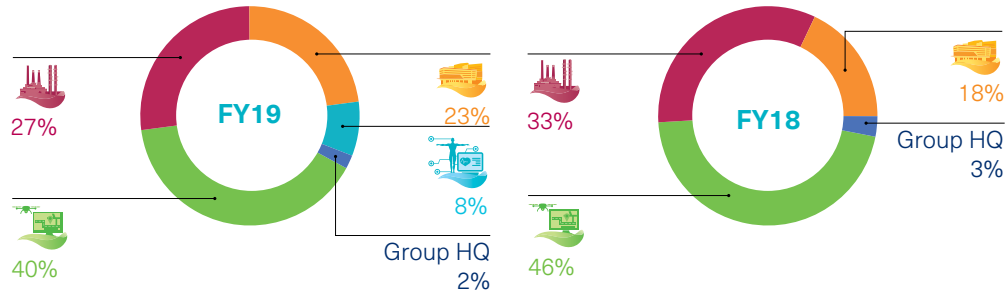
### Policies Coverage

- Fairness and diversity
- Freedom of association
- Human rights
- Learning and development
- Leave
- Promotion
- Remuneration
- Restricted Share Plan 2011
- Retirement and re-employment
- Staff engagement
- Staff transfer
- Staff welfare and benefits
- Work environment

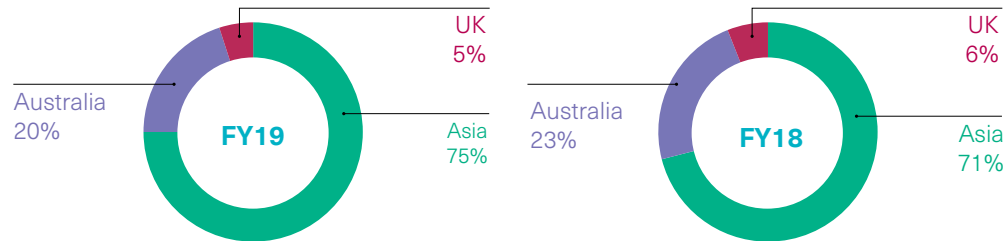
1. “5. View Signers of the Employer’s Pledge.” Tripartite Alliance for Fair & Progressive Employment Practices, [www.tal.sg/tafep/getting-started/fair/employers-pledge-signers](http://www.tal.sg/tafep/getting-started/fair/employers-pledge-signers). Accessed 18 July 2019.

### FY2019 Team Deployment

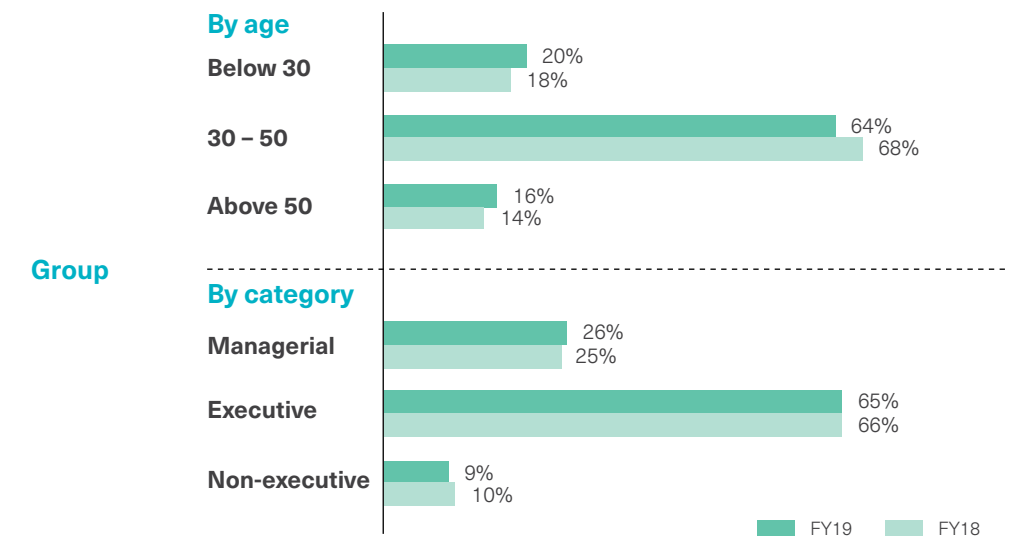
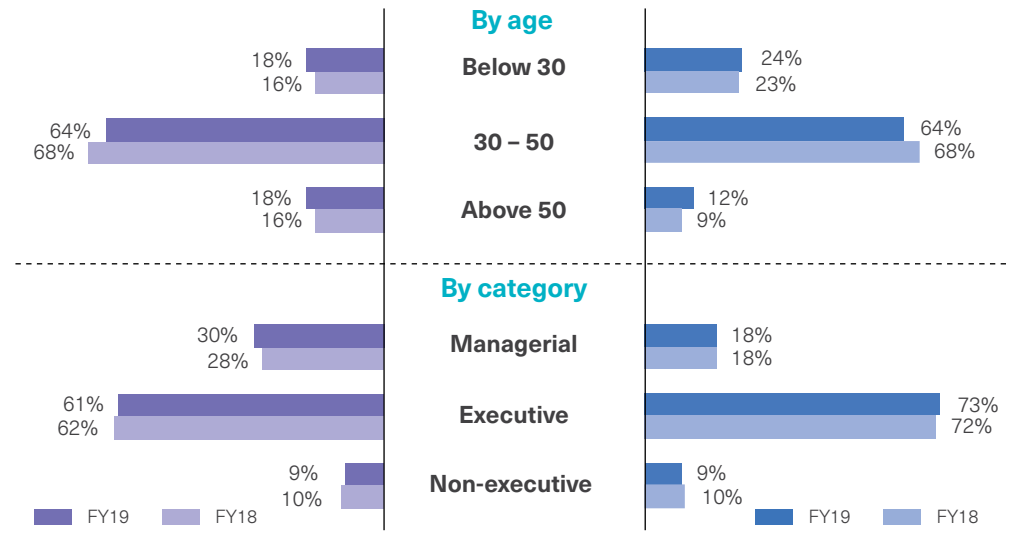
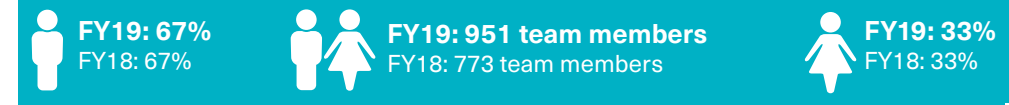
#### By Division



#### By Region



### FY2019 Team Profile



status and family responsibilities or disability;

- Treating employees fairly and with respect, and implementing progressive HRM systems;
- Providing employees with equal opportunity to be considered for training and development based on their strengths and needs to help them achieve their full potential;
- Rewarding employees fairly based on their ability, performance, contribution and experience; and
- Complying with the labour laws and abiding by the Tripartite Guidelines on Fair Employment Practices.

Apart from the Pledge, we promote gender equality at the workplace. In terms of talent attraction, this means that we offer the same basic remuneration package to all interviewing job candidates for a specific role and scope, regardless of gender or whether a job candidate has served Singapore's mandatory national service.

### b) Other Talent Attraction Practices

We generally advertise available positions both externally and internally, although recruitment for certain sensitive key positions may be conducted anonymously through professional recruitment agencies.

Where possible, we seek to employ citizens from countries where we operate. Since 2014, we have also adhered to Singapore's Ministry of Manpower ("MOM")'s Fair Consideration Framework that requires available positions – unless exempted – to be advertised on the national Jobs Bank for at least 14 days, thereby giving citizens fair consideration for all job opportunities before hiring foreign professionals to fill these positions.<sup>2</sup>

Adding to our potential talent pool, we are one of 10 sponsoring organisations within the engineering industry participating in the Singapore-Industry Scholarship ("SgIS") Programme.<sup>3</sup> Launched in 2012 and co-funded by both the Singapore Government and private sector organisations, we are a founding private sector organisation within the SgIS, a multi-industry undergraduate scholarship programme that aims to groom future Singaporean industry leaders in strategic sectors that are critical for the country's development. To date, we have given scholarships to eight individuals, all – except one – of whom have since completed their local university degree programmes and joined us in full-time capacities. The final individual is expected to graduate in 2021.

As mentioned earlier, during FY2019, we experienced 23% growth in overall team size, of which 40% of that growth was due WRI. Our adjusted 13% growth in overall team size – excluding the initial team members from WRI – was in sharp contrast to Singapore's average employment at the comparable industries and national levels, which increased 3.9% and 1.2% respectively in 2018.<sup>4</sup> Our growth in overall team size was led by the hiring of 344 new team members equating to a 38% overall team hires rate, compared to 221 new team members equating to a 29% overall team hires rate in FY2018, the breakdown as shown on page 53. Most new team members joined our Real Estate Solutions and Geospatial Technology Divisions, where business activities have been steadily increasing.

### 4.2.2 Talent Development, Management & Retention

As part of our TDP, we embrace a holistic talent development, management and retention strategy.

#### a) Conditions of Employment

We believe in treating our team fairly, with respect and an entitlement to human rights. We offer conditions of employment and benefits that are in line with applicable employment laws

and regulations, and prevailing market practices in countries where we operate including:

- Reasonable break times, rest days and working hours, with overtime pay for eligible team members;
- Paid leave entitlements which depending on contractual terms, and applicable laws and regulations as stipulated by Singapore's MOM or other foreign government labour agencies include adoption, annual, childcare, compassionate, examination, marriage, maternity and paternity, national service, shared parental, sick and hospitalisation, and unpaid infant care leave. We may also authorise unpaid leave depending on the reasons provided and subject to work arrangements;
- Defined contribution plans in line with applicable laws and regulations as stipulated by Singapore's Central Provident Fund or other foreign government pension agencies;
- Group insurance plans covering business travel, directors and officers liability, hospitalisation and surgery, personal accidents, term life insurance and workmen compensation; and
- Group medical plans and flexible healthcare benefits; and
- International SOS coverage for

2. "Fair Consideration Framework." Singapore Government, Ministry of Manpower, [www.mom.gov.sg/employment-practices/fair-consideration-framework](http://www.mom.gov.sg/employment-practices/fair-consideration-framework). Accessed 18 July 2019.

3. "Engineering." Singapore-Industry Scholarship, [www.singaporeindustryscholarship.sg/industries/engineering](http://www.singaporeindustryscholarship.sg/industries/engineering). Accessed 18 July 2019.

4. "C.1 Employment by Industry, 2008-2018 (December)." *Singapore Yearbook of Manpower Statistics 2019*, Singapore Government, Ministry of Manpower, Manpower Research & Statistics Department, 2019, pages C4 and C5, [stats.mom.gov.sg/pages/singapore-yearbook-of-manpower-statistics-2019.aspx](http://stats.mom.gov.sg/pages/singapore-yearbook-of-manpower-statistics-2019.aspx). Accessed 18 July 2019.

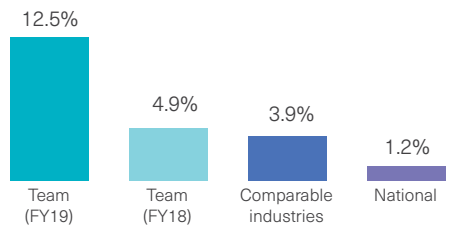
business travel in higher risk countries.

**b) Fair Remuneration**

We have pledged to reward our team members fairly and equitably based on their ability, performance, contribution and experience. We offer fair and competitive remuneration packages, which may include overtime pay and annual wage supplements for eligible team members according to contractual terms. On top of basic remuneration packages, team members also receive our payments to defined contribution plans. Salary benchmarking exercises are also conducted to ensure that remuneration packages are equitable with what the industry offers for similar positions.

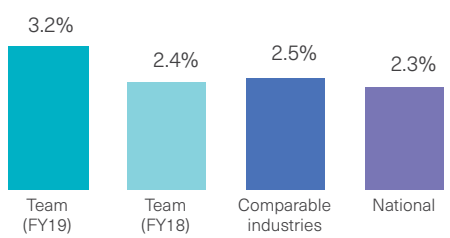
There is a profit sharing bonus scheme for eligible full-time team members that is pegged to a predetermined formula based on our overall and respective subsidiaries' financial performance. Individual bonus payments and annual salary increments are determined after each team member's performance appraisal ("appraisal") is objectively assessed by our senior management teams at respective subsidiaries. In FY2019, we distributed a total of S\$80.8 million in economic value to our team, a 15% increase over FY2018.

**FY2019 Team Net Hiring Growth Rate vs Industry/National Levels**



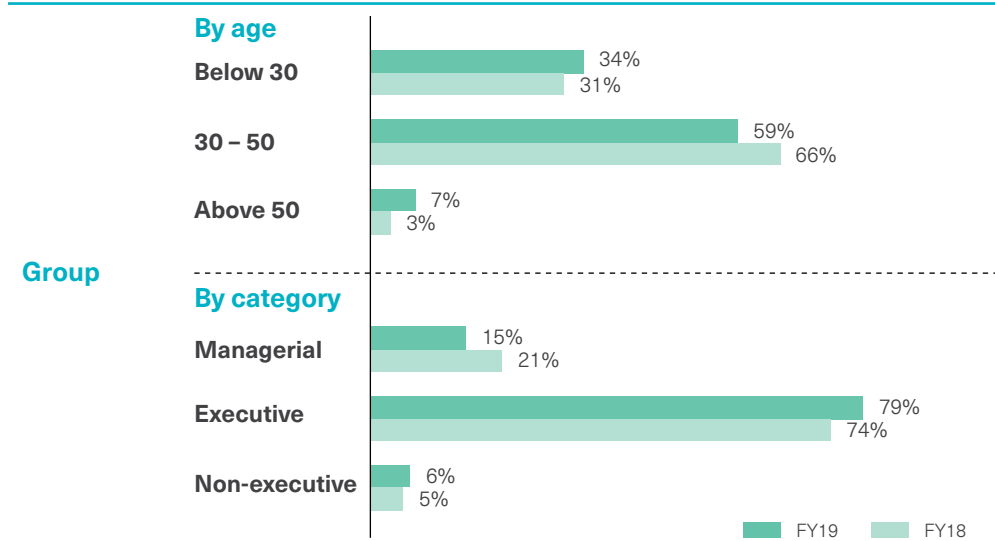
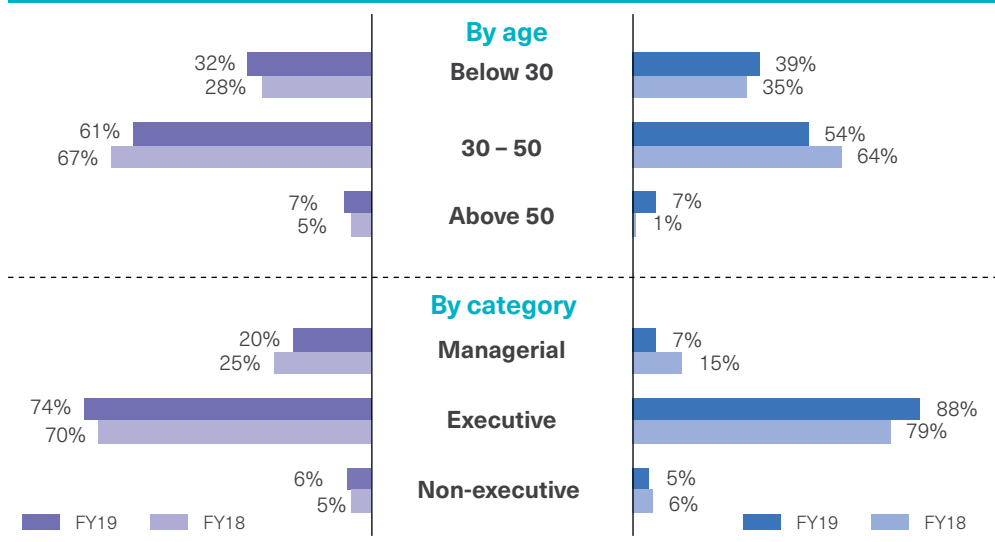
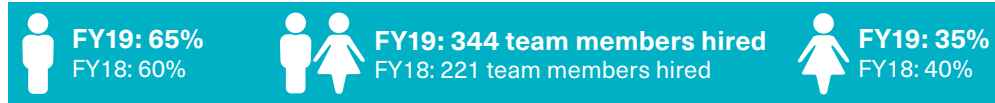
Note: Calculations are based on MOM's published statistics for 2018, with the blended weighted industries average based on Singapore's architectural & engineering, construction, health & social services, IT & other information services, legal, accounting & management services and real estate sectors.

**FY2019 Team Monthly Hiring Rate vs Industry/National Levels**



Note: Calculations are based on MOM's published statistics for 2018, with the blended weighted industries average based on Singapore's architectural & engineering, construction, health & social services, IT & other information services, legal, accounting & management services and real estate sectors.

**FY2019 Team Hires Breakdown**



There is also a Boustead Restricted Share Plan 2011 ("RSP") that incentivises key team members to work towards department and individual key performance indicators ("KPIs") and helps to align their interests with our long-term success. Team members who are selected to participate under the RSP and subsequently meet their KPIs for a specific financial year may be eligible to receive Boustead's shares, which are vested and issued in tranches over four years. More information on the RSP is available in the *Boustead FY2019 Annual Report* on pages 72 to 74 and 169 to 170.

### c) Performance Appraisal

As part of our TDP, full-time team members are entitled to an appraisal at least once a year as part of our Performance Management System ("PMS"), with the exception of team members who are re-employed beyond the statutory retirement age, have resigned, are serving notice or under probation during the relevant appraisal period. Team members who are under probation will receive a confirmation appraisal at the time of confirmation. Team members are evaluated on their achievement of quantitative department and individual KPIs and qualitative skillset competencies relevant to their respective roles and scope, which are defined and set at the beginning of the period under review.

Team members who consistently outperform are offered opportunities to take up higher challenges, while team members who underperform are assisted in identifying and addressing the root causes behind their underperformance. Our PMS allows us to identify team members with high leadership potential, feeding into our Succession Planning System ("SPS").

Whenever possible, we promote team members internally into available senior positions. In addition, our Team Recognition Programme includes long service and achievement awards given to recognise project teams and individual team members for performance in specific areas.

During FY2019, 80% of our team received appraisals, compared to 90% in FY2018, the breakdown as shown here. The lower percentage of appraisals conducted was due to a much larger proportion of team members who are under probation at Boustead Projects as their team rapidly expanded in the latter half of FY2019 and also due to the Healthcare Technology Division, which was in the process of adopting our TDP policies. There were no significant differences in appraisals conducted by gender, while the percentage was much higher for managerial and executive team members compared to non-

executive team members.

### d) Communication & Engagement

We encourage open communication and engagement. With an open door policy, our team members may provide feedback or raise concerns with direct supervisors and our senior management teams at respective subsidiaries. Appraisals also provide team members with an opportunity to provide and receive feedback on their performance and any other important matters.

As part of our communication and engagement, our major subsidiaries organise townhall sessions on at least an annual basis, serving as an organisation-wide communication session between our senior management teams and team members at respective subsidiaries. Townhall sessions are facilitated by external trainers and include team-building activities to promote cohesion and teamwork.

We have procedures to address and as much as possible, satisfactorily resolve team members' grievances. This is complemented by our whistle-blowing mechanism.

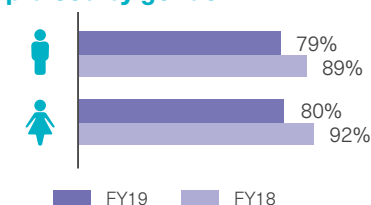
During FY2019, we conducted Team Engagement Surveys at 50% of our major subsidiaries. Response rates averaged over 85% and overall

### FY2019 Performance Appraisals

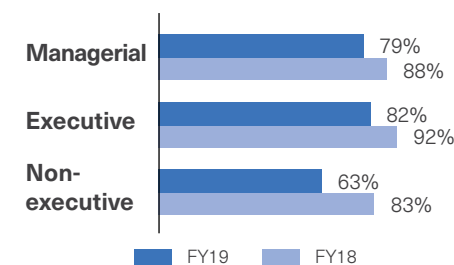


**FY19: 756 appraised**  
FY18: 697 appraised

#### % appraised by gender



#### % appraised by category



satisfaction ratings averaged 80%, compared to 95% and 80% respectively in FY2018. In addition, our largest subsidiary under our Geospatial Technology Division also conducts quarterly Pulse Surveys, which allow our senior management team there to frequently keep close track of team sentiment and matters of importance to team members. Survey results are used to improve our TDP to increase overall talent attraction, development, motivation and retention levels.

**e) Career Development & Training Opportunities**

We have pledged to provide our team members with equal opportunity to be considered for career development and training based on their strengths and needs, and to help them to achieve their full potential. We aim to nurture and professionally develop team members by investing in their career development and training, offering them growth opportunities through promotions, job rotations and overseas assignments. Team members can also upgrade skillsets and are generally encouraged to undergo professional training that may help their performance. This includes sponsoring or subsidising the cost of approved career development and training courses, and may also include granting paid leave to attend these courses. We also have an Education Assistance Scheme under which we may sponsor team members who

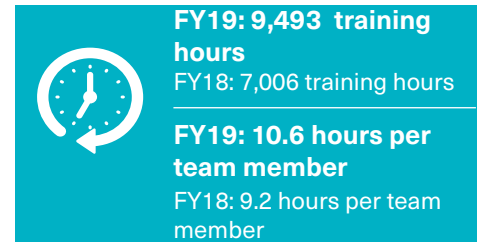
desire to attend job-related courses on their own initiative and for personal development. While we identify the career development and training needs of team members at least once a year during appraisals, we also assess such needs on an ad-hoc basis.

As we continue to pioneer new solutions and make investments in procuring and implementing transformative technologies, methodologies and system enablers, we have also made necessary investments in training team members so that they can realise the full benefits of these transformative technologies, some of which are shown here.

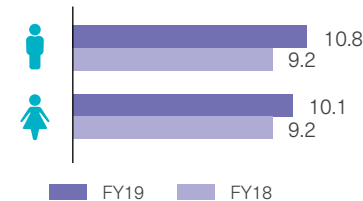
With technological advancements accelerating the pace of disruption and shortening business cycles, we believe that investments in training need to be adaptable, flexible and timely.

During FY2019, our team underwent a total of 9,493 training hours, compared to 7,006 hours in FY2018, the breakdown as shown here. This equated to an average of 10.6 hours per team member in FY2019, compared to 9.2 hours in FY2018. Training was emphasised across our team, especially with newer team members – many of them at the executive level – in order to familiarise newer team members with our transformative technologies, methodologies and system enablers.

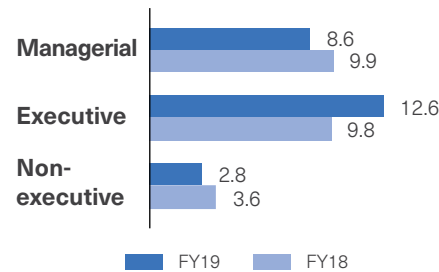
**FY2019 Training Performance**



**Average hours by gender**



**Average hours by category**



**Training for Transformational Technologies**

- Green buildings**
- Building information modelling**
- Design for manufacturing and assembly**
- Virtual reality**
- Drone technology**
- Cloud-based IT systems to manage and optimise collaboration and workflows**



**f) Health & Wellness**

Other than earlier mentioned conditions of employment and benefits, we have also implemented team wellness programmes including sponsorships and subsidies for selected social, sports and recreational activities, health screening sessions and lunchtime health talk sessions. In addition, other types of lunchtime talk sessions on various topics of interest have been organised on a regular basis.

During FY2019, our team members took a total of 4,196 medical leave days due to sickness or hospitalisation, compared to 3,183 days in FY2018, the breakdown as shown here. This equated to an average of 4.7 days per team member in FY2019, compared to 4.2 days per team member in FY2018. There were three minor workplace safety and health incidents involving team members at our administrative workplaces, all of which were not serious and did not result in hospitalisation or medical leave although medical treatment was provided at hospitals. There were also two workplace stress incidents of a minor nature, which were readily resolved with time off.

**g) Employment Beyond Statutory Retirement Age**

We may offer our team members re-employment beyond Singapore's statutory retirement age of 62 years, as guided by applicable laws and

regulations, and our policies on retirement and re-employment. Any re-employment and extension of re-employment depends on whether a retiring team member's services are required, the team member is medically certified to be fit for employment and is able to perform at an acceptable level. In general, we try to provide re-employment whenever possible, given that retiring team members have decades of experience and can still be highly productive and motivated.

During FY2019, we had nine team members under re-employment beyond the statutory retirement age equating to 1% of our overall team size, compared to four team members under re-employment in FY2018.

**h) Succession Planning**

We recognise that having adequate succession planning is a key priority and essential to our business continuity. We have a SPS for senior management teams and key executives at our headquarters and respective subsidiaries. Core leadership positions are covered by deputies or experienced potential replacements, who are identified through our PMS as being team members with high leadership potential to be developed and nurtured into next-generation leaders.

At the end of FY2019, 82% of our key Managing Directors and Chief Executive

Officers – nine out of a total of 11 team members – were covered by a named deputy or designated successor. Our Chairman & Group Chief Executive Officer also has a named deputy or designated successor. Those that have no named deputies or designated successors are from our Energy-Related Engineering Division, where these key team members were recently promoted into the top positions in the past three years as designated successors to team members who retired from these respective top positions.

**i) Termination of Employment & Turnover**

Our team members are entitled to compensation according to severance clauses in their employment contracts if we terminate their services. Under all circumstances, we seek to ensure that any termination of employment is conducted in a fair and lawful manner. We have also implemented procedures to ensure that affected team members are properly compensated and may also receive job placements or other forms of assistance in addition to monetary compensation if we retrench them.

As with any corporation, we have not been spared from natural attrition and turnover of team members. During FY2019, we had turnover of 232 team members equating to a 26% overall team turnover rate, compared to turnover of 184 team members equating to a 24%

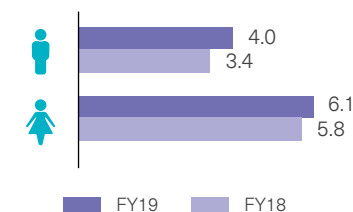
**FY2019 Absentee Performance**

**FY19: 4,196 medical leave days**

FY18: 3,183 medical leave days

**FY19: 4.7 days per team member**

FY18: 4.2 days per team member

**Average days by gender**

overall team turnover rate in FY2018, the breakdown as shown here. Our overall team turnover rate was slightly above market norms due to Boustead Projects' rapidly expanding team, with some new team members leaving shortly after joining.

### 4.3 CREATING A POSITIVE WORK ENVIRONMENT

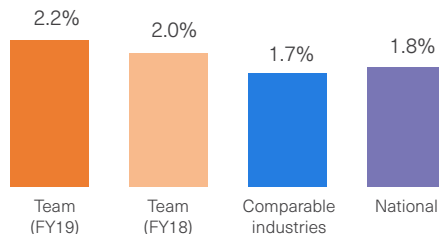
We are highly committed to creating a positive work environment, where our team, clients, suppliers and other key stakeholders feel comfortable, safe and secure within and around our operations globally. Our positive work environment is designed and organised to be conducive for delivering our solutions in a productive manner and facilitating interactions with key stakeholders, along with meeting applicable laws and regulations in countries where we operate.

#### 4.3.1 Workplace Health & Safety Above All

Of utmost importance, we care deeply about safeguarding the wellbeing of our team, beginning with our workplace safety and health ("WSH") management performance and system enablers that apply to our team and all key stakeholders who are affected by our operations regionally.

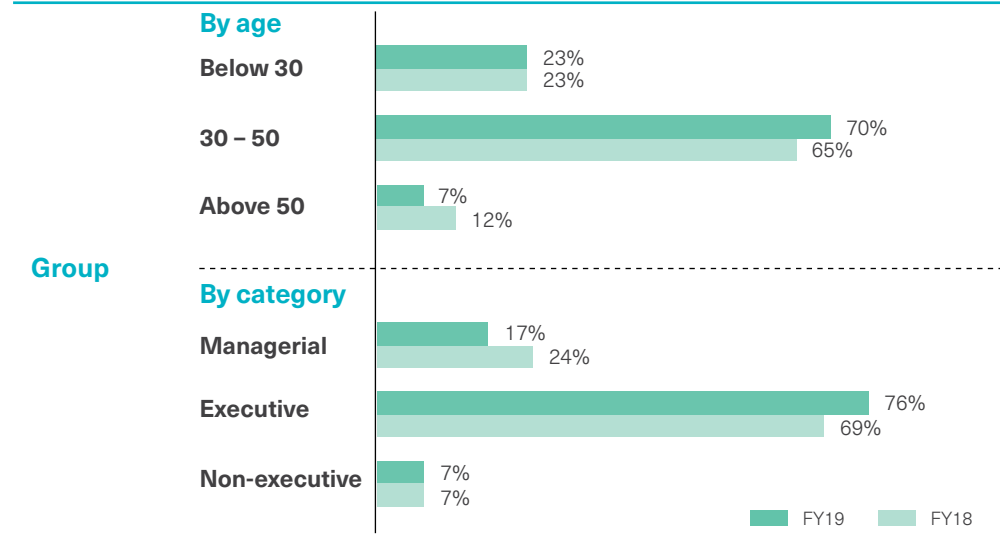
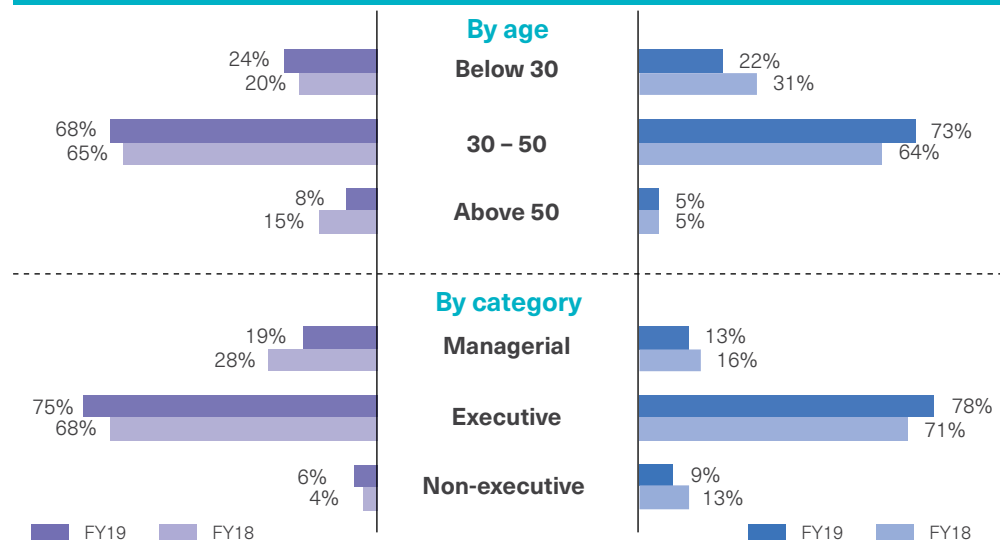
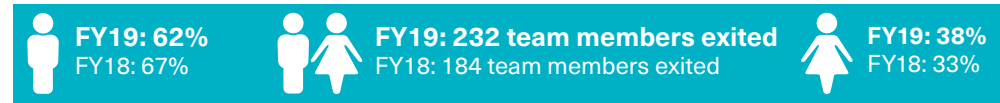
From a WSH standpoint, the United Nations' International Labour Organization has estimated that there

### FY2019 Team Monthly Turnover Rate vs Industry/National Levels



Note: Calculations are based on MOM's published statistics for 2018, with the blended weighted industries average based on Singapore's architectural & engineering, construction, health & social services, IT & other information services, legal, accounting & management services and real estate sectors.

### FY2019 Team Turnover Breakdown



are over 2.78 million deaths every year due to occupational accidents and work-related diseases. In addition, there are 374 million non-fatal occupational accidents and work-related diseases, many which result in extended work absences. The human cost of this daily adversity is vast with the economic burden of poor WSH practices costing an estimated 3.94% of global gross domestic product each year.<sup>5</sup>

In Singapore, although incidences of occupational accidents, fatalities and diseases are much lower than the global average, the local construction industry remains a major contributor to such incidents, with the industry having the highest number of fatalities in 2018.

As part of our WSH management programmes, all of our major subsidiaries under our Energy-

Related Engineering and Real Estate Solutions Divisions have obtained OHSAS 18001:2007 certification or ISO 45001:2018 for WSH Management Systems ("WSHMS"). Our WSHMS set out WSH management system enablers, commitments, targets and responsibilities for our team, with overriding responsibility belonging to our major subsidiaries' Environmental, Health and Safety ("EHS") Teams. Our EHS Teams manage all aspects of our WSHMS which are both externally and internally audited, and ensure WSH management performance at all workplaces and project sites under our control on a daily basis. In addition, our largest subsidiary under our Geospatial Technology Division also has a WSHMS, which although not certified, adheres to the intent of OHSAS 18001:2007.

We have zero tolerance for accidents

and are committed to saving lives through safe work. Our Real Estate Solutions Division under Boustead Projects is our only division with direct control over multiple project sites regionally where construction activities take place. Boustead Projects' safety slogan 'Safe Work, Save Lives' has become a daily mantra among team members and suppliers who undertake work at their project sites. Although Boustead Projects outsources construction trades to suppliers and does not directly hire any construction workers, Boustead Projects takes responsibility to ensure their health and safety at project sites and the general public's health and safety in the communities around project sites.

More information on Boustead Projects' WSHMS is available in the *Boustead Projects FY2019 Longevity Report*.

### 4.3.2 Continuous WSH Education & Training

Nowhere else do we emphasise continuous education and training more than in WSH education and training, in order to immerse our team and key stakeholders in the right WSH culture and improve our WSH performance. At Boustead Projects, training programmes include a Centralised Safety & Quality Induction Training Course conducted for team members, suppliers and visitors to their project sites and an Enhanced Safety Induction Course in partnership with external training centres to provide safety training in relation to working at heights awareness for team members and suppliers.

Boustead Projects' EHS Team, WSH professionals and project site teams have the responsibility of ensuring that suppliers conduct appropriate in-house

## OHSAS 18001 Certifications

	BIH	BC&E	BSWS	Boustead Projects	Esri Australia
<b>OHSAS 18001 Initiation</b>	2015	2011	2006	2006	-
<b>OHSAS Latest Standard</b>	Recertified under ISO 45001:2018 in Apr 2019	Recertified under OHSAS 18001:2007 in Sep 2017	Recertified under OHSAS 18001:2007 in Jul 2018	Recertified under OHSAS 18001:2007 in Apr 2018	Current WSHMS not certified
<b>Other Industry-Specific WSH Standards</b>				SS506 Part 1:2009	Current WSHMS adheres to intent of OHSAS 18001:2007 where critical processes are controlled and monitored

5. "Safety and Health at Work." United Nations, International Labour Organization, [www.ilo.org/global/topics/safety-and-health-at-work/lang-en/index.htm](http://www.ilo.org/global/topics/safety-and-health-at-work/lang-en/index.htm). Accessed 18 July 2019.



safety training for their workers before deploying them to Boustead Projects' project sites and that such training is properly documented. Boustead Projects also has a Safety Awareness Promotion Programme that gives widespread recognition to the efforts of WSH professionals, safety supervisors, suppliers and workers in achieving WSH milestones.

Continuing our WSH performance in FY2019, we had zero fatalities, high consequence injuries and occupational disease incidents within our team and

suppliers' workers across our operations globally, which was the same in FY2018. Our accident frequency rate ("AFR") and accident severity rate ("ASR") also compared favourably with Singapore's average AFR and ASR at both the comparable industries and national levels.<sup>6</sup> Three workplace safety and health incidents involving team members at our administrative workplaces were minor and did not result in hospitalisation or medical leave although medical treatment was provided at hospitals. There were also two workplace stress incidents of a minor nature, which were

readily resolved with time off.

### 4.3.3 bizSAFE Programme

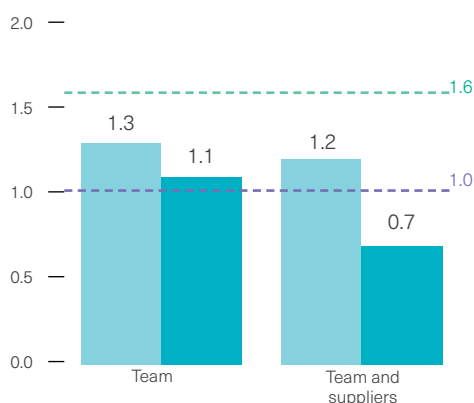
In 2008, Boustead Projects initiated participation in Singapore's Workplace Safety & Health Council ("WSHC")'s bizSAFE Programme by becoming a bizSAFE Partner. In 2009, Boustead Projects achieved the bizSAFE Star, the highest qualification that can be attained in recognition of a corporation's WSH management programmes. In 2012, Boustead Salcon Water Solutions followed suit, achieving the bizSAFE Star.

By 2011, Boustead Projects opted to take a national leadership role in advocating and promoting excellent WSH practices in the construction industry by becoming a bizSAFE Mentor; currently one of only eight bizSAFE Mentors in Singapore and the only one among their direct competitors.<sup>7</sup> bizSAFE Mentors are corporations that have excellent WSH performance and track records, and are qualified and invited only by the WSHC to take this national leadership role. bizSAFE Mentors incorporate WSH as an integral part of their business model that benefits the wider community and

## WSH Performance

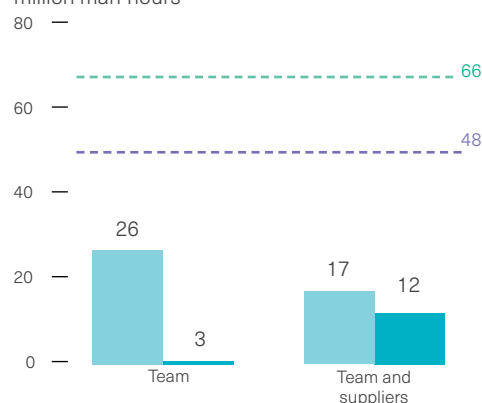
### AFR

# of workplace accidents per million man-hours



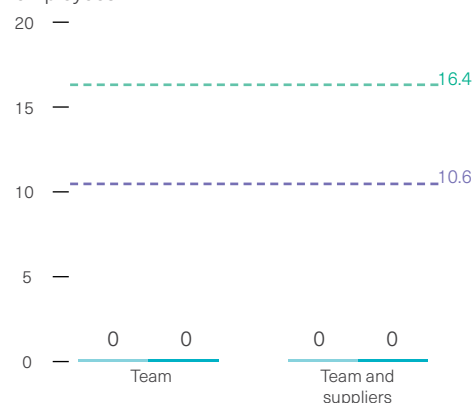
### ASR

# of lost man days to workplace accidents per million man-hours



### Occupational disease incidence rate

# of occupational disease cases per 100,000 employees



Legend: ■ FY18 ■ FY19 - - - Comparable industries - - - - National

6. "Table 1.27: Accident Frequency Rate (AFR) and Accident Severity Rate (ASR) in Selected Sectors, 2017 and 2018." *Workplace Safety and Health Report 2018*, Singapore Government, Ministry of Manpower, February 2019, page 49, [www.mom.gov.sg/~media/mom/documents/safety-health/reports-stats/wsh-national-statistics/wsh-national-stats-2018.pdf?la=en](http://www.mom.gov.sg/~media/mom/documents/safety-health/reports-stats/wsh-national-statistics/wsh-national-stats-2018.pdf?la=en). Accessed 18 July 2019.  
 7. "Existing bizSAFE Communities: bizSAFE Mentors." Singapore Government, Workplace Safety & Health Council, [www.wshc.sg](http://www.wshc.sg). Accessed 18 July 2019.

also actively work with the WSHC to promote the WSH agenda on various industry and national platforms. As a bizSAFE Mentor, Boustead Projects has been one of the key contributors in helping the bizSAFE Community to expand from 10,000 corporations in 2011 to almost 30,000 corporations in 2017.<sup>8</sup>

As part of Boustead Projects' WSH advocacy and promotion efforts, and uplifting the WSH practices of the construction industry as a whole, they have made it compulsory for all suppliers to be part of the bizSAFE Programme and further encourage them to strive for bizSAFE Star, the highest qualification achievable. Excellent WSH performance is priceless when all lives are safeguarded and when people everywhere go home safely to their families from their workplaces everyday.

Continuing Boustead Projects' WSH advocacy and promotion efforts in FY2019, 100% of their suppliers are certified as at least bizSAFE Level 3, while 79% of their suppliers are certified as bizSAFE Star as shown here.

### 4.3.4 WSH Awards

Boustead Projects is a regular feature at the WSH Awards, an annual awards programme hosted by the WSHC and MOM to recognise excellent WSH performance.

During FY2019 at the WSH Awards 2018 held in July 2018, Boustead Projects received a Safety & Health Award Recognition for Projects ("SHARP") for ALICE@Mediapolis developed under the Boustead Development Partnership, Singapore's first truly smart business park development.

Shortly after the end of FY2019 at the WSH Awards 2019 held in July 2019, Boustead Projects received SHARPs for the Bolloré Blue Hub and Veolia Hazardous Chemical Waste Treatment Complex.

To date, Boustead Projects' excellent WSH performance has been recognised with the highest achievements under the bizSAFE Programme and 19 awards at the WSH Awards as shown here.

### bizSAFE Programme

<b>bizSAFE Star</b> Deliver excellence in WSH management system	<b>79%</b>	of Boustead Projects' suppliers achieved at least bizSAFE Star (Boustead Projects' and BSWS' current level)
<b>bizSAFE Level 4</b> Acquire capability in WSH management system	<b>100%</b>	of Boustead Projects' suppliers achieved bizSAFE Level 3 or better
<b>bizSAFE Level 3</b> Implement WSH risk management		
<b>bizSAFE Level 2</b> Acquire capability in WSH risk management		
<b>bizSAFE Level 1</b> Demonstrate top management commitment to WSH		

### bizSAFE Programme & WSH Awards

	Awarded by WSHC		
	bizSAFE Programme	WSH Award	SHARP Award
<b>Total</b>	<b>6 awards</b>		<b>13 awards</b>
<b>2019</b>			<ul style="list-style-type: none"> <li>Bolloré Blue Hub</li> <li>Veolia Hazardous Chemical Waste Treatment Complex</li> </ul>
<b>2018</b>		<ul style="list-style-type: none"> <li>BP E&amp;C: WSH Performance (Silver) Award</li> </ul>	<ul style="list-style-type: none"> <li>ALICE@Mediapolis</li> </ul>
<b>2017</b>			<ul style="list-style-type: none"> <li>GSK Asia House</li> </ul>
<b>2016</b>			<ul style="list-style-type: none"> <li>Kuehne+Nagel Singapore Logistics Hub</li> </ul>
<b>2015</b>			<ul style="list-style-type: none"> <li>MTU Asia Pacific HQ</li> </ul>
<b>2012</b>	<ul style="list-style-type: none"> <li>BSWS: bizSAFE Star</li> </ul>	<ul style="list-style-type: none"> <li>BP: WSH Performance (Silver) Award</li> </ul>	<ul style="list-style-type: none"> <li>Bolloré Green Hub</li> </ul>
<b>2011</b>	<ul style="list-style-type: none"> <li>BP: bizSAFE Mentor</li> </ul>	<ul style="list-style-type: none"> <li>BP: WSH Performance (Silver) Award</li> </ul>	<ul style="list-style-type: none"> <li>Rolls-Royce Wide Chord Fan Blade Manufacturing Facility</li> </ul>
<b>2010</b>		<ul style="list-style-type: none"> <li>BP: WSH Performance (Silver) Award</li> <li>BP: WSH Officer Award</li> </ul>	<ul style="list-style-type: none"> <li>Applied Materials Building</li> <li>IBM Singapore Technology Park</li> <li>Le FreePort</li> <li>Singapore Aero Engine Services</li> </ul>
<b>2009</b>	<ul style="list-style-type: none"> <li>BP: bizSAFE Star</li> </ul>	<ul style="list-style-type: none"> <li>BP: WSH Performance (Silver) Award</li> </ul>	<ul style="list-style-type: none"> <li>StarHub Green</li> </ul>

8. "bizSAFE Journey at a Glance." *Shine*, Singapore Government, Workplace Safety & Health Council, February 2018, page 3, www.wshc.sg. Accessed 18 July 2019.

#### 4.4 SUPPLY CHAIN MANAGEMENT

We are committed to managing the impacts and risks associated with our supply chain. Supplier-related impacts and risks are identified, addressed and managed under our various management systems, Enterprise Risk Management Framework, internal controls, and external and internal audits.

Our procurement includes products and services from a network of suppliers globally based on a list of approved suppliers for various manufacturing and fabrication services, construction equipment services, materials and trade

services. Our Geospatial Technology Division procures Esri ArcGIS technology from our division's principal, Esri Inc in the US. Our Healthcare Technology Division procures various niche healthcare technologies from mainly Europe and the US. Supplier costs typically make up more than 90% of our total cost of sales. In FY2019, we distributed a total of S\$337.3 million in economic value to suppliers, a 16% increase over FY2018.

Operationally, we manage our procurement through our major subsidiaries' procurement system

enablers and list of approved suppliers, which are subject to regular review as well as external and internal audits.

Potential new suppliers are evaluated on their reputation, financial health, operations, quality, environmental and WSH performance for inclusion on our major subsidiaries' list of approved suppliers. Existing suppliers are regularly evaluated on their upkeep of their holistic performance with routine engagement and inspections throughout projects. As mentioned earlier, Boustead Projects' suppliers are required to attain at least a bizSAFE Level 3 in order to

qualify for Boustead Projects' list of approved suppliers. Boustead Projects also ensures that approved suppliers are inducted in their Green & Gracious Programme, which is shown on pages 63 to 64.

Supplier violations of our holistic standards will result in appropriate disciplinary actions taken against violating suppliers including potential permanent removal from our major subsidiaries' list of approved suppliers and referral to legal authorities for serious violations that may be illegal in nature.

## SECTION 5 – CONSERVING OUR COLLECTIVE HOME – PLANET EARTH

### PLANET EARTH

For all global stakeholders and all known life, Earth is our collective home and the only home we know. Nature in all forms – both organic and inorganic – is the nurturer and provider of all that is necessary to sustain life. Over the past 200 years, the world's population has grown exponentially with one billion people<sup>1</sup> when the Boustead Group was first established in 1828 to 7.7 billion people today and an expected 8.5 billion people by 2030.<sup>2</sup> This has placed tremendous resource strains on our planet's natural ecosystem.

Furthermore, close to four billion people live in urban centres and this is expected to increase to five billion people by 2030. Rapid urbanisation will lead to enormous challenges in government planning across all infrastructure, economic and environmental, social and governance ("ESG") facets. Simultaneously, climate change – driven by greenhouse gas emissions contributed by human activities and agreed upon by 97% of actively publishing climate scientists<sup>3</sup> – continues to result in natural disasters and extreme weather events that have disrupted national economies and hurt lives, people, communities and countries.<sup>4</sup>

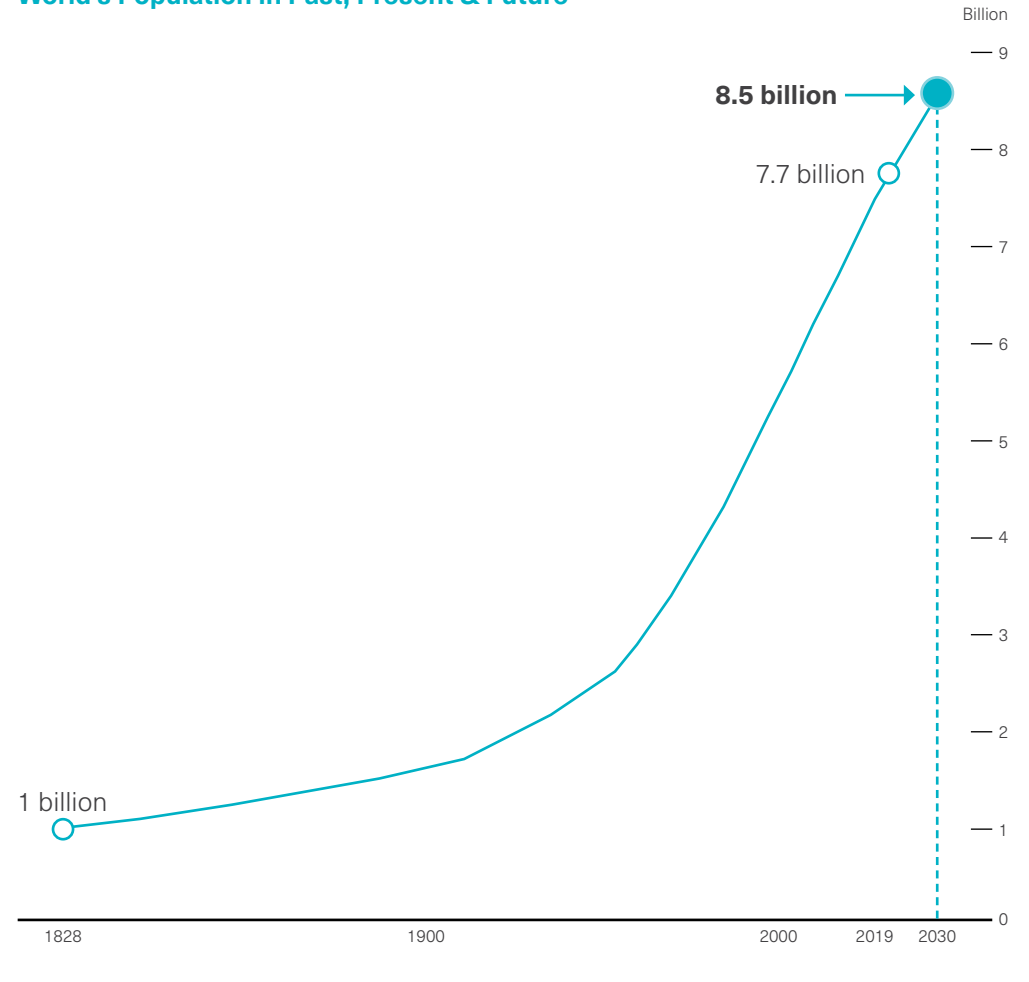
Accompanying expected rapid urbanisation, construction activities for infrastructure will continue to grow. As a responsible global corporate citizen, we plan to do our part in minimising our ecological footprint and contributing to ESG initiatives that transit beyond our organisational ecosystem to our planet's natural ecosystem.

This section covers our environmental stewardship, legal and regulatory compliance, and community development, which are derived from the combined depth of all six capitals – financial, manufactured, intellectual, human, social and relationship, and natural – and ultimately deliver positive net effects for all six capitals.

### 5.1 ENVIRONMENTAL STEWARDSHIP

Construction activities, buildings and infrastructure exert considerable impact on the environment during their multi-decade building and infrastructure lifecycles from the embodied energy of materials and infrastructure to the operating energy of operations and maintenance, and finally demolition at the end of buildings' and infrastructure's useful lives. This also presents significant opportunities

### World's Population in Past, Present & Future



1. Roser, Max, Hannah Ritchie and Esteban Ortiz-Ospina. "World Population Growth." *Our World in Data*, 2013, updated May 2019, [ourworldindata.org/world-population-growth](http://ourworldindata.org/world-population-growth). Accessed 18 July 2019.
2. "Key Findings from World Population Prospects 2019." *World Population Prospects 2019*, United Nations, UN Department of Economic & Social Affairs, Population Division, 2019, page 1, [population.un.org/wpp/publications/files/wpp2019\\_highlights.pdf](http://population.un.org/wpp/publications/files/wpp2019_highlights.pdf). Accessed 18 July 2019.
3. "Scientific Consensus: Earth's Climate is Warming." National Aeronautics & Space Administration, [climate.nasa.gov/scientific-consensus/](http://climate.nasa.gov/scientific-consensus/). Accessed 18 July 2019.
4. "Sustainable Development Goals." United Nations, [sustainabledevelopment.un.org/sdgs](http://sustainabledevelopment.un.org/sdgs). Accessed 18 July 2019.

to mitigate ecological footprints of construction activities and buildings in general. Earlier, we shared on pages 23 to 34 about how our smart eco-sustainable solutions have the potential to directly influence and reduce energy loss, emissions, pollution, and energy and water consumption in some of the most energy-intensive sectors, and work towards the extremely important planetary goal to combat climate change. Under this part of environmental stewardship, we will share our processes in environmental management.

**5.1.1 Environmental Management**

We are highly committed to complying with all applicable environmental laws and regulations in countries where we operate. As part of our environmental management programmes, all of our major subsidiaries under our Energy-Related Engineering and Real Estate Solutions Divisions have obtained ISO 14001:2015 certification for Environmental Management Systems (“EMS”). Our EMS set out environmental management system enablers, commitments, targets and responsibilities for our team, with overriding responsibility belonging to our major subsidiaries’ Environmental, Health and Safety (“EHS”) Teams. These same teams also oversee WSH performance. Our EHS Teams manage all aspects of our EMS which are both externally and internally audited, and ensure environmental performance at all

workplaces and project sites under our control on a daily basis.

We are also committed to raising environmental awareness through our adoption of green practices.

**5.1.2 Green & Gracious Builder Scheme**

Our Real Estate Solutions Division under Boustead Projects is a voluntary participant in the Building & Construction Authority (“BCA”)’s Green & Gracious Builder Scheme (“GGBS”), launched to promote environmental protection and gracious practices during construction activities. Having achieved a Green & Gracious Builder Award (Excellent), Boustead Projects is committed to fulfilling their responsibility to the environment and the general public in terms of addressing environmental concerns and mitigating potential inconveniences to the general public in construction activities. Boustead Projects’ Green & Gracious Policy (“GGP”) is a subset of their EMS and sets out how they should fulfil their role as a Green & Gracious Builder.

Under the GGBS and Boustead Projects’ GGP, they periodically review and update construction processes and key performance indicators on ESG topics such as those shown here. Increasingly, there are overlaps in ESG topics, with fulfilment in one area contributing to benefits in the other areas.

**ISO 14001 Certifications**

	BIH	BSWS	Boustead Projects
<b>ISO 14001 Initiation</b>	2015	2013	2006
<b>ISO 14001 Latest Version</b>	Recertified under ISO 14001:2015 in Mar 2018	Upgraded to ISO 14001:2015 in Jul 2018	Upgraded to ISO 14001:2015 in Apr 2018

**Green & Gracious Builder Scheme**

GGBS Level	Score
Star	Above 90
Excellent	<b>Above 75 to 90</b> (Boustead Projects’ current level)
Merit	Above 60 to 75
Certified	50 to 60

**Green & Gracious Programme**

Environmental	Social
<ul style="list-style-type: none"> <li>• Materials reduction, reuse and recycling</li> <li>• Construction energy management</li> <li>• Construction water and environmental management</li> <li>• Housekeeping and air quality management</li> </ul>	<ul style="list-style-type: none"> <li>• Accessibility</li> <li>• General public safety</li> <li>• Construction noise and vibration management</li> <li>• Communication</li> <li>• Manpower management</li> </ul>



Boustead Projects' GGP includes monitoring, performing and improving on internally set targets that cover areas such as reductions in concrete and re-bar wastage, waste disposal, direct energy and water consumption from construction operations, effluents, dust, noise and vibrations. Boustead Projects' targets are set at realistically achievable levels that are significantly better than the average performance of Singapore's construction industry and national levels in these same topics, in which it was found that the construction industry contributed to in excess of 21% of all waste generated in Singapore in 2018. Although eventually 99% of construction waste generated and 60% of Singapore's waste generated were recycled,<sup>5</sup> it is more important to reduce waste generation before the recycling phase since national resources – albeit a lower quantum – are still required for recycling activities. We also require potential new subcontractors and suppliers (together "suppliers") to be evaluated on their reputation, financial health, operations, quality and EHS performance for inclusion on Boustead Projects' list of approved suppliers, with approved suppliers being inducted in their GGP.

Due care is taken to ensure that businesses, residents and visitors within

communities neighbouring Boustead Projects' project sites are communicated to and not unnecessarily inconvenienced by ongoing projects. These efforts include keeping Boustead Projects' project sites clean and organised, protecting pathways and sidewalks that run along project sites, minimising dust, noise and vibrations, and putting up communications and signages where appropriate including ways to contact them should there be any major inconveniences.

During FY2019, Boustead Projects met all targets in terms of reducing concrete, re-bar wastage and waste disposal costs.

For Boustead Projects' commendable efforts and improvements under the GGBS, during FY2019 at the BCA Awards 2018 held in May 2018, they received the Green & Gracious Builder Award (Excellent) for overall excellent environmental, professional and sustainability practices, an upgrade from the Green & Gracious Builder Award (Merit) attained in 2015.

### 5.1.3 Energy & Water Efficiency

We have worked hard to improve the energy and water efficiency of our operations globally in order to optimise the use of natural resources and mitigate

our ecological footprint. Improving energy and water efficiency has also translated to lower operating costs and conversely higher profitability. Such gains have been achieved in two areas of our operations: during the construction phase of design-and-build projects and during the operational phase of multi-tenanted buildings that we have developed and continue to own and lease out.

Boustead Projects' design-and-build projects use diesel as a fuel for onsite diesel power generators, electricity drawn from the national power grid and water drawn from the national water network. Boustead Projects also collect rainwater which is treated and recycled for use in activities such as project site cleanliness and washing of vehicles leaving project sites.

During FY2019, Boustead Projects measured their average energy and water intensity per square metre ("sq m") of constructed gross floor area ("GFA") – not including recycled water – for all significant design-and-build projects in Singapore as shown on page 65. While FY2019 drastically varied from FY2018, this was due to the timing of design-and-build projects in various phases. It would be recommended that

the average of two years is used for a more accurate gauge of this measure. In addition, it should be noted that in 2018, Singapore's annual total rainfall was measured as being 21% below the 1981 to 2010 long-term average<sup>6</sup> and 17% below 2017,<sup>7</sup> meaning that our rainwater collection and recycling points at both design-and-build project sites and leasehold properties with rainwater harvesting systems used for landscape irrigation and toilet flushing, were collecting significantly less rainwater for recycling in 2018, resulting in more water being drawn from the national water network.

Our administrative workplaces globally and multi-tenanted developments in Boustead Projects' leasehold portfolio draw on electricity from the national power grid and water from the national water network.

Our global headquarters is Edward Boustead Centre, a Green Mark Platinum-rated development with a high efficiency building envelope design and some of the highest ratings in energy and water efficiency. In terms of energy efficiency, Edward Boustead Centre uses double glazed low-emissivity glass to reduce heat flow into the building, more efficient T5 lighting,

5. "Waste Statistics and Overall Recycling." Singapore Government, National Environment Agency, [www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling](http://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling). Accessed 18 July 2019.

6. "Singapore's Climate in 2018." *Annual Climate Assessment 2018 Singapore*, Singapore Government, National Environment Agency, Meteorological Service Singapore, 2019, page 2, [www.weather.gov.sg/wp-content/uploads/2019/03/annual-climate-assessment-report-2018.pdf](http://www.weather.gov.sg/wp-content/uploads/2019/03/annual-climate-assessment-report-2018.pdf). Accessed 18 July 2019.

7. "Singapore's Climate in 2017." *Annual Climate Assessment 2017 Singapore*, Singapore Government, National Environment Agency, Meteorological Service Singapore, 2018, page 2, [www.weather.gov.sg/wp-content/uploads/2019/01/annual-climate-assessment-report-2017.pdf](http://www.weather.gov.sg/wp-content/uploads/2019/01/annual-climate-assessment-report-2017.pdf). Accessed 18 July 2019.

motion sensors that activate lighting at staircases and toilets, and a signature central skywell that allows plenty of natural lighting to penetrate even central areas of the building. In terms of water efficiency, Edward Boustead Centre uses extremely efficient water fittings and has a rainwater harvesting system

to recycle captured rainwater towards water-intensive horticultural and toilet flushing purposes. Edward Boustead Centre also has air handling unit condensate recycling, sky terraces and a rooftop garden to reduce heat island effects, which together with the earlier mentioned green features result in

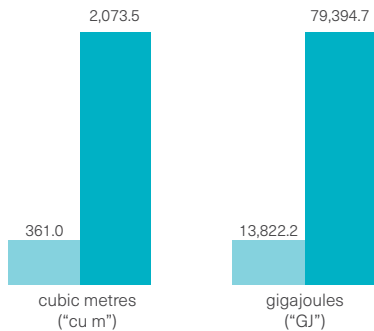
estimated carbon dioxide savings of 264 tonnes annually, equivalent to removing the emissions of 56 cars for a year.

Boustead Projects' latest completed multi-tenanted development is ALICE@Mediapolis ("ALICE"), a Green Mark Platinum-rated development which

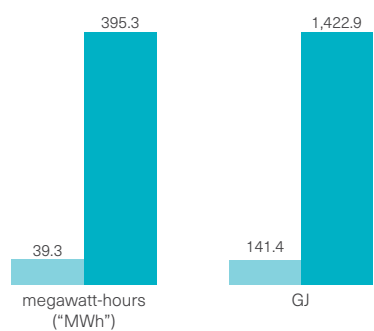
is also Singapore's first truly smart business park development. In terms of energy efficiency, ALICE uses double glazed low-emissivity glass to reduce heat flow into the building, a full LED lighting system, motion sensors that activate lighting at staircases and toilets, variable voltage variable frequency lifts

**FY2019 Energy & Water Intensity of Design-and-Build Projects in Singapore**

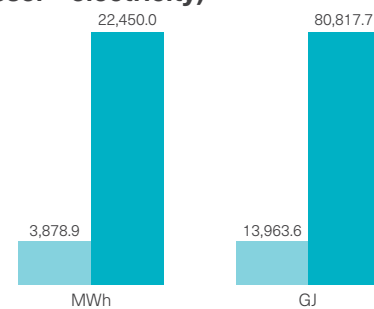
**Diesel consumption**



**Electricity consumption**



**Total energy consumption (diesel + electricity)**

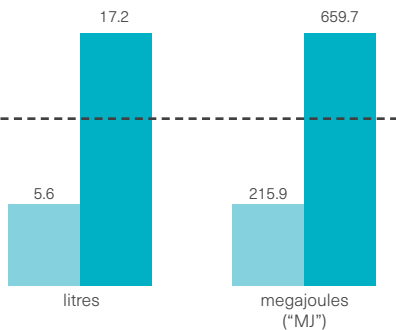


**Total water consumption**



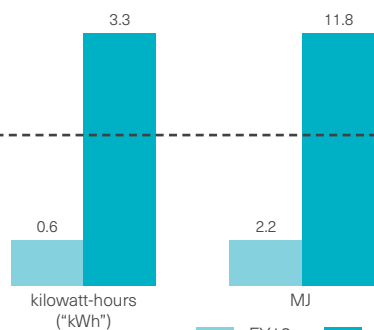
**Average energy intensity (diesel)**

# of L/MJ per sq m of constructed GFA



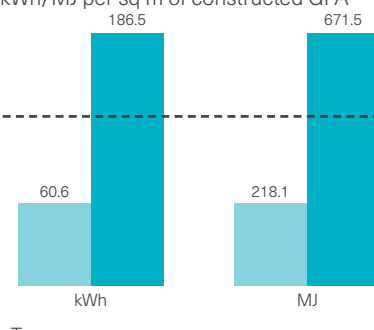
**Average energy intensity (electricity)**

# of kWh/MJ per sq m of constructed GFA



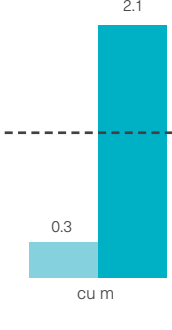
**Average energy intensity (diesel + electricity)**

# of kWh/MJ per sq m of constructed GFA



**Average water intensity**

# of cu m per sq m of constructed GFA



with sleep mode feature, a daylight design for the atrium, a 100 kilowatt-peak rooftop solar panel array and sub-metering systems that can be accessed real-time on a mobile app so that individual tenants can keep track of all types of utilities usage. In terms of water efficiency, ALICE uses extremely efficient water fittings and has a rainwater harvesting system to recycle captured rainwater towards water-intensive horticultural and toilet flushing purposes. 80% of ALICE’s constructed floor area used greener building methodologies including prefabricated building systems and prefabricated volumetric construction (“PPVC”) toilets, the first large-scale PPVC toilets outside of the residential real estate sector. ALICE also accesses district cooling to gain greater efficiencies and has several sky terraces to reduce heat island effects, which together with the earlier mentioned green features result in estimated carbon dioxide savings of 842 tonnes annually, equivalent to removing the emissions of 179 cars for a year.

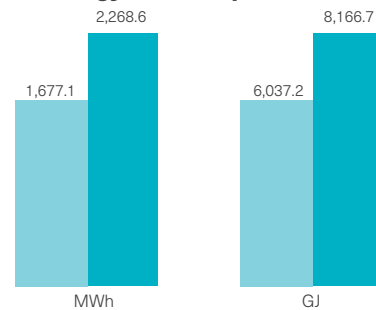
We actively track the electricity consumption at all administrative workplaces globally to provide a baseline for comparison against our future usage. In terms of multi-tenanted developments within Boustead Projects’ leasehold portfolio constructed after the launch

of mandatory submission under the BCA’s Green Mark Programme in 2008, only Edward Boustead Centre was fully operational for the whole of FY2019. ALICE received its temporary occupation permit at the end of October 2018 and hence was only fully operational for less than half of FY2019. Boustead Projects does not track the energy and water usage at other properties within their leasehold portfolio as they are mainly single-tenanted properties and hence, energy and water usage is driven by clients’ processes, which can significantly differ based on respective clients’ business activities.

During FY2019, we measured our energy and water consumption for administrative workplaces globally and Edward Boustead Centre as shown here. Data for ALICE will be presented in FY2020 once the building has been fully operational for a whole year. The energy use intensity (“EUI”) of Edward Boustead Centre continued to compare extremely favourably with Singapore’s average EUI at both the comparable buildings and national levels and is in the second best performing quartile for comparable buildings.<sup>8</sup> The water use intensity (“WUI”) of Edward Boustead Centre was almost in line with Singapore’s median WUI for comparable buildings.<sup>9</sup>

**FY2019 Energy & Water Intensity of Administrative Workplaces Globally**

**Total energy consumption**

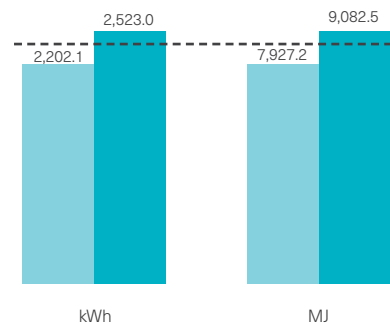


**Total water consumption**



**Average energy intensity**

# of kWh/MJ per employee per year



**Average water intensity**

# of cu m per per employee per year



Legend: Light blue bar = FY18, Dark blue bar = FY19, Dashed line = Two-year average

8. “EUI Trend” and “National Building Energy Benchmarks [EUI (kWh/m<sup>2</sup>.yr)].” *BCA Building Energy Benchmarking Report (Statistics & Figures) 2018*, Singapore Government, Building & Construction Authority, Environmental Sustainability Group, Green Building Policy Department, 2018, pages 3 and 8, [www.bca.gov.sg/bess/benchmarkingreport/benchmarkingreport.aspx](http://www.bca.gov.sg/bess/benchmarkingreport/benchmarkingreport.aspx). Accessed 18 July 2019.  
 9. “Office Building Benchmarks.” Singapore Government, PUB, 2018, page 2, [www.pub.gov.sg/documents/waterefficiencybenchmark\\_office.pdf](http://www.pub.gov.sg/documents/waterefficiencybenchmark_office.pdf). Accessed 18 July 2019.

**5.1.4 Waste Reduction**

Under environmental stewardship, we believe that waste reduction should be undertaken in both big and small ways. We encourage our team to reduce paper usage and to reuse or recycle non-sensitive paper waste where practicable. In FY2013, building on our green initiative, we adopted a paperless electronic format for annual reports and in FY2018, further phased out CD copies of annual reports altogether to reduce plastic waste as well. We have also digitised most of our previously hard copy-based records where appropriate and continue to use IT systems and software solutions to improve our data governance and productivity, which helps to reduce yet another form of waste – time waste. In fact, Boustead Projects’ investments in integrated digital delivery and building information modelling (“BIM”) have significantly improved digitalisation and productivity efforts, and almost eliminated paper usage while drastically reducing potential human errors in projects where BIM is applied. Elsewhere, our Geospatial Technology Division has been running on enterprise resource planning system, SAP for more than a decade.

**5.2 LEGAL & REGULATORY COMPLIANCE**

We are highly committed to fully complying with applicable laws and regulations in countries where

we operate. Often, these laws and regulations cross the boundaries of economic and ESG topics, covering almost all aspects of our business and are governed under the scope of different government ministries, agencies, statutory boards and regulators.

In Singapore, the main government stakeholders and regulators that we regularly communicate with are shown on page 68. In other countries where we operate, we regularly communicate with government stakeholders and regulators that are similar in scope. It should be noted that the list shown does not include government stakeholders who are our Geospatial Technology Division’s clients as such clients include the majority of government agencies in Australia, Singapore, Malaysia and Indonesia.

Government stakeholders and regulators give us our business licences to conduct our operations globally. Full compliance with applicable laws and regulations cannot be overstated and is inherent in all system enablers. Relevant on-the-job training is provided to team members to ensure that they comprehend and meet the requirements of laws and regulations that apply to their job scopes. In addition, professional training may also be extended to specific team members in order for them to better comprehend and meet the requirements of applicable

**FY2019 Energy & Water Intensity of Edward Boustead Centre**

**Total energy consumption**

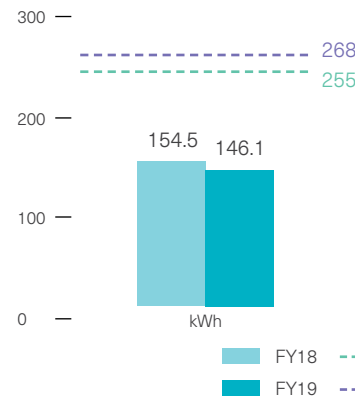


**Total water consumption**



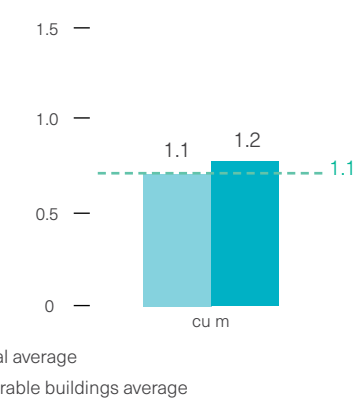
**Average energy intensity**

# of kWh per sq m of GFA per year



**Average water intensity**

# of cu m per sq m of GFA per year



Note: Estimated savings of 567,568 kWh per year, equating to 30% better than baseline based on Green Mark submission.

Note: Estimated savings of 798 cu m per year based on Green Mark submission.

## Government Stakeholders &amp; Regulators

Government Stakeholder	Agency	Scope	Relevant Economic and ESG Topics
Ministry of Finance	• Accounting & Corporate Regulatory Authority	• Business and corporate filings	 
	• Inland Revenue Authority of Singapore	• Tax filings • Material taxable transactions	 
Ministry of Environment & Water Resources	• National Environment Agency	• Environment	 
	• PUB	• Environment	 
Ministry of Health	• Health Sciences Authority	• Healthcare	  
Ministry of Manpower	• Central Provident Fund	• Employment social security savings scheme	  
	• Workplace Safety & Health Council	• WSH	 
Ministry of National Development	• Building & Construction Authority	• Built environment • Construction	   
Ministry of Trade & Industry	• Economic Development Board	• Foreign direct investment in Singapore	  
	• Enterprise Singapore	• Enterprise and trade	  
	• JTC Corporation	• Industrial real estate and infrastructure	   
Regulators, Tripartite Committees and National Associations	• SGX	• Listing requirements • Business and corporate filings • Material transactions	   
	• Singapore Institute of Directors	• Corporate governance • Directors	
	• Tripartite Alliance for Fair & Progressive Employment Practices	• Employment	  

laws and regulations in high-risk economic and ESG topics. Other than government stakeholders and regulators, we may at times also have to comply with laws and regulations embedded within contractual terms set by clients and lenders, who have to ensure compliance with laws and regulations which are specific to their industries.

In FY2019, we had zero significant fines or cases brought against us through dispute resolution mechanisms by government stakeholders and regulators in economic and ESG facets. We also had zero substantiated complaints received from external parties and regulators or identified leaks, thefts or losses of customer data under the customer privacy area. However, Boustead Projects did receive a stop-work order (“SWO”) and partial SWO in the environmental and social areas respectively, both of which were expediently rectified and lifted.

### 5.3 COMMUNITY DEVELOPMENT

This year, our heartiest congratulations go out to our home nation, Singapore on the celebration of its historic Bicentennial, 200 years after Sir Stamford Raffles and Major General William Farquhar first stepped onto our shores in 1819. Only nine short years later in 1828, our company’s founder, Mr Edward Boustead chose to establish Boustead in Singapore, thanks to Sir Raffles and General Farquhar’s early

initiatives to turn Singapore’s strategic location into the gateway between China, India and South East Asia.

Our two heritages are intertwined, with the common goals of engendering longevity and progress, and constantly seeking competitive positioning in a hyper competitive world. Passing through the passages of change and time together, both nation and corporation have lived through major upheavals – World War I, the Great Depression, World War II, Malaysia’s and then Singapore’s independence, the Asian Financial Crisis, Dotcom Bubble and Global Financial Crisis. Longevity and progress have been achieved, although these should never be taken for granted.

The Bicentennial serves up some valuable lessons in history. Sir Raffles wrote in 1819 that “our object is not territory but trade; a great commercial emporium and a fulcrum whence we may extend our influence politically as circumstances may hereafter require,” and that his aim was to develop “the utmost possible freedom of trade and equal rights to all, with protection of property and person.” This was carried out dutifully by Singapore’s first Resident and Commandant, General Farquhar who was instrumental in promoting Singapore’s three freedoms as laid out by Sir Raffles – freedoms of immigration, port and trade – and which contributed

## FY2019 Legal & Regulatory Compliance Performance



### Economic

## FY19: ZERO

**significant fines, non-monetary sanctions and cases brought against us through dispute resolution mechanisms in economic areas.**

FY18: ZERO

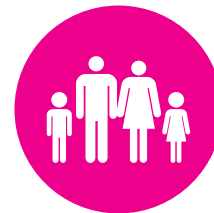


### Environmental

## FY19: ONE

**minor non-monetary sanction brought against Boustead Projects in environmental areas, a SWO which was rectified and lifted within eight days.**

FY18: ZERO



### Social

## FY19: ONE

**minor non-monetary sanction brought against Boustead Projects in social areas, a partial SWO which was rectified and lifted within 20 days.**

FY18: ZERO

to Singapore's rapid progress in its early days, for few places in the world could offer such freedoms at that time.

Over our long heritage, we have been committed to developing the communities in Singapore and countries where we operate. This is in line with our founder, Mr Edward Boustead's community-driven and philanthropic direction where he took a personal interest in the development of Singapore's local community while he was alive (1800-1888). Despite running a thriving business, he still found time to be an editor of the *Singapore Chronicle* (1824), Singapore's first newspaper, and later the co-founder and editor of *The Singapore Free Press* (1835), Singapore's second newspaper which was established to celebrate the abolishment of press censorship under the Gagging Act in 1835 and eventually merged with *The Malay Mail* and was acquired by *The Straits Times* in 1952.<sup>10</sup>

In 1830, Singapore's freedoms and competitive position came under serious threat when governance was turned over to the Supreme Government of the East India Company of Bengal. In 1837, Mr Boustead made a personal plea to fight any attempt by the Supreme Government to restrict freedoms and impose port duties on Singapore. Mr Boustead

gathered together with prominent business leaders to become founders of the Singapore International Chamber of Commerce (1837), whose role it was to fight for Singapore's commercial interests and uphold the freedoms. To this day, supported by modernised versions of the freedoms over multiple generations, Singapore's economy, port and trade have continued to flourish as key parts of multi-generational success, supported by the enterprise and industry of Singaporeans. Mr Boustead also insisted on "all merchants, agents, ship owners and others interested in the trade of the place, to be eligible to become members of this association," leading the Chamber to become the most inclusive organisation of its kind during that time and a truly multi-racial organisation, supporting its position as the leading force in Singapore's economy and trade for more than a century.<sup>11</sup>

Mr Boustead was a philanthropist, giving generously to the construction of churches, hospitals and schools in Singapore. His contributions and support helped to complete construction of St Andrew's Cathedral (1836), Raffles Institution (1837), Cathedral of the Good Shepherd (1847) and St Joseph's Institution (1852), among other great institutions that still exist today.

One of the hallmarks of Mr Boustead's philanthropic contributions was to set aside a tidy sum of money to have the Boustead Institute (1889) constructed after his death. The Boustead Institute became a place of care and free lodging for destitute, sick and homeless sailors, who Mr Boustead was always grateful and compassionate to because they helped to build Singapore's strong trade.

We continue Mr Boustead's tradition of developing communities in countries where we operate. Over the past decade, numerous institutions have greatly benefitted from more than S\$4 million in donations to education institutions such as the National University of Singapore and leading universities regionally, non-profit organisations serving important social causes such as Yayasan Mendaki, PAP Community Foundation and Singapore Business Federation Foundation, as well as the blossoming cultural scene.

At times, we also undertake philanthropic fund raising through our own fund raising platforms in collaboration with our suppliers. Communities in countries where we operate benefit directly from our donations both in monetary terms and in-kind to organisations that run community development programmes and also

indirectly through the projects that we undertake for end-user clients, which provide jobs to those communities and ESG benefits. Our efforts are centred on meaningfully deploying a portion of our organisational resources to support local communities and ESG causes.

During FY2019, we committed S\$537,000 in donations to various causes and numerous donations-in-kind through our services. Our team members also participated by giving their time to participate in some of the Boustead Group's community development programmes.

### 5.3.1 Geospatial Technology Division Programmes

As part of the Esri global network of exclusive distributors, our Geospatial Technology Division participates in various global philanthropic efforts with local implementation in our division's exclusive markets.

#### a) Non-Profit Organisation Programmes

The Esri Nonprofit Organisation Program is designed to provide conservation and humanitarian non-profit organisations with a heavily discounted means of acquiring Esri technology and services for organised volunteer efforts. Through the programme, our division

10. "The Singapore Free Press." Singapore Government, National Library Board of Singapore, 15 June 2005, eresources.nlb.gov.sg/infopedia/articles/sip\_88\_2005-02-03.html. Accessed 18 July 2019.

11. Maclean, Roderick. *A Pattern of Change: The Singapore International Chamber of Commerce from 1837*, Singapore International Chamber of Commerce, 2000.

has provided thousands of non-profit organisations with low-cost access to the world's leading geographic information system ("GIS") and location analytics platform, supporting the delivery of ESG projects that make a difference.

Armed with a science founded on the principles of land management, Esri Australia has a rich history in environmental protection. Esri Australia has helped fortify koala and turtle conservation efforts by mapping endangered species' populations to identify and protect their habitats nationwide. Partnering with the Gnaraloo Turtle Conservation Program ("GTCP") and Animal Pest Management Services ("APMS") in Western Australia, Esri Australia has assisted for over a decade in the fight to save some of the world's most at-risk sea-turtle species by dramatically improving the ability to organise, map and analyse vast amounts of data concerning the location of the turtles' primary nesting habitats. Over that time, the GTCP and APMS have used insights generated through Esri technology to protect nesting habitats through the unprecedented eradication of all feral predators. The GTCP has been able to save more than 300,000 loggerhead turtle eggs over the past eight years.

Esri Singapore also regularly donates software and services to charitable causes. In FY2016, Esri Singapore

began working with Food from the Heart ("FFTH") – a Singapore registered charity – to develop a purpose-built smart mapping application that helps FFTH collect and distribute food to as many beneficiaries as they can in the most efficient manner possible. The application features a real-time, synchronised map-based view of FFTH's operations, enabling the charity to understand how to best optimise its delivery vehicles and other resources. Continuing to ride on the benefits unlocked by the application, FFTH was able to distribute S\$5.9 million worth of donated food for free to more than 40,300 beneficiaries through 240 daily food distribution points across Singapore in 2018.

### **b) Education Programmes**

The Esri GIS for Schools Program is designed to provide eligible educational institutions with free software. Since October 2016, Esri Australia has been working in partnership with principal, Esri Inc to provide free Esri ArcGIS accounts to Australian schools where Esri Australia provides localised services support including one educational professional dedicated to the programme on a full-time basis. The strategic intent of this programme is to promote real-world critical thinking, problem solving and data analysis in Australian classrooms using GIS and to demonstrate Esri technology's robust capabilities to

future generations of data scientists and spatial technologists. During FY2019, Esri Australia's education programme providing K-12 schools with access to Esri ArcGIS expanded to a total of 610 schools nationwide, a 43% increase over FY2018. Along with developing the GIS skills of students, the programme is now collaborating with industry bodies to bridge the gap between GIS education and real-world applications. Specifically, Esri Australia has been working with a number of clients such as Melbourne Water, Parks Victoria, Rural Fire Services and Sydney Water on a joint initiative to create GIS resources for schools. This effective strategy has ensured that GIS resources are being actively sought by students, while also fostering deeper relationships with key clients.

Esri Singapore has been working closely with the Ministry of Education ("MOE")'s Curriculum Planning & Development Division to deploy MOE-EduGIS, aiming to bring GIS capabilities to secondary school students across Singapore. Over 60 secondary schools now leverage GIS as part of their geography syllabus, and process and analyse data to produce smart digital map apps via Esri ArcGIS Online.

Esri Indonesia hosts the Esri Indonesia Internship Programme, which is designed for undergraduate students who are looking for real-world geospatial industry experience and practical

skills that allow them to jumpstart their careers after they graduate. The programme is open twice a year to all students currently enrolled in a college or university study programme, with the length of the internship varying from one week to six weeks. Running in parallel, the Esri Indonesia Graduate Programme – also known as the Spatial Heroes Programme – is designed to help fresh graduate students unleash their untapped spatial powers to solve real-world challenges. The programme provides students with hands-on geospatial industry experience, allowing them to creatively use Esri technology to address issues experienced by the commercial, education and government sectors. Successful applicants undergo a three-month paid training programme with Esri Indonesia, during which time they learn core skills in various organisational departments including business development, technical support and training.

Established in 2012, the Esri Young Scholar Award is a joint initiative between Esri Inc and exclusive distributors to acknowledge and reward achievements by students studying spatial science disciplines, under which exclusive distributors nominate university students globally for excellence in relation to GIS projects. These projects include comprehensive research papers, software development and impactful maps to apps that promote conservation,



disaster response, education and urban planning. In participating countries, the programme takes the form of a local competition across every university that invites students to submit entries on how they have utilised Esri technology in their university project or report to solve a community challenge. Entries submitted are assessed on creativity, real world relevancy, application of Esri technology and technical merit.

Since 2016, our division has nominated winning students from Australia, Singapore, Malaysia and Indonesia who have received fully-paid trips inclusive of airfare, accommodations, conference registration and daily allowances to the annual Esri User Conference in San Diego, where they get to join thousands of GIS experts for networking, presentations and workshops, as well as to meet Esri Inc Founder & President, Jack Dangermond.

### c) Start-Up & Innovation Programmes

Both Esri Australia and Esri Singapore host start-up programmes. The Esri Australia Startup Programme and Esri Singapore Innovation & Jumpstart Programme support organisations that have a strategic business model to offer services with a location component or leverage a location strategy by providing the necessary capabilities to develop sustainable smart city solutions that

address real-world challenges. The requirements to enjoy free support are that the start-up must have been in operation for less than three years, have less than US\$1 million in revenue and be building products based on a smart mapping platform.

In Singapore, the programme further breaks into two tracks suitable for different stages of an organisation's growth and development: Jumpstart and Innovation. The Jumpstart track provides eligible start-ups with three years of free Esri ArcGIS Online services, software development tools, ready-to-use content, training and technical support, global partnership opportunities and co-marketing to allow them to innovate and add value to their operations. The Innovation track is structured to support organisations that are thriving and ready to develop new product segments by enhancing capabilities and increasing value to users by incorporating advanced geospatial technology.

Early beneficiaries have included start-ups involved in AgTech, FinTech and PropTech, which are bringing technology into traditional industries.

#### 5.3.2 Life-Saver Programmes

Beyond our contributions to non-profit, education and start-up organisations, we believe in the power of GIS to be a life-

saving tool in times of crisis. Thousands of organisations use Esri technology during the four phases of disaster management: mitigation, preparedness, response and recovery. Esri technology enables these organisations to minimise the impact of disasters on lives, property and assets by maximising readiness, effective response coordination and situational awareness.

Nonetheless, disasters and extreme weather events do strike at times beyond what communities can realistically prepare for. In 2004, following a 9.0-magnitude earthquake, the Asian Tsunami hit countries surrounding the Indian Ocean, caused the deaths of over 280,000 people, displaced more than one million people and affected at least five million people, devastating local communities within its path.<sup>12</sup>

Among these local communities, Aceh Province in Indonesia faced the worst effects. Esri Indonesia donated free software and technical support to the Indonesia Government during the crisis while Boustead Salcon Water Solutions separately donated and shipped two portable desalination plants to Aceh to aid in crisis coordination, search and rescue operations, immediate humanitarian aid operations and the long-term planning and rebuilding of infrastructure and homes for survivors.

In 2011, the catastrophic Queensland and Brisbane Floods hit the third-most populous state in Australia, severely flooding 90 towns and displacing more than 200,000 people. Esri Australia donated free software and technical support to the Brisbane City Council ("BCC"), where a brigade of Esri Australia volunteers also worked at BCC's crisis centre around the clock for five days to develop and maintain an interactive, online flood map compiling data across Brisbane such as evacuation centres, flood peaks and road closures, providing a real-time picture of the flood and helping citizens to avoid danger. It allowed BCC, emergency response teams and the local communities to view the scope of damage and receive critical updates, playing a vital role in one of Australia's largest disaster response operations.

During FY2019, Esri Indonesia responded as Indonesia was hit by a series of disasters. The Esri Indonesia Emergency Spatial Support Centre ("ESSC") – a disaster response programme run by Esri Indonesia to support government agencies during crises and disasters – developed a portal to coordinate disaster relief efforts for Sulawesi's Palu-Donggala earthquake and tsunami aftermath. The portal provided actionable insights needed by disaster relief agencies to conduct

12. "Three Months After the Indian Ocean Earthquake-Tsunami: Photo Essay." World Health Organization, [www.who.int/hac/crises/international/asia\\_tsunami/3months/en/](http://www.who.int/hac/crises/international/asia_tsunami/3months/en/). Accessed 18 July 2019..

search and rescue operations, efficiently mobilise limited resources, optimise supply routes for relief goods and leverage data from several government agencies, namely the Meteorological, Climatological & Geophysical Agency, Geospatial Information Agency, Indonesian National Board for Disaster Management, Ministry of Home Affairs, Ministry of Public Works & Housing and National Institute of Aeronautics & Space; as well as crowdsourced data from the Gajah Mada University and image analytics from the Bandung Institute of Technology. The portal includes a library of interactive web applications and operational dashboards which feature affected population and their demographics, the number of buildings and infrastructure impacted, before and after satellite image comparisons, available hospitals and evacuation centres, and live reports from social media.

We continue to be ready to work with government agencies to save lives whenever disaster strikes.

### 5.3.3 Other Philanthropic Activities & Team Volunteerism

During FY2019, we participated in several other philanthropic activities, where our team members had the opportunity to participate with their energy and time.

Boustead Projects formally inaugurated their 'Boustead Cares' Community Partnership Programme with Singapore's North East Community Development Council ("NECDC"), and helped raise S\$50,000 in support of NECDC's community activities. In November 2018, Boustead Projects' team members participated in NECDC's Community Give Back Month, a platform for NECDC to bring corporate and community partners together

to uplift beneficiaries in the North East District. More than two dozen volunteers from Boustead Projects' team worked with staff from NECDC and Bizlink Centre Singapore to organise a trip to the Singapore Zoo for Bizlink Centre's beneficiaries. Bizlink Centre is a registered charity dedicated to serving disadvantaged and disabled individuals in Singapore through training and employment. The occasion was also graced by NECDC's Mayor, Mr Desmond Choo.

We also adopted a Bank Box from The Food Bank Singapore, which is currently placed at our global headquarters at Edward Boustead Centre. The Food Bank Singapore is a charity that aims to fight hunger and reduce food wastage in Singapore by acquiring donated and excess food and making them available to the needy through a network of member beneficiaries. Over the year, our

team members continued to donate non-perishable food to needy beneficiaries that would otherwise be wasted.

### 5.4 CONCLUSION

Although we have achieved respectable performance in material ESG topics, we recognise that we can and must do better. Having collected and reported on at least two years' worth of data on material ESG topics, our Board is now in a position to consider setting medium-term longevity performance targets in material ESG topics where targets have not already been set. Hand-in-hand with our stakeholders, we intend to continue our role as a responsible global corporate citizen, one which we hope to honour for many more centuries to come. Join us in this ultramarathon.

## GRI CONTENT INDEX

This GRI Content Index makes reference to this report and the *Boustead FY2019 Annual Report* (“FY2019 AR”).

GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
<b>GRI 101: Foundation 2016</b>			
<b>General Disclosures</b>			
<b>Organisational profile</b>			
GRI 102: General Disclosures 2016	102-1	Name of the organisation	Front cover, 1, 12; FY2019 AR (front and back covers, inside front cover, 60, 95)
	102-2	Activities, brands, products and services	1, 20-47; FY2019 AR (inside front cover, 1-53, 197-200)
	102-3	Location of headquarters	12, 64; FY2019 AR (back cover, 60, 95, 197)
	102-4	Location of operations	21, 24-26; FY2019 AR (14-15, 18-19, 28-51, 197-200)
	102-5	Ownership and legal form	1; FY2019 AR (60, 95, 201-202)
	102-6	Markets served	20-45; FY2019 AR (inside front cover, 1-53, 197-200)
	102-7	Scale of the organisation	21, 45-47; FY2019 AR (inside front cover, 2-9, 14-23, 28-53, 58-59, 89-94, 192-194, 197-200)
	102-8	Information on employees and other workers	46, 48-61; FY2019 AR (3, 5, 7, 9, 19-21, 54-57)
	102-9	Supply chain	57-61, 63-64; FY2019 AR (20)
	102-10	Significant changes to the organisation and its supply chain	57-61, 63-64; FY2019 AR (20)
	102-11	Precautionary Principle or approach	20
	102-12	External initiatives	6-7, 12, 17, 27-28, 34, 37-40, 49-50, 52, 58-60, 63-64
	102-13	Membership or associations	6-7, 12, 17, 27-28, 34, 37-40, 49-50, 52, 58-60, 63-64, 67-69
<b>Strategy</b>			
	102-14	Statement from senior decision maker	3; FY2019 AR (24-26)
	102-15	Key impacts, risks and opportunities	13-19
<b>Ethics and integrity</b>			
	102-16	Values, principles, standards and norms of behaviour	2-7, 13-20, 48-49, 62; FY2019 AR (10-13, 66-80)
	102-17	Mechanisms for advice and concerns about ethics	6-7, 48-50, 54; FY2019 AR (77-78)

GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
<b>GRI 101: Foundation 2016</b>			
<b>General Disclosures</b>			
<b>Governance</b>			
	102-18	Governance structure	6-7; FY2019 AR (66-80)
	102-19	Delegating authority	6-7; FY2019 AR (66-80)
	102-20	Executive-level responsibility for economic, environmental and social topics	6-7; FY2019 AR (66)
	102-21	Consulting stakeholders on economic, environmental and social topics	6-7, 13-16; FY2019 AR (66-80)
	102-22	Composition of the highest governance body and its committees	6-7; FY2019 AR (66-80)
	102-23	Chair of the highest governance body	6-7; FY2019 AR (68-69)
	102-24	Nominating and selecting the highest governance body	6-7; FY2019 AR (68-71)
	102-25	Conflicts of interest	6-7; FY2019 AR (66-80)
	102-26	Role of highest governance body in setting purpose, values and strategy	6-7; FY2019 AR (66-67)
	102-27	Collective knowledge of highest governance body	6-7; FY2019 AR (54-55, 66-68)
	102-28	Evaluating the highest governance body's performance	6-7; FY2019 AR (66-80)
	102-29	Identifying and managing economic, environmental and social impacts	6-7, 13-19; FY2019 AR (66-80)
	102-30	Effectiveness of risk management processes	6-7, 18-19; FY2019 AR (66-80)
	102-31	Review of economic, environmental and social topics	6-7, 13-19; FY2019 AR (66-80)
	102-32	Highest governance body's role in sustainability reporting	6-7; FY2019 AR (66)
	102-33	Communicating critical concerns	6-7, 48-50, 54; FY2019 AR (75-80)
	102-34	Nature and total number of critical concerns	6-7, 48-50, 54; FY2019 AR (75-80)
	102-35	Remuneration policies	6-7, 50-56; FY2019 AR (72-74)
	102-36	Process for determining remuneration	6-7, 50-56; FY2019 AR (72-74)
	102-37	Stakeholders' involvement in remuneration	6-7, 50-56; FY2019 AR (72-74)
	102-38	Annual total compensation ratio	This information is not available.
	102-39	Percentage increase in annual total compensation ratio	This information is not available.

GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
<b>GRI 101: Foundation 2016</b>			
<b>General Disclosures</b>			
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	102-42	Identifying and selecting stakeholders	13-16
	102-43	Approach to stakeholder engagement	13-16
	102-44	Key topics and concerns raised	13-16
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	102-46	Defining report content and topic boundaries	12
	102-47	List of material topics	13-16
	102-48	Restatements of information	12
	102-49	Changes in reporting	12
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	102-53	Contact points for questions regarding the report	12
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<b>Topic-Specific Standards</b>			
<b>Smart eco-sustainable solutions</b>			
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	103-2	The management approach and its components	23-37
	103-3	Evaluation of the management approach	23-37
GRI Standard not available	Not applicable	Qualification and quantification of smart eco-sustainable solutions	27-37

GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
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<b>Topic-Specific Standards</b>			
<b>Quality and transformation</b>			
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	103-2	The management approach and its components	34, 37-45
	103-3	Evaluation of the management approach	34, 37-45
GRI Standard not available	Not applicable	Qualification and quantification of quality and transformation initiatives	38-45
<b>Economic performance</b>			
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	103-2	The management approach and its components	45-47
	103-3	Evaluation of the management approach	45-47
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<b>Data and information security</b>			
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	49
	103-2	The management approach and its components	49
	103-3	Evaluation of the management approach	49
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	49
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	50-57
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GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	55
	404-3	Percentage of employees receiving regular performance and career development reviews	54

GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
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<b>Topic-Specific Standards</b>			
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	56-60
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	103-2	The management approach and its components	62-69
	103-3	Evaluation of the management approach	62-69
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GRI Standard	Disclosure Number	Disclosure Title	Page reference and reasons for omission, if applicable
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<b>Topic-Specific Standards</b>			
<b>Legal and regulatory compliance</b>			
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	67-69
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## ACKNOWLEDGEMENTS

The ***Boustead FY2019 Longevity Report*** would not be possible without the efforts of thousands of Boustead Men and Women who strived to deliver sustainable value and progress to multiple generations of key stakeholders and make a positive impact economically, environmentally and socially on the world over the past 191 years. We continue to live out the Boustead Group's mission and vision for key stakeholders and in memory of our founder, Mr Edward Boustead and our fellow team members who have passed on or retired. We are grateful to our former team members who ran this ultramarathon before us and are equally grateful to our current team members who chose to pick up the baton to continue running this ultramarathon today.

Certain infographic elements contained in "Nine Technologies of Industry 4.0" on page 41, "Industry 4.0 Future Feature: ALICE" on page 43 and "Industry 4.0 Future Feature: Smart World" on page 44 of this report are designed by Freepik.

**Boustead Singapore Limited Longevity Reporting Champion & Lead**  
Keith Chu, Senior Vice President of Corporate Marketing & Investor Relations

**Boustead Projects Limited Longevity Reporting Champion & Lead**  
Winson Teo, Manager of Corporate Marketing & Investor Relations

Compilation, copy writing, editing and production was completed by  
**Boustead Group Corporate Marketing & Investor Relations Team**