

SUSTAINABILITY

BOARD STATEMENT

The Board of Directors is pleased to present ST Engineering Sustainability Report 2019, which communicates our Environmental, Social and Governance (ESG) performance for the year.

We are committed to sustainability and incorporate ESG principles in developing our business strategies and managing our operations. Our executive compensation for senior management is also linked to our ESG key performance indicators.

ST Engineering is a successful global technology, defence and engineering group with good business fundamentals and strong corporate governance. We will continue to work on our sustainability initiatives, maintaining focus on the interests of our stakeholders, our impact on the environment and our commitment to operate responsibly in the wider global ecosystem. We will also continue to strengthen our role as an effective enabler of a sustainable world by using our technology and engineering solutions to solve real-world problems.

We continue to advance our sustainable practices towards long term value creation for the Group and our stakeholders. We have been reporting our sustainability efforts since 1997 and in 2011, evolved that into a sustainability segment within our annual report. In 2014, we produced our maiden Sustainability Report prepared in accordance with GRI Standards.

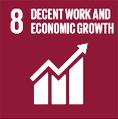
In 2016, ST Engineering Risk Review Committee formally included oversight of sustainability matters and was renamed the Risk and Sustainability Committee. In 2019, we deepened our commitment by identifying United Nations Sustainable Development Goals (UN SDGs) where we have material contributions to.

ABOUT SUSTAINABILITY REPORT 2019

- This report focuses on the sustainability practices of ST Engineering and addresses the material ESG factors of our operations.
- It is prepared in accordance with the GRI Standards: Core Option and is guided by the SGX Reporting Guide and the LBG Framework.
- Unless otherwise stated, data and activities reported here relate to Singapore operations which account for majority of our revenue.
- This report should be read in conjunction with the GRI Content Index and other information published in the sustainability section of our website at www.stengg.com.

SUPPORT OF UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Our sustainability agenda is aligned to the UN SDGs. We support all 17 goals and believe that we have a role to play in contributing to their achievement. Of these goals, we have identified six where we have more contributions in terms of our internal practices, and the products and services that we offer to our customers.

UN SDG	Why It Is More Relevant	UN SDG	Why It Is More Relevant	UN SDG	Why It Is More Relevant
	We provide decent jobs and contribute to the economic growth of the communities we operate in.		We leverage our technology and engineering expertise to help cities and communities be more sustainable.		We play our part to help address the global challenges of climate change.
	We focus on delivering innovative solutions to help build and upkeep land, sea, air, space and information infrastructure.		We stay lean and minimise the environmental impact of our operations.		We have a strong heritage in public security and have zero tolerance for unethical behaviours.

SUSTAINABILITY GOVERNANCE

ST Engineering’s Risk and Sustainability Committee (RSC) assists the Board in its sustainability governance responsibility. RSC’s role is one of oversight and responsibility for the ongoing management and monitoring of sustainability matters rests with management. The RSC approves the annual sustainability workplan and is updated on its progress and developments in its sittings.

The RSC is supported by the Risk and Assurance (R&A) function and the Business Excellence & Sustainability (BE&S) Council.

- The R&A function is accountable to the President & CEO for matters relating to governance, risk and compliance. It makes sure that ST Engineering manages its risks, stays in compliance with all legal and regulatory requirements where it operates and has the right governance and controls in place.

- The BE&S Council is chaired by the President & CEO and comprises five component committees covering the areas of Continuous Improvements, Corporate Social Responsibility, Environment, Quality and Total Workplace Safety & Health.

An objective of the BE&S Council is to ensure that the principles of high performing organisations and sustainability are incorporated into the business decision-making processes to achieve positive and sustainable outcomes for all stakeholders.



MATERIAL ESG FACTORS

Our Enterprise Risk Management Framework provides the backdrop upon which the sustainability materiality assessment was carried out and reviewed, with both financial and non-financial impact assessed against the Group’s risk tolerance limits and implications to our key stakeholders. In 2019, the material ESG factors were re-organised under the categories of environmental, social and governance and aligned with UN SDGs into ten areas for greater focus and clarity.



SUSTAINABILITY - MATERIAL ESG FACTORS

	Material Factor	Why is it Material	How Do We Manage
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Environmental</p>	<p>1. Environmental Protection</p> 	<p>Climate change is an issue of increasing urgency and importance. A low carbon business strategy is not only good for the environment but enables us to better respond to climate change regulations and price volatility of hydrocarbon resources.</p>	<p>Environmental efforts are coordinated by the Environment Committee. All material business units in Singapore are certified to ISO 14001 Environmental Management Systems. Our global operations abide by relevant environmental regulations and requirements.</p>
	<p>2. Productivity</p> 	<p>Staying lean, efficient and effective in our systems and processes to optimise the use of resources is fundamental to maintaining our competitive edge.</p>	<p>Productivity efforts are coordinated by the Continuous Improvement Committee. Embedded into day-to-day operations are initiatives such as Kaizen projects, quality action teams and value innovation teams. We empower employees to identify and eliminate wastes, and recognise exemplary contributions.</p>
	<p>3. Green Products & Services</p> 	<p>Cities and organisations around the world are increasingly looking to minimise their carbon footprint while reducing operating costs. We differentiate by introducing products and services of lower carbon footprint.</p>	<p>Our technology community looks actively into the design and development of products that are more sustainable in nature. Our engineers incorporate green considerations not just in the end products but also from the perspectives of responsible production and through-life support.</p>
 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Social</p>	<p>4. Economic Performance</p> 	<p>Inclusive growth and value creation for our Group and stakeholders are key to our long-term viability. We are committed to delivering a sustainable and balanced triple bottom line of people, planet and profits.</p>	<p>Our strategic planning community reviews the Group's strategy in light of global trends and developments. Our operational and support function teams focus on operational excellence to ensure smooth delivery of quality products and services that continue to add value for our stakeholders.</p>
	<p>5. Quality Products & Services</p> 	<p>For customers to rely on us to meet their operational needs, our products must not only be compliant with all relevant regulations and be safe to produce, operate and maintain, but also serve the intended purpose reliably over the product's lifecycle. The same apply to our services, which must meet our customers' requirements and be delivered responsively within the promised turnaround time.</p>	<p>Quality efforts are coordinated by the Quality Committee. All material operations in Singapore are certified to ISO 9001 Quality Management Systems. We design, manufacture and support our products in accordance with industry standards and meet all regulatory requirements. We actively work with our suppliers and collaborators to ensure quality of bought-in parts and services, and regularly seek feedback from our customers to strengthen our offerings.</p>

MATERIAL STAKEHOLDERS AND ENGAGEMENT

Shareholders & Investors

Shareholders and investors play a significant role in the financing and governance of our business. We maintain an effective investor relations outreach programme to engage the investing community.



Customers

Customer satisfaction is crucial to our success. We forge enduring relationships with our customers and make sure our products and services stay relevant, are safe and reliable, and meet their expectations through frequent engagements and multiple feedback channels.



Regulators & Governments

Disclosing pertinent information in a clear and concise manner on a timely basis, and keeping abreast of topics of concern to regulatory authorities are part of our commitment to good corporate governance. At the same time, we provide feedback as needed to regulators on new or revisions to regulations.



	Material Factor	Why is it Material	How Do We Manage
 Social	6. People Excellence 	We are only as strong as our people. With a capable, motivated and upward mobile workforce, we are able to strengthen our talent pipeline to pursue sustainable growth.	Our people and culture strategy seeks to enhance our capability and capacity for growth, build a passionate and engaged workforce, and position us at the forefront of people practices. This proposition is realised through talent attraction and management, career development, diversity and inclusion, reward system, work-life integration and harmonious union relations.
	7. Total Workplace Safety & Health 	We are committed to "Safety Before Profits". A safe and healthy workplace protects workers from injury, stress and illness, reduces absenteeism and turnover, increases productivity and quality, and raises employee morale. This duty of care extends to our visitors and supervised sub-contractors working within our premises.	Workplace safety and health efforts are coordinated by the Total Workplace Safety & Health Committee. All material business units in Singapore are certified to OHSAS 18001 Occupational Health and Safety Management. Our global operations abide by relevant workplace safety regulations and requirements.
	8. Responsible Procurement  	We believe in procuring responsibly to ensure a sustainable supply of goods and services to meet business needs. We are committed to managing our vendors ethically and effectively to ensure a robust supply chain.	Our procurement community champions the effective management of our vendors to align business behaviours, drive greater efficiencies, streamline processes and enable greater visibility. We work with our vendors to embed our principles of responsible procurement.
	9. Corporate Community Contributions 	We are committed to being a good corporate citizen where we operate. Making a positive impact on the communities we operate in is in line with our core value of compassion.	Corporate community contributions are coordinated by the Corporate Social Responsibility Committee. We reference the LBG framework to help us effectively measure, report and communicate our corporate community investments and philanthropy.
	10. Ethical Business & Regulatory Compliance 	We are subject to applicable laws and regulations of many jurisdictions and multiple industries. We comply with these laws and regulations to maintain our licences to operate. We have zero tolerance for fraud and corrupt practices and ensure we meet all relevant laws and regulations.	The R&A function oversees matters relating to governance, risk and compliance/controls. It has in place a regulatory compliance framework and continually trains our global workforce on our Code of Business Conduct and Ethics.

Employees & Other Workers

People are our most valuable asset. We focus our efforts in enhancing our capability and capacity for growth, strengthening a passionate and engaged workforce, and being at the forefront of people practices. We engage our people through open dialogues, continuous performance feedback, regular town halls and internal communications channels including our intranet.



Suppliers & Collaborators

Strong, ethical and mutually beneficial relationships with suppliers and collaborators are cornerstones of our business. We engage suppliers through our vendor management programmes and stay connected with collaborators through frequent exchanges.



Local Communities

Our operations generate employment, partnerships with local institutions, contracts for local small-medium enterprises and tax revenues for governments, which in turn develop the economy in our host communities. We protect our environment and contribute to our communities' well-being through our corporate community contributions.



2019 HIGHLIGHTS*

Green Energy

~890

equivalent of cars taken off road per year from 17 solar roofs

Paper Usage

~600

equivalent of pine trees saved from paper reduction initiatives over 2015 base year

GHG Emissions

39% reduction in GHG emission intensity over 2010 base year

Productivity Savings

\$23.2m

of realised productivity savings by operations

Training & Development

28hrs

of average training per employee for Singapore and North America workforce

Suppliers

100%

of new suppliers engaged on Vendor Code of Conduct

Safety Culture

151

workplace safety and health activities to promote safety culture

Corporate Community Contributions

\$3.8m

of total contributions to communities in Singapore and North America

Volunteerism

9,833hrs

of volunteer manhours clocked by Singapore and North America employees

* Refers to Singapore operations unless otherwise stated

SUSTAINABILITY - ENVIRONMENT

We recognise the increasing urgency and importance of combating climate change. We believe in conserving resources, reducing pollution and waste, and ensuring that our operations are conducted efficiently. We contribute to a more sustainable future by developing and deploying greener products and solutions.

1. ENVIRONMENTAL PROTECTION

Critical to the sustainability of our business is the ability to successfully forge a symbiotic relationship with our environment. In 2019, our Singapore operations achieved a reduction of 39% in Greenhouse Gas (GHG) emission intensity, which surpassed our target of 36% reduction on a business-as-usual basis by 2030 with 2010 as base year. We will be reviewing our target going forward. Our GHG inventory is audited by an external accredited agency in accordance with ISO 14064-1:2006.

We continue to build on what we started in 2014 and are adding three additional solar roofs to our facilities for a total system capacity of 11.15 GWh of clean energy. The 20 solar roofs installed across our businesses would account for about 10% of our electricity requirement and is equivalent to planting about 210,000 trees to offset 4,500 tonnes of carbon annually.

We also replaced lightings in our aircraft hangars in the U.S. with energy-saving LED bulbs during the year. This is in line with U.S. operation's 2020 goal of reducing energy consumption and GHG emissions by 15%, with 2015 as base year.

In 2019, we improved the way we track water usage and monitor pipe leakages. We achieved a 14% reduction in water consumption intensity for our Singapore operations from our 2015 baseline. As this is close to our target of 15% reduction on a business-as-usual basis by 2025, we will be reviewing our target moving forward.

This year, our Singapore operations also tracked their waste recycled. We enhanced our Reduce, Reuse and Recycle (3R) initiatives, reducing paper usage through digitisation efforts, re-using wooden pallets, and recycling waste oil and e-waste. We also consolidated our waste disposal requirements for greater economies of scale.

Greening Our Environment

Over 300 hibiscus bushes were planted in 2019 during the Singapore's annual Clean and Green Week, bringing to a total of 24,002 trees and shrubs planted since 2008.



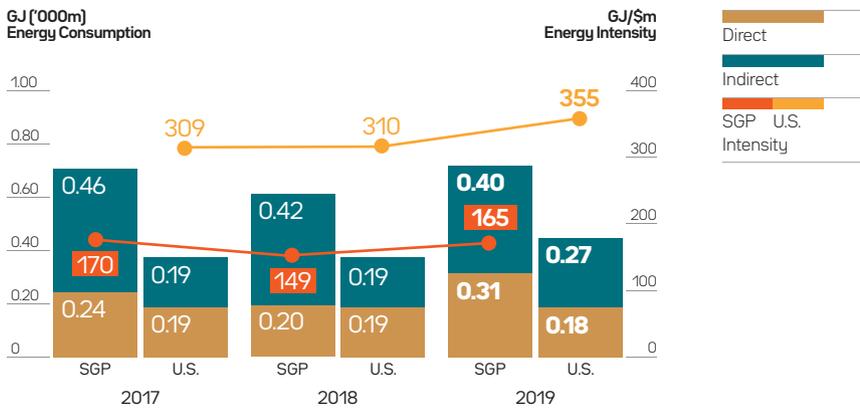
Roseli Rasiman from Land Systems sector received the Singapore's Community In Bloom Ambassador Award for his time, effort and resources put into regular and active engagement with the community to facilitate gardening-based initiatives.



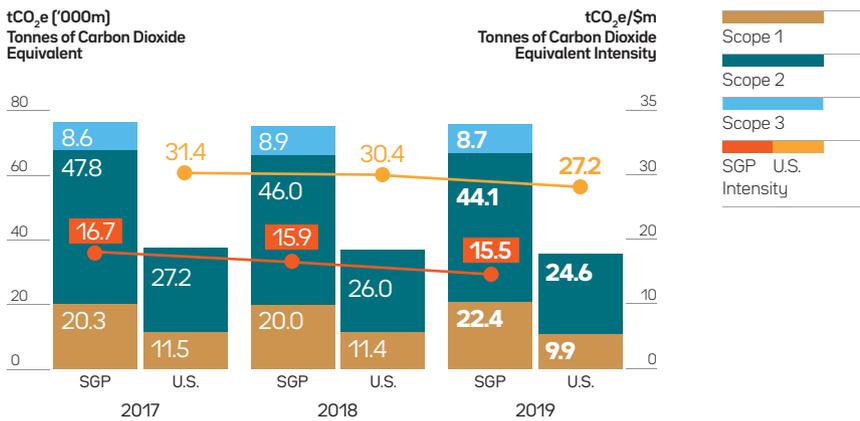
We participated in JTC's green initiative, GROW@SAP, and joined other aviation industry participants to plant trees and enhance the natural greenery and environmental charm of Seletar Aerospace Park in Singapore.

SUSTAINABILITY - ENVIRONMENT

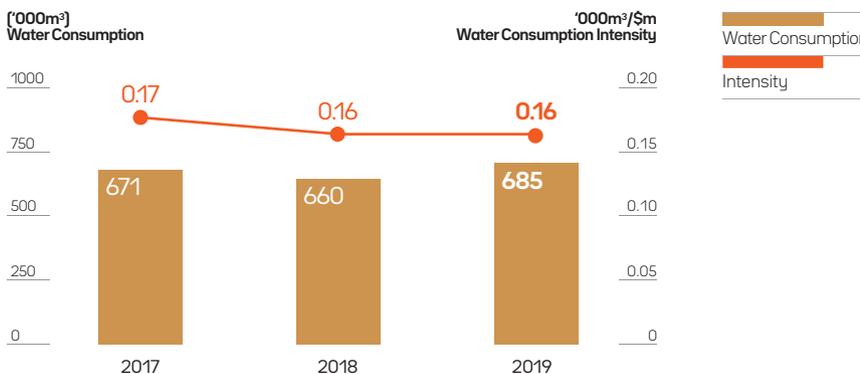
ENERGY CONSUMPTION AND INTENSITY



GHG EMISSIONS AND INTENSITY



WATER CONSUMPTION AND INTENSITY (SGP)



Notes:

1. SGP: Material Singapore operations
2. U.S.: Material U.S. operations less 2019 acquisitions
3. Scope 1: Direct GHG emissions from sources owned or controlled by the Group
4. Scope 2: Indirect GHG emissions from the generation of purchased electricity consumed
5. Scope 3: Indirect GHG emissions from business travels by air; only for Singapore operations
6. GHG emissions intensity figures are computed based on Scope 1 and 2 emissions
7. Only figures for energy consumption and GHG emissions from Singapore operations are externally audited; figures for 2018 were restated as a result of audit; 2019 figures are yet to be audited
8. Both GHG emission and water intensity figures for Singapore operations are normalised using revenue from Asia, of which Singapore is a significant contributor

WHAT WE DID IN 2019

- Enhanced 3R initiatives.
- Committed to three additional solar roofs.
- Achieved 2030 reduction target for GHG emission intensity and continued to work towards 2025 water consumption intensity target.

WHAT WE WILL DO IN 2020

- Review GHG emission intensity reduction target.
- Review water consumption intensity reduction target.

2. PRODUCTIVITY

The pursuit of higher efficiencies and effectiveness is integrated into our day-to-day operations as part of our drive towards responsible consumption and production.

A Continuous Improvement Committee was set up in 2019 to consolidate Group-wide continuous improvement activities. It serves to drive improvements in systems and processes as well as promote and share, and where relevant, align and implement best practices to raise productivity across the Group.

In 2019, the Group achieved a value added per employment cost of 1.52 for its global operations. This is an improvement from 1.46 in 2018. The Group also achieved realised productivity savings of \$23.2m from continuous improvement projects in our Singapore operations. This does not include realised savings from the Group's Central Procurement initiatives which saved another \$26.4m.

Our support functions continued to roll out enhanced systems and processes in areas such as performance management,

vendor management and invoicing. In addition, we embarked on additional Robotic Process Automation projects including automation of ERP system accounts update which saved about 2,000 manhours per year, and automation of financial reconciliation statements preparation which saved about 4,000 manhours annually.

At the operating level, our business sectors continued to use continuous improvement tools such as Kaizen and Value Stream Mapping to improve their work processes. A key initiative introduced in 2019 was Lean knowledge training. E-learning modules for 5S Housekeeping and Kaizen were prioritised and developed to be rolled out for over 4,000 employees.

Eight teams participated in our annual Team Excellence Convention which serves to promote and recognise teams that demonstrated excellence in creating value and raising productivity through creativity and the use of technology, innovation and continuous improvement tools. Winners were recognised at our annual Business Excellence Seminar.



Making Power & Water Flow Meters Smart

One of our Kaizen projects in 2019 was to improve efficiency in the collection of readings from power and water flow meters at our shipyards in Singapore. The project incorporated Industry 4.0 concepts and achieved almost 50% reduction in cycle time and manhours. Data is now directly transmitted for real-time monitoring of power consumption for critical equipment, water usage and pipe leakages. Besides greater efficiency, the improved system minimised human errors and reduced tripping associated with technicians performing manual water flow readings.

WHAT WE DID IN 2019

- Rolled out e-initiatives and e-learning modules.
- Achieved \$23.2m in realised productivity savings.
- Achieved value added per employment cost of 1.52 for our global operations.

WHAT WE WILL DO IN 2020

- Maintain efforts to realise productivity savings through continuous improvement initiatives.
- Continue to focus on improving value added per employment cost.

SUSTAINABILITY - ENVIRONMENT

3. GREEN PRODUCTS & SERVICES

Climate change brings about both challenges and opportunities. Cities and organisations around the world are increasingly looking to reduce their environmental impact with more energy-efficient products and ways to manage their resources more efficiently.

ST Engineering's portfolio of green solutions symbolises our steadfast commitment to environmental-friendly

innovations and represents our biggest contribution to climate change mitigation. Our suite of smart city solutions, for example, make cities more connected, more efficient, more secure and more liveable. We have deployed over 700 projects across more than 130 cities. We solve challenges from road congestion to physical and cybersecurity threats, as well as energy inefficiency and utility wastage. Our solutions help our customers increase operational efficiency and contribute towards safer and more liveable environments.

Improving Energy Efficiency of Street Lights

With more than 22 years of experience in machine-to-machine technologies, we are recognised as a global leader in the delivery of smart outdoor lighting control systems. These solutions are not only cost effective and more reliable, but can also reduce annual operating costs by up to 20% as they allow full control of individual and groups of street lighting luminosity in response to changing environmental conditions, resulting

in energy savings. In addition, the systems provide real-time data for proactive maintenance and outage management, increasing public safety and improving customer satisfaction. In 2019, the Group was awarded multiple contracts to provide smart city platforms to remotely control and monitor street lights. This includes contracts for 61,000 streetlights in Cleveland, U.S. and 50,000 each in Georgia, U.S. and Auckland, New Zealand.



Collaborating on Green End-Of-Life Solution for Aircraft

We are collaborating with Fraunhofer, Europe's leading application-oriented research organisation on research projects concerning aircraft component overhaul, composite repair, and recycling of carbon materials. Fraunhofer and its university partners would develop the technologies for components re-manufacturing, fibre reinforced structures recycling and carbon fibres production from used aircraft parts. We would act as an

industrial partner to evaluate the economic viability of the new pilot lines which include the use of artificial intelligence to correctly sort plastics, and a complete value added chain from converting used aircraft parts to carbon fibres which would then be used to make new parts. This would position us at the forefront of aircraft parts recycling, and could potentially expand our offering to include end-of-life solution.

Reducing Shipping Emissions

The global maritime industry is moving towards lower emissions, with International Maritime Organisation 2020's 0.5% sulphur cap as an example of this green movement. Our U.S. shipyard delivered in 2018, a pair of world's first LNG-powered combination Container Roll-On/Roll-Off ships, with main propulsion and auxiliary engines fuelled by the more environmentally-friendly LNG. These ships set a new standard for responsible shipping and were named the 2019 Boat of the Year award at the International WorkBoat Show 2019.

Meanwhile, we obtained certification for the design of our LNG 2000 Roll-On/Roll-Off passenger ship. With dual-fuel LNG engines, this vessel would be fully compliant with the latest emission standards, and able to operate in all emission control areas. Other green technologies that can be deployed onboard include a waste heat recovery system, more fuel efficient hybrid propulsion systems and an optimised hull designed to improve fuel efficiency.





Contributing to Greener Land Transportation

Besides our smart mobility solutions in rail and road traffic management, we have capabilities in the development of autonomous vehicles and robots, conversion of internal combustion engine vehicles to electric, and the delivery, maintenance and repair of hybrid electric and full electric vehicles. The Group has comprehensive maintenance agreements with taxi

and private hire companies for regular servicing of their green fleet and would be delivering 20 electric buses in 2020 to run on Singapore roads. We also offer a family of electric trucks and vans to be used in areas such as waste collection and deliveries. Full electric vehicles have zero on-board exhaust emissions and are quieter, contributing to a cleaner and more tranquil urban environment.

Keeping Aircraft Engines Fuel Efficient

We provide on-wing aircraft engine wash through our EcoPower wash system. Compared to traditional wash methods, our on-wing engine wash has significantly better performance recovery and there is no contamination of the engine and cabin air system. The wash water is also recycled. Our customers typically wash each engine two or more times per year, keeping engines clean with low operating temperatures and optimal fuel efficiency. In 2019, we performed 10,387 engine washes for over 90 customers.



Cooling City Spaces with Less Energy

With no compressors or chemical refrigerants, the Airbitat City Cooler delivers sustainable deep cooling for outdoor spaces without waste heat generation and consumes up to 80% less electricity than air-conditioning of a similar capacity. It is built with smart operations, detecting ambient conditions and automatically switches between Fan Mode and Boost Mode, reducing unnecessary energy expenditure. Its Reevac[®] Deep Cooling technology is particularly evident in high heat and relatively low humidity conditions in Western Australia, where when deployed, delivered more than 20°C temperature drop from 43°C, outperforming conventional evaporative cooling solutions in the market. In 2019, besides growing the customer base in Singapore and Australia, Airbitat City Coolers were installed in urban spaces in Bangladesh, India, Japan, Malaysia, UAE and the U.S..

Dr Li Fuyun, Head of Engineering at Innosparks was recognised at the Singapore Green Building Council – Building and Construction Authority's Sustainability Leadership Awards 2019. Lauded for his work on the Airbitat City Cooler, as well as his continued efforts in developing energy-efficient, sustainable cooling technologies for buildings, he was awarded the Young Green Innovator Award.



WHAT WE DID IN 2019

- Continued to innovate green solutions such as ultra-light SPACElite II aircraft seats and Smart Junction urban traffic signal control system.
- Continued to make use of analytics for predictive maintenance of our products to minimise downtime and ensure optimal operations.

WHAT WE WILL DO IN 2020

- Enhance tracking of R&D investments in green products and services.
- Increase emphasis on sustainability considerations in the design and development of products and services.

SUSTAINABILITY - SOCIAL

We have an obligation to our stakeholders to remain as a vibrant sustainable enterprise. Fair compensation, people development, safety and health of our employees are important to us. In addition, we adhere to labour laws and regulations wherever we operate and have zero tolerance for unethical labour practices such as child labour, forced labour, slavery and human trafficking in any of our operations. We anticipate customers' requirements, deliver quality products and services, source responsibly and invest in communities where we operate.

4. ECONOMIC PERFORMANCE

Creating shared value for our stakeholders is essential to ST Engineering's success. This is why our ESG focus centres on minimising the impact of our business activities on the environment, delivering greener products and services, creating decent employment, building supportive industry clusters where we operate in, giving back to communities and fostering a strong ethical business and regulatory compliance culture. We are committed to delivering sustainable, inclusive growth for our stakeholders and achieving a balanced triple bottom line of social responsibility (People), environmental impact (Planet) and economic value (Profits) so that the needs of the future are also considered and addressed today.

In 2019, we strengthened our core businesses, made three acquisitions, entered new markets and expanded our customer base. We continued to invest in our people, build more capabilities with our collaborators and strengthen our ties with the communities where we operate. In addition, the Group generated employment, opportunities for suppliers, returns to providers of capital and tax revenues for governments to the tune of \$7.4b.

Gearing Up for Sustainable Growth

To gear up for the fast-evolving economy, we have been collaborating with tertiary institutions to deepen the skillsets of our employees. Over the last two years, about 2,500 employees have attended data analytics, design innovation, cybersecurity, robotics and digital transformation, artificial intelligence and Internet of Things courses offered by institutes of higher learning including National University of Singapore, Singapore Polytechnic and Singapore University of Technology and Design (SUTD).



Group's Economic Contributions	Amount (\$m)
Bought-in material and services	4,460
Employee wages, salaries and benefits	2,291
Dividends and interest paid	513
Government taxes and levies	124

Further information relating to our economic performance can be found in the Performance Review and Financial Report of this Annual Report.

WHAT WE DID IN 2019

- Delivered \$7.4b in economic contributions to society.
- Expanded the Group's business through the acquisitions of MRAS, Newtec Group and Glowlink Communications.

WHAT WE WILL DO IN 2020

- Continue to deliver sustainable economic contributions to society through sound execution of our strategy.

5. QUALITY PRODUCTS & SERVICES

We are committed to the timely delivery and responsive support of products that remain safe and reliable for their intended use, and the provision of services that meet regulatory standards and satisfy our customers' requirements. Majority of our operations are ISO 9001 certified and all abide by the requirements of their industry regulatory bodies. Ensuring consistently high quality of products and services is a pivotal part of our work.

In 2019, we formed a Quality Committee to harmonise and continually improve our framework to ensure we meet our customers' expectations and adhere to applicable regulations and international standards. The Committee also serves to promote, align and implement best practices relating to product safety, and the timely delivery of value-adding services.

The Quality Committee organised the first Quality Seminar on 14 November to coincide with World Quality Day. Designed to be an annual resident event in the Committee's calendar, the Group's Quality professionals convened to share best practices and ideas towards producing safer and more reliable solutions for our customers. Topics presented include Quality Management Systems, Quality Assurance and Quality Control under the theme "Quality and Digitisation".

During the year, our engineers presented technical papers at various systems safety events such as World Congress on Resilience, Reliability and Asset Management and the 10th MINDEF System Safety Seminar. 57 of our employees also deepened their systems safety knowledge through a Safety Critical Systems Development Course conducted by the University of Glasgow.



Enabling Safe, Reliable & Efficient Train Services

We are one of the top global Platform Screen Door (PSD) suppliers with Safety Integrity Level 3 certification. In 2019, the Group launched the world's first Variable Pitch PSD (VP-PSD) that enables train operators to deliver enhanced commuter safety and comfort. Targeted at cities in Australia, Europe and the U.S. equipped with metro lines serving multiple train types that are unable to install traditional PSDs, the VP-PSD can seamlessly detect any train door's correct stop position

before the train arrives at the station. The solution serves as a safety barrier, preventing commuters from falling onto the train tracks. In addition to safety indicators that alert commuters on door opening and closure, the VP-PSD also features a finger gap sensor to prevent fingers from getting trapped between the doors. This solution underscores ST Engineering's commitment in delivering safe, reliable and efficient train services for global commuters.

Using 3D Printing to Uphold Quality

Apart from working with our airline partners to 3D-print aircraft cabin parts, we started using in-house 3D printing to enhance productivity and uphold the quality of our MRO services. In 2019, 3D printing was used to meet operational requirements in areas such as:

- Rapid development of work aids like centering guides to ensure proper alignment, and aircraft light assembly fixture to ensure correct assembly.
- Fast production of masking plugs, masking covers, bolt collectors and probe holders to prevent foreign object ingestion and damage.
- Quick prototyping for test box and display panels.



WHAT WE DID IN 2019

- Streamlined and standardised SOP and Policy document numbering system and format.
- Organised inaugural Quality Seminar where Quality professionals gathered and shared best practices.

WHAT WE WILL DO IN 2020

- Continue efforts to improve customer satisfaction.
- Continue to share best practices and implement continuous improvement initiatives.

SUSTAINABILITY

- SOCIAL

6. PEOPLE EXCELLENCE

As we forge ahead in our quest to strengthen our core business and pursue growth opportunities, people and culture remain a top priority.

The advent of Industrial 4.0 has disrupted the way people live, work and learn. We recognise that the face of learning has become personalised, targeted, bite-sized, on demand, on-the-go and lifelong in approach. We also recognise that the way we learn must change in tandem with these emerging trends. Building on the initiatives launched in 2018, we deepened our focus in developing more enterprise-wide programmes on leadership development, talent management, succession planning, performance management and total rewards.

We sustained our momentum into 2019 with continued efforts to execute our People Strategy across three core areas.

Enhancing Capability and Capacity for Growth

- Implemented our full suite of Leadership Development Programmes, anchored on our leadership dimensions, strategic priorities and core values
- Launched ST Engineering's Global Leaders Development Programme
- Launched digitalised learning to offer personalised, bite-sized, on-demand and mobile learning opportunities
- Introduced Learning Reinforcements to some of our learning programmes, including pre-and post-programme measurements to assess change in knowledge, abilities and behaviour

Strengthening a Passionate and Engaged Workforce

- Continued efforts on employee engagement with focus on Empowerment and Collaboration
- Launched Women@ST Engineering on International Women's Day
- Enhanced the Group's performance scorecard framework
- Implemented an integrated Performance Management System

Being at the Forefront of People Practices

- Initiated roll-out of enterprise human resource management system
- Reviewed the new Share Plans 2020

In addition, in support of our commitment towards diversity and inclusion, we augmented our suite of diversity-friendly initiatives in 2019 through:

- Enhancements to our hiring practices to attract more women with background in STEM (Science, Technology, Engineering and Mathematics)
- Addition of diversity and inclusion topics in our training, mentoring and networking programmes
- Enrichment of our work-life integration initiatives to better engage and retain a more diversified workforce

Promoting Gender Diversity through Women@ST Engineering

We embrace gender diversity and believe that diversity drives innovation, and makes for a compelling talent attraction and employer value proposition.

Women@ST Engineering was launched in 2019 to enable our women to achieve their full potential in careers as individuals and leaders, and meaningfully fulfil work-life commitments and integration into the Group.

Key milestones in Singapore include:

- Introduction of paid family care leave in support of work-life integration
- Set up of nursing support facilities across our various offices
- Launch of a development event to inspire confident speaking in public
- Support for Breast Cancer Awareness month with free mammograms and health awareness talks for employees
- Collaboration with other technology companies to launch Singapore's first MentorConnect programme dedicated to diversity and inclusion in the workplace
- Sharing of life stories of female colleagues across business sectors and disciplines



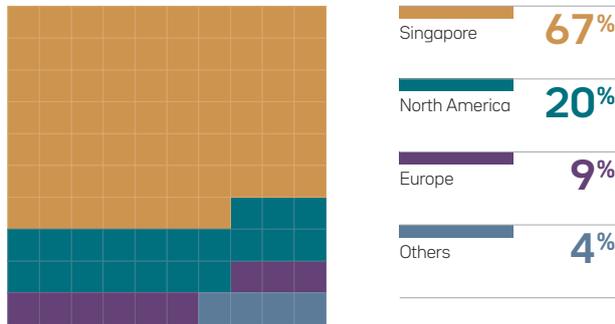
WHAT WE DID IN 2019

- Launched Global Leaders Development Programme.
- Launched digitalised learning.

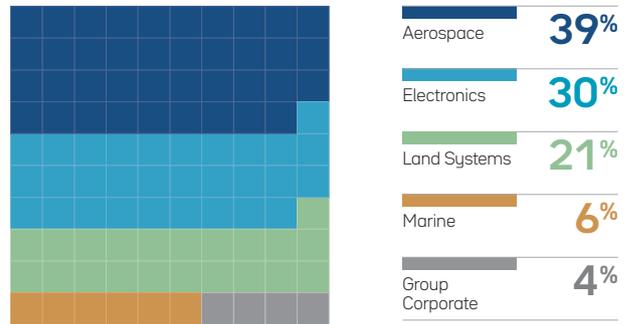
WHAT WE WILL DO IN 2020

- Expand global footprint of our people practices.
- Position our employees for the future of work.

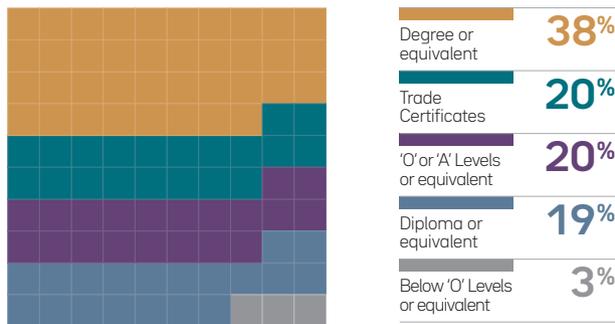
EMPLOYEES BY GEOGRAPHY*



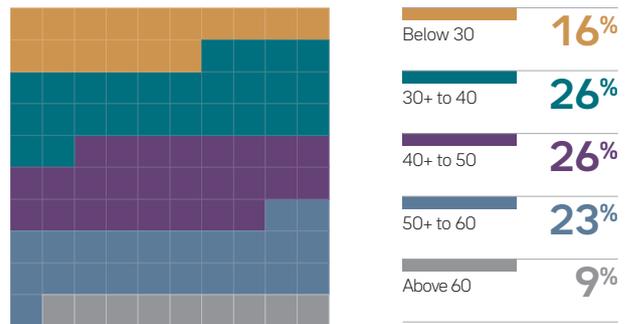
EMPLOYEES BY SECTORS*



EMPLOYEES BY QUALIFICATION*



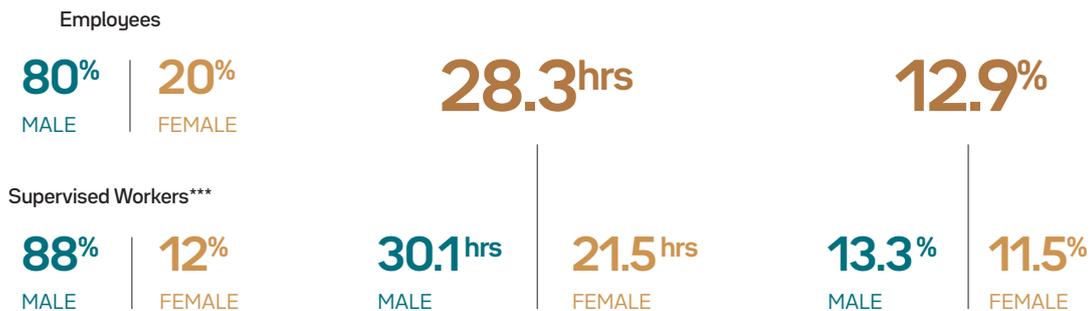
EMPLOYEES BY AGE*



WORKFORCE PROFILE**

AVERAGE TRAINING HOURS PER EMPLOYEE**

TURNOVER RATE**



Notes:

* Based on the Group's average staff strength of 22,494, the majority of whom are permanent employees

** Based on the Group's Singapore and North America average staff strength, less 2019 acquisitions

*** Supervised workers refer to workers hired through local contractors - they are on short-term contracts, work in the Group's facilities and are supervised by ST Engineering

SUSTAINABILITY - SOCIAL

7. TOTAL WORKPLACE SAFETY & HEALTH

We are committed to "Safety before Profits". We promote healthy lifestyles and prevent injuries and occupational illnesses through proactive risk assessment and mitigation.

This year, we consolidated our safety and health efforts under a Total Workplace Safety and Health (TWSH) Committee which not only looks at workplace safety and health but also promotes physical, emotional and social health for an energetic workforce. The Committee meets at least quarterly to monitor management system performance as well as review and update strategies.

In 2019, the Committee enhanced the Workplace Incident Reporting System developed last year to track near-misses and enable incident reporting on a common platform for Singapore operations. Other digitisation initiatives launched include the development of an e-Statutory Compliance Monitoring System to monitor the expiration of statutory licenses, permits and certificates; and the Workplace Hazards Reporting System, a mobile application which allows employees to report safety hazards and unsafe acts so that corrective and preventive actions can be taken quickly.

During the course of the year, the Committee also worked with various stakeholders to streamline a Return-to-Work programme to facilitate colleagues who are injured or medically unfit to progressively return to the workplace.

Since June 2017, we have put in place a network of Carer Support Teams should disaster of one form or another strike. So far, 24 employees in Singapore have been trained as carers to provide mental health first aid as needed.



Improving Safety While Enabling Aging Workforce

The process to replace the 24 torsion bushes of each Bronco All Terrain Tracked Carrier is labour intensive and time consuming. It requires two technicians and relies on their skills and eyesight for proper alignment of a high-pressure hydraulic cylinder to the centre of the bush holding. Our engineers made use of robotics and automation to replace the tedious and repetitive parts of the job. This reduces manpower needed to one, improves productivity by eight times, eliminates exposure to the hazards of a high-pressure cylinder and enables our older workers to stay productive.



Taking Time to Care About Safety and Health

Over 130 management, employees and safety practitioners attended the inaugural ST Engineering Safety Seminar in October. TWSH Committee Chairman gave an update on the year's safety performance and reminded all to guard against complacency. External speakers were invited to talk about prevention of slips, trips and fall accidents at workplaces, Return-to-Work programme and the new ISO 45001 standard on workplace safety and health management system.

WHAT WE DID IN 2019

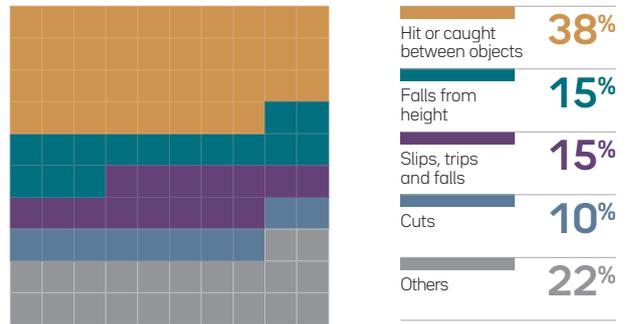
- Enhanced Workplace Incident Reporting System and launched Workplace Hazards Reporting System to make it easier for employees to highlight safety incidents and hazards.
- Extended health and safety reporting to include all material entities, covering accident frequency and accident severity rates.

WHAT WE WILL DO IN 2020

- Continue efforts to reduce accident frequency and severity rates.
- Roll out harmonised Return-to-Work programme.

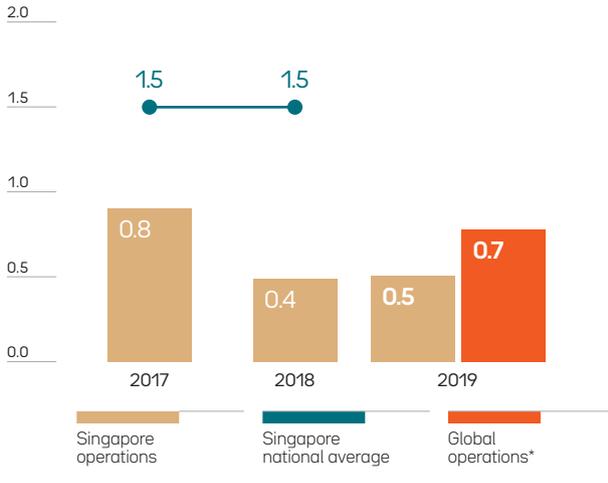
This year, we have included safety performance statistics from all material entities outside of Singapore in our safety reporting. As a result, our Accident Frequency Rate (AFR) has increased from 0.4 to 0.71 due to 17 incidents from our overseas entities. If we exclude the overseas entities, the AFR would be 0.53 which is the second lowest for the last five years. As for Group-wide Accident Severity Rate (ASR), it has decreased from 151.1 to 14.65 as there was no major or fatal incident in 2019. The ASR for Singapore operations was 11.6, which is the lowest in five years.

ACCIDENT CAUSES*



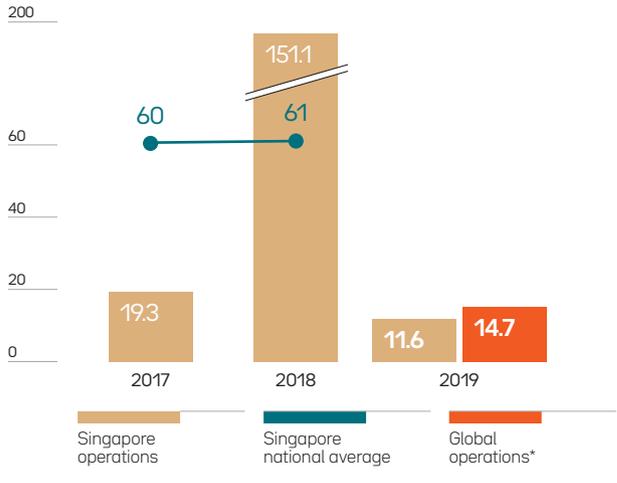
ACCIDENT FREQUENCY RATE

Number of accidents per million manhours worked



ACCIDENT SEVERITY RATE

Number of man-days lost per million manhours worked



Singapore's Ministry of Manpower stopped publishing national average data points related to Accident Frequency Rate and Accident Severity Rate in 2019.

OCCUPATIONAL HEALTH PERFORMANCE INDICATORS**

151
 WORKPLACE SAFETY AND HEALTH ACTIVITIES ORGANISED

100%
 AT-RISK STAFF WHO ATTENDED RESPIRATORY PROTECTION TRAINING

0
 NEW ADVANCED NOISE-INDUCED DEAFNESS CASES

100%
 AT-RISK STAFF WHO ATTENDED AUDIOMETRIC EXAMINATION

0
 NEW OCCUPATIONAL DISEASE CASES (excluding noise induced deafness cases)

* Includes Singapore and material global operations, less 2019 acquisitions

** Refers to Singapore operations only

SUSTAINABILITY - SOCIAL

8. RESPONSIBLE PROCUREMENT

We are committed to procuring ethically and responsibly to ensure a sustainable supply of goods and services to meet our business needs. We recognise our dependency on our suppliers for the timely delivery of quality products and services, and actively manage these relationships.

In 2019, we refined our Responsible Procurement Framework, comprising three pillars of Vendor Conduct, Vendor Management and Vendor Relationship. The Vendor Conduct pillar is aligned to our sustainability agenda, defines our principles and policies, and lays down the basic behaviours and practices in a Vendor Code of Conduct (Vendor Code) that we require of our suppliers concerning their responsibilities towards their stakeholders and the environment.

The Vendor Management pillar streamlines the systems and processes we employ to screen, onboard and assess the performance of our vendors, giving them a consistent

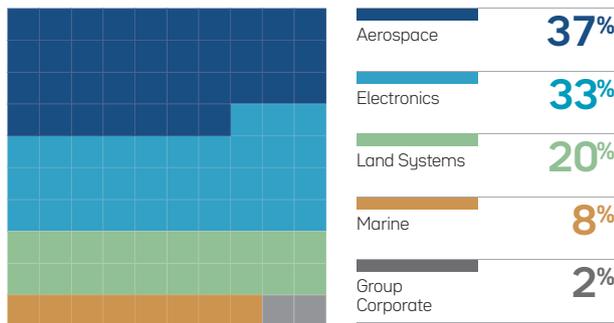
experience working with the Group. We have in 2019, screened 100% of new vendors based on our revised vendor screening criteria which incorporates our Vendor Code.

For the Vendor Relationship pillar, we have segmented our vendors based on profit impact and supplier risks into four categories; namely strategic, leverage, bottleneck and non-critical. In 2019, we reviewed the performance of our strategic vendors based upon our Vendor Code to identify areas for improvement. We will continue to review the other categories of vendors and enhance our vendor relationship processes in 2020.

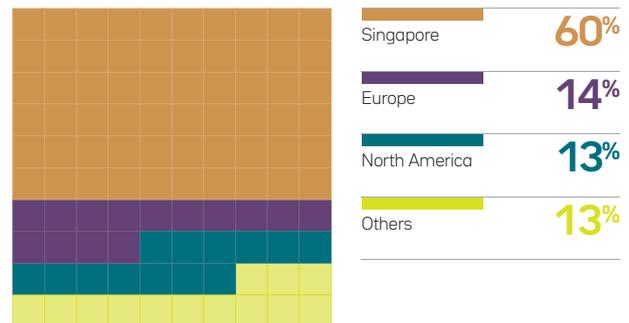
Total Purchase Value



DISTRIBUTION OF PURCHASES BY BUSINESS SECTORS*



DISTRIBUTION OF PURCHASES BY GEOGRAPHICAL LOCATIONS*



* For Singapore operations only

RESPONSIBLE PROCUREMENT FRAMEWORK



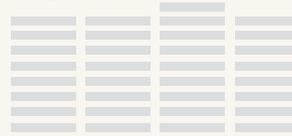
Reducing Paper Usage

In support of the Group's drive towards reducing paper usage, the procurement community consolidated printing devices for our Singapore operations under a single Multi-Function Device Print Solution over a number of years. Despite growth in our business, the Singapore operations reduced paper printing by 9%, from 63.9 million in 2015 base year to 57.7 million in 2019, through raising awareness and other initiatives such as our electronic payment process. This project alone has reduced at least 1 million sheets of paper in 2019. In addition, we have also made a switch to use Forest Stewardship Council paper in Singapore.

New e-payment process

reduced printing of more than

1 million
sheets of paper
in 2019



roughly equivalent to
100 pine trees



Contributing to Singapore's Economic Growth

We generate employment for a significant number of small-medium enterprises (SMEs), contributing to the economic growth and employment rate in Singapore. We estimate that 24% of our total purchase value of \$3.5b from Singapore operations in 2019 was awarded to SMEs. As an example, the Hunter programme involves more than 100 Singapore SMEs with a combined workforce of about 2,000, producing 1,400 parts for each vehicle. Many of our SME partners have grown in scale and capabilities in their journey with us.

WHAT WE DID IN 2019

- Harmonised vendor management processes.
- Launched Vendor Code of Conduct with all new vendors.

WHAT WE WILL DO IN 2020

- Roll out Vendor Relationship Management process for direct procurement.
- Track key suppliers for Quality, Environmental, and Occupational Health and Safety Management Systems.

SUSTAINABILITY - SOCIAL

9. CORPORATE COMMUNITY CONTRIBUTIONS

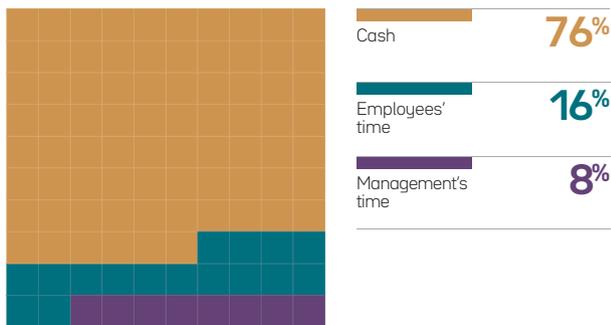
We take pride in being a responsible corporate citizen, investing time and resources to make a positive impact to the communities that we operate in. We actively promote a giving culture through corporate initiatives and volunteerism amongst our employees.

Besides charitable gifts, we also invest in our communities to address social issues relevant to us and the communities, and support business-related commercial initiatives that also deliver benefits to the communities at large.

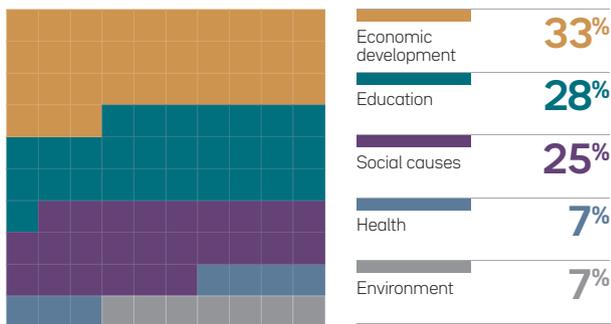
Community Contributions*



OUR CONTRIBUTIONS***



ISSUES ADDRESSED***



* Contributions from Singapore and North America; LBG framework was referenced to measure community contributions and issues addressed

** Unleveraged contributions are from the company while leveraged contributions are those from our employees as a result of the company's encouragement or support

*** Refers to unleveraged contributions only

Charitable Gifts



- a. SG Ambassador Buddy Programme
- b. Volunteering at SPCA
- c. Distribution of Prosperity Bags with Community Chest
- d. Santa Wears a Badge programme in Pascagoula, U.S.



2,455

Meals delivered in partnership with Touch Community's Meals-on-Wheel volunteer programme



> 45,000

Singapore citizens above 60 years old have benefited since 2018 from Project Silver Screen where ST Engineering is contributing \$1m over five years, starting 2018

For the 20th consecutive year, we supported the President's Challenge, contributing a total of \$250,000 through both employees and Group contributions. Collectively, the Group and its employees have contributed more than \$7.7m since 2000 to this cause which in 2019, benefitted 67 charities.

We maintained our support for SHARE, Singapore's Community Chest's monthly giving programme, for the 36th year and encouraged more new and existing employees to sign up or increase their monthly contributions based on their means. Our employees contributed more than \$640,000 over a 12-month period in 2018/2019. For our effort in supporting this programme, the Group was awarded the Charity Platinum Award at the Community Chest Awards 2019.

> \$640,000

Contributed to SHARE programme

2019 marked the second year of our support for Project Silver Screen, a partnership between Temasek Foundation, Ministry of Health and corporate partners to provide basic functional screening of vision, oral and dental health at subsidised rates.

We reaffirmed our commitment to engage and support our community in 2019 through TOUCH Community Services' Meals-on-Wheels programme, where 520 of our colleagues dedicated over 2,000 manhours to deliver 2,455 food packages across Singapore.

Our North America operations also continued to support their local communities through volunteer time at local food banks, walks to raise money for the American Heart Association, and monetary donations to various organisations such as Special Olympics, United Way and many others.



\$1.6m

contributed progressively by ST Engineering beginning 2012 in sponsorship of Gardens by the Bay's Cloud Forest Gallery and Cloud Forest Theatre which have since welcomed

18m visitors

SUSTAINABILITY - SOCIAL

Community Investments & Commercial Initiatives

We direct our community investments and commercial initiatives through the twin focus areas of "enriching lives through education" and "touching lives through engineering".

Enriching Lives Through Education

Education is the most compelling way to create positive and sustainable change for a better future. We work with partners and collaborators to provide opportunities so that lives can be enriched and uplifted.

- **STEM Education:**

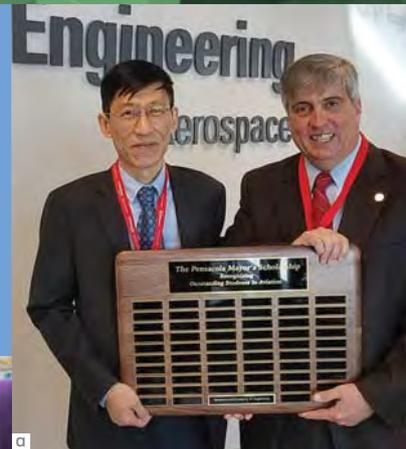
Besides book prizes and scholarships, we contribute to the Singapore STEM education scene through our support of internships and R&D collaborations with institutes of higher learning. In 2019, we offered a total of 1,136 internship positions for technical and engineering students. Since 2015, our two co-funded Corporate Laboratories with the Nanyang Technological University (NTU) and SUTD have created research opportunities for 34 PhD students, two MSc students and 10 interns. In addition, we supported the growing aviation industry in Pensacola, Florida, U.S., with the set up of the Pensacola Mayor's Scholarship for outstanding individuals accepted into aviation related post-secondary educational programmes.

- **Adult Education:**

We supported the NTUC Education and Training Fund for the second year with grants of \$250,000 as part of a four-year commitment to donate \$1m. This fund serves to uplift working Singaporeans through training and education by providing subsidies for skills upgrading and re-skilling. Together with donations from other sponsors, this fund has benefitted over 45,000 NTUC members since 2018.

- **Youth Education:**

We have been partnering the Assumption Pathway School (APS) since 2013, providing its students with academic awards, financial assistance and internship opportunities at its warehousing operations. Over the period, the Group has welcomed 140 students as interns and helped them gain industry knowledge and hone their workplace competency.



- Pensacola Mayor's Scholarship Programme
- Mooncake baking at APS
- Industrial Experiential Programme for students of APS
- Introducing the science of flying to students from Society for the Physically Disabled
- Launch of AIR* Kids N95 Kids Mask

46

Graduate students and interns who have benefitted from projects arising from ST Engineering co-funded Corporate Labs in NTU and SUTD since 2015 and 2016 respectively



Touching Lives Through Engineering

As a technology, defence and engineering group, we have the innovative and creative expertise to deliver solutions to enhance living for communities at large as well as those with special needs.

- **Assist Elderly and Persons with Disabilities (PWDs):**

We have been promoting the use of assistive technology to help elderlies and PWDs through the sponsorship of the ST Engineering Enabling Technology Centre in partnership with SG Enable. In the four years since its launch in October 2015, 24,255 visitors have visited the centre, 1,175 clients have been assessed and 2,360 training courses have been organised. The Group also supported the annual Institution of Engineers Singapore's Innovation Challenge where university and polytechnic students pitch their projects to help solve problems faced by elderlies and PWDs.

- **Promote Innovation:**

In 2019, we organised a Hackathon competition in conjunction with the InnoTech Conference, where we partnered with tertiary institutions for students to pitch ideas to solve real-world social and environmental problems. More than 20 teams across nine institutions pitted against one another, guided by the theme "Building Resilience through Data Analytics and IoT".

- **Address Social Needs:**

We worked with Temasek Foundation to address a critical market need for better fitting and effective protective masks for kids. Designed to fit the smaller facial profiles and respiratory patterns of children, the AIR+ Kids N95 Kids Mask is benchmarked to meet both European and American standards and provides protection against haze, PM2.5 particles, bacteria and viruses. The mask illustrates how innovation and engineering can create breakthrough products to solve the challenges of urban living.

WHAT WE DID IN 2019

- Continued community outreach focusing on "enriching lives through education" and "touching lives through engineering".
- Refined framework for employees to participate in company-led volunteering activities.

WHAT WE WILL DO IN 2020

- Maintain efforts to contribute to the communities where we operate.
- Promote volunteerism across the Group.

SUSTAINABILITY - GOVERNANCE

ST Engineering is a firm believer of good corporate governance, supported by an enterprise-wide risk management framework and backed by a strong Code of Business Conduct and Ethics. Besides meeting legal and regulatory requirements wherever we operate, we align our management systems to international frameworks and standards.

10. ETHICAL BUSINESS & REGULATORY COMPLIANCE

We have zero tolerance for fraud and corrupt practices, and our Code of Business Conduct and Ethics (Code) forms the backbone of our commitment to ethical business conduct and regulatory compliance. The Code is available in two versions of Chinese and four other languages, and rolled out to employees globally in the form of handbooks and video messages from our senior management. We also developed a mandatory e-learning module for our Code.

Regular training and effective communication are important components to inculcate a strong compliance and ethics culture. The Anti-bribery and Corruption training was rolled out as part of our annual training programme for relevant employees. In addition, compliance-related topics and updates are shared via our intranet and targeted briefing sessions.

During the year, we reviewed our key compliance policies, particularly in the areas of gifts and entertainment, and the appointment of intermediaries. The review was part of our move towards a global and harmonised approach in managing risk and compliance matters.

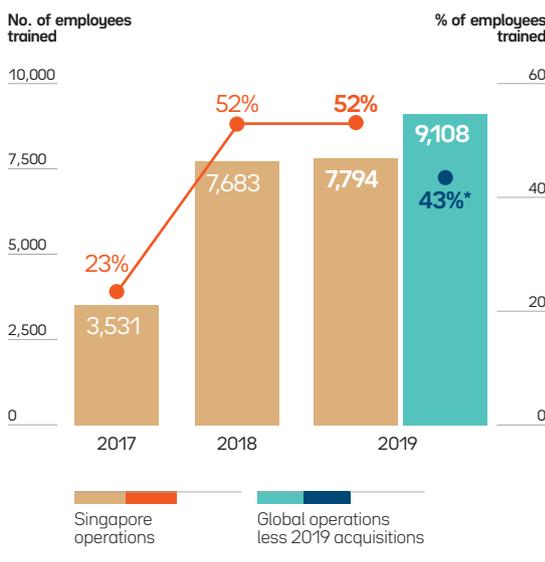
Arising from the review, we identified and implemented new e-initiatives to enhance existing controls. These include standard electronic request forms with automated routing to ensure appropriate reviews are carried out with proper approvals, and an exception reporting workflow for timely follow-up.

As part of our ongoing commitment to ethical business conduct, we communicated our anti-corruption policies and procedures to business partners, including new vendors and intermediaries. Our whistleblowing policy encourages and facilitates disclosures of possible improprieties or noncompliance in confidence. All stakeholders can report incidents through various reporting channels that are independently managed by Internal Audit Department. These reporting channels can be accessed through our corporate website at www.stengg.com.

More information regarding our approach to enterprise risk management framework and governance approach can be found in the Corporate Governance Report on pages 90 to 107.



ANTI-BRIBERY AND CORRUPTION TRAINING



* Lower % due to progressive rollout of training to entities outside of Singapore

Combining Risk and Assurance as a Second Line of Defence

As part of our continued efforts to strengthen our commitment to ethical business and regulatory compliance, we established a R&A function in 2019 to oversee and harmonise our efforts in governance, risk, compliance and assurance. This function serves to strengthen our second line of defence in risk and compliance management.

The R&A function maintains key risk management and internal control policies and frameworks at the Group level, with resources dedicated to working closely with the sectors and support functions on their implementation and ensure compliance. The R&A function also drives the annual compliance training programme, consisting of e-learning training and briefings on policies and compliance topics. Teams are also deployed to perform regular reviews to provide management with ground-level sensing and assurance that in-line controls are adequate and effective. In the event that any significant control deficiencies are detected, necessary remedial actions can then be swiftly taken.



ST Engineering is committed to conducting our business in a responsible manner. We do not design, produce or sell anti-personnel mines, cluster munitions, white phosphorus munitions and their related key components.

WHAT WE DID IN 2019

- Reviewed key compliance policies and procedures and implemented supporting e-initiatives.
- Set up R&A function to oversee and harmonise efforts in governance, risk, compliance and assurance.

WHAT WE WILL DO IN 2020

- Continue to review and enhance existing key compliance policies and procedures through the use of technology.
- Streamline and strengthen governance, risk, compliance and assurance processes.