



Pacific Technology

(STOCK CODE : 0522)

ASM Pacific Technology Limited

(Incorporated in the Cayman Islands with limited liability)

***Focused on Creating  
A Sustainable Future***

**2021  
Environmental, Social and  
Governance Report**

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## ABOUT THIS REPORT

***This Environmental, Social and Governance Report (“ESG Report”) provides an annual update on the environmental, social and governance (“ESG”) impact, policies and initiatives of ASM Pacific Technology Limited (“ASMPT”) and its subsidiaries (collectively the “Group”) for the year ended 31 December 2021 (“the Reporting Period”). The Reporting Period aligns with the Group’s financial year.***

***The ESG Report has been prepared with reference to the Global Reporting Initiative (“GRI”) Standards: Core Option. It has also referenced the “comply or explain” provisions outlined in the Environmental, Social and Governance Reporting Guide in Appendix 27 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “Listing Rules”).***

***The ESG Report covers the Group’s global operations in Greater China, Rest of Asia, Europe, Africa, and North and South America during the Reporting Period. It aims to provide an overview of the Group’s approaches, priorities, targets and performance reviews in the key areas of environmental protection, sustainability and corporate governance. Advanced Assembly Materials International Ltd. (“AAMI”) ceased to be a subsidiary of the Group since 28 December 2020. With AAMI no longer under the Group’s operational control in 2021, AAMI’s ESG data and related information will not be included from this year’s ESG report onwards.***

***This ESG Report covers key issues relevant to the Group’s various stakeholders such as customers, investors, shareholders, business partners, employees and vendors. It is published only in electronic form, and all ESG Reports are available online at [www.asmpacific.com/en/about/sustainability](http://www.asmpacific.com/en/about/sustainability).***

## CHAIRMAN'S MESSAGE

Dear Shareholders, Employees and Stakeholders,

I am pleased to present ASMPT's 2021 ESG Report, the sixth edition of this document. A year that started with a renewed sense of euphoria turned challenging as the COVID-19 virus' prevalence persisted. Governments and communities across the world began to shift towards an endemic-based approach and the global economy gradually reopened, albeit with caution and unevenness across different sectors. Notwithstanding the external turbulence and challenges, the ASMPT team showcased great resilience and determination to deliver a record set of results for 2021 and helped the business grow to new heights.

Sustainability is a journey. This report highlights the past year's actions and achievements in conducting our business in a responsible and sustainable manner. Our long-term goals are to improve our ESG performance and become a leading force for good in the semiconductor industry and wider business community. ESG will be a key part of ASMPT's strategic focus. Our ESG framework is built on four main pillars: Nurturing Our Employees, Supporting Our Communities, Creating Value through Innovation and Minimising Environmental Impact. We closely align these four pillars with the United Nations' Sustainable Development Goals ("SDGs"), so as to do our part towards improving lives and livelihoods globally.

Our employees are our most valuable assets, especially during these pandemic times when all levels of our organisation have worked cohesively to minimise business disruptions. The health and safety of our employees are a top priority for us. We implemented and fine-tuned a holistic set of policies and programmes to ensure that operations run smoothly while safeguarding the well-being of all operational and corporate employees throughout our global network. We value the development of our in-house talent and continue to offer up-skilling and career development opportunities for our employees. Diversity and inclusiveness are another key priority for the Group. We were recognised with various Human Resource ("HR") & Corporate Social Responsibility ("CSR") awards in 2021 for achievements in talent acquisition, happy workplace culture, caring for the community and best office facilities.

Our strong social sustainability ethos extends beyond our employees to the local communities in which we operate. We contribute to communities in various ways – creating meaningful jobs, collaborating with local enterprises, providing training and scholarship opportunities, and helping disadvantaged groups. Investing in local communities will help ASMPT to build and sustain a positive brand and customer loyalty, as well as enhance our ability to attract and retain good people.

Innovation is at the heart of the Group's strategy as we aim to constantly improve our internal know-how and processes, as well as offer state of the art solutions to our customers. The Group has consistently committed about 10% of equipment revenue to research and development ("R&D") efforts annually. This has enabled us to build significant in-house process and development capabilities, along with a deep talent pool, to support our customers' technology road maps. We monitor and improve our manufacturing processes to

improve efficiency and optimise resource usage. We encourage innovative thinking and resourcefulness throughout ASMPT, such as sourcing for suitable suppliers and fulfilling customer orders in a timely manner despite pandemic-induced supply chain disruptions.

The Group is ever mindful of the long-term existential dangers of climate change and other global environmental issues, hence the need for us to focus on green issues as a responsible corporate citizen. In 2021, we reduced our CO<sub>2</sub> emissions by 40% compared to 2020. Furthermore, hazardous and non-hazardous wastes were reduced by 88% and 6% respectively. Going forward, we will be vigilant in identifying and managing climate-related risks in view of changing regulatory requirements and customers' expectations for major industries and companies, to lead the way towards decarbonization and chart a safe socio-economic path for the future.

More and more companies are elevating ESG as a key strategic priority. ASMPT has always been committed to being a responsible corporate citizen and we aim to up our game by building a strong sustainability-aware culture throughout our organisation. To this end, the ESG Corporate Development team was established in the latter half of 2021. The team, staffed by full-time ESG personnel, will work towards balancing ASMPT's corporate, societal, and aspirational ESG needs.

I am confident that by taking a long view, investing in ESG and enhancing our organisational resilience, we can work towards our corporate vision of "Enabling The Digital World" for the good of our investors, employees, stakeholders and society.

**Orasa Livasiri**  
Chairman

31 May 2022



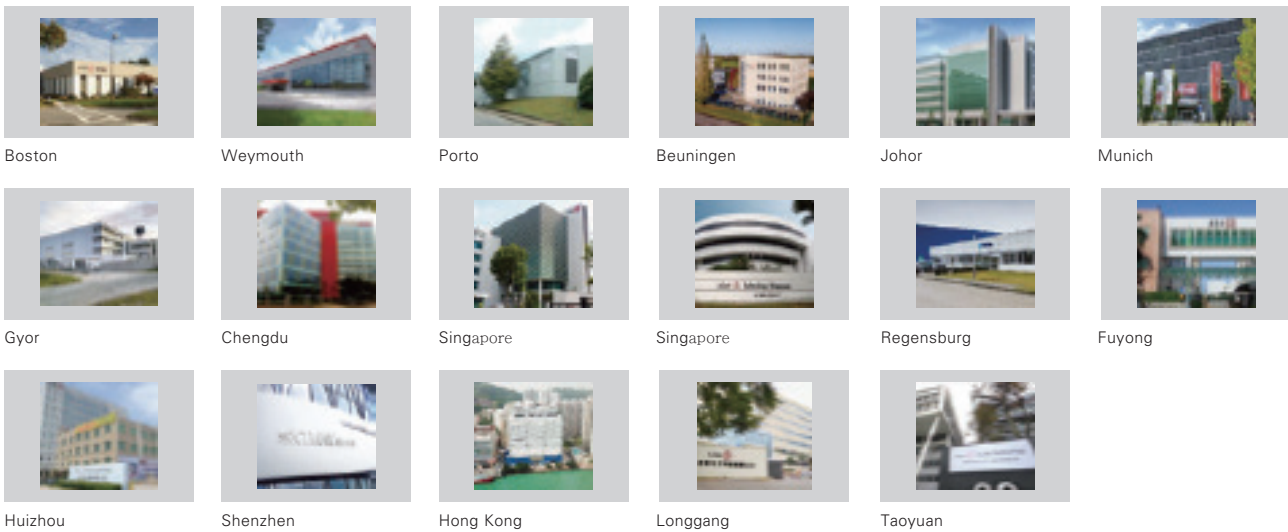
# ABOUT ASMPT

ASMPT (HKEX stock code: 0522) is a leading global supplier of hardware and software solutions for the manufacture of semiconductors and electronics. Headquartered in Singapore, ASMPT's offerings encompass the semiconductor assembly & packaging, and surface mount technology ("SMT") industries, ranging from wafer deposition, to the various solutions that organise, assemble and package delicate electronic components into a vast range of end-user devices, which include electronics, mobile communications, computing, automotive, industrial and Light-Emitting Diode ("LED") displays. ASMPT partners with customers very closely, with

continuous investment in R&D helping to provide cost-effective, industry shaping solutions that achieve higher productivity, greater reliability and enhanced quality.

ASMPT is one of the constituent stocks of the Hang Seng TECH Index, Hang Seng Composite MidCap Index under the Hang Seng Composite Size Indexes, the Hang Seng Composite Information Technology Industry Index under Hang Seng Composite Industry Indexes and the Hang Seng Hong Kong 35 Index.

To learn more about ASMPT, please visit us at [www.asmpacific.com](http://www.asmpacific.com).



Boston

Weymouth

Porto

Beuningen

Johor

Munich

Gyor

Chengdu

Singapore

Singapore

Regensburg

Fuyong

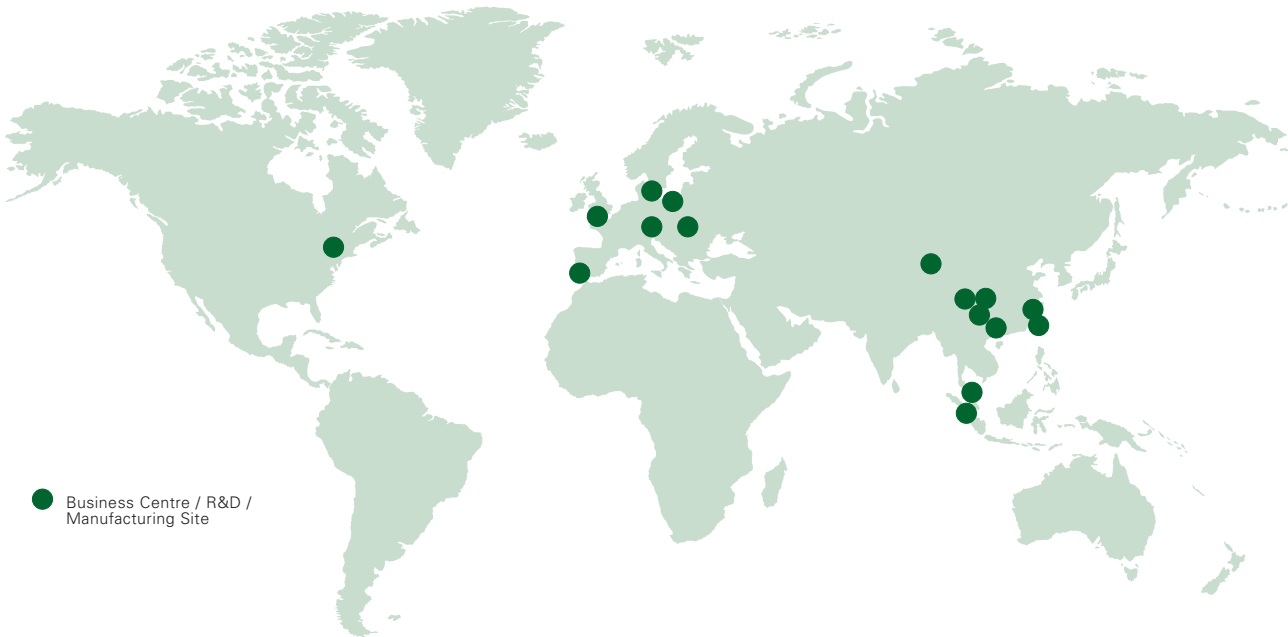
Huizhou

Shenzhen

Hong Kong


Longgang

Taoyuan



● Business Centre / R&D / Manufacturing Site

 Global R&D staff  
**>2,200**

 Patents on leading edge technologies  
**<2,000**

 R&D centres worldwide  
**12**

 Manufacturing facilities  
**13**

# SUSTAINABILITY APPROACH





ASMPT is recognised as an industry leader because of its innovation, comprehensive portfolio of products and services, exceptional and comprehensive customer support, and a track record of consistently executing on its vision, “ENABLING THE DIGITAL WORLD”. In turn, this Vision goes hand-in-hand with a responsibility to manage the Group’s ESG impact as it grows and evolves as a global, yet locally-anchored business located in numerous sites in 29 territories around the world.

ASMPT launched its first stand-alone ESG report in 2016. This sixth version of the report details how ASMPT has continued to manage its resources and expertise, and contribute responsibly to the global sustainable development agenda as defined under the United Nations’ SDGs.

Creating and delivering sustainable values to its stakeholders remains an overarching principle for ASMPT. The Group’s definition of Company Success in its Group Strategy places this approach front and centre:

## SHAPING A BRIGHT & SUSTAINABLE FUTURE FOR CUSTOMERS, EMPLOYEES, INVESTORS, PARTNERS AND SOCIETY

The Group’s sustainability framework is built on four pillars:


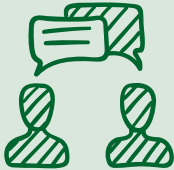
 <p><b>Nurturing Our Employees</b></p>	 <p><b>Supporting Our Communities</b></p>	 <p><b>Creating Value through Innovation</b></p>	 <p><b>Minimising Environmental Impact</b></p>
<p>We believe employees are our best assets and we are committed to building a future-ready workforce in an environment that allows them to grow and excel.</p>	<p>We practise good corporate citizenship and contribute to the social well-being of the communities where we operate.</p>	<p>We create value, focusing on R&amp;D to deliver cutting-edge technology and product innovations to enable the digital world. We strive to embed sustainability in our innovations through the efficient use of resources, recycling measures and re-engineering of manufacturing processes.</p>	<p>We commit to environmental sustainability, ensuring that our operations are carried out in a responsible manner.</p>

The Group has identified four specific SDGs that are relevant to its business, whereby the sustainability pillars would contribute toward the SDGs' targets and indicators, as described in the table below. Alignment with the SDGs is not only a matter of corporate responsibility; safeguarding the well-being and prosperity of the countries and cities where the Group is based would help it recruit good people, build capabilities and maintain market leadership.




 <p><b>4</b> QUALITY EDUCATION</p>	 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	 <p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	 <p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>
<p><i>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</i></p> <p>Our comprehensive training and development programmes for all levels of staff contribute toward SDG 4's targets of equal access to education and increasing the number of youth and adults who have relevant market-ready skills.</p>	<p><i>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</i></p> <p>Our global operations support SDG 8's targets of achieving higher levels of economic productivity as well as full and productive employment and decent work for all women and men.</p>	<p><i>Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation</i></p> <p>Our relentless focus on innovation throughout the organisation furthers SDG 9's targets of upgrading the technological capabilities of industrial sectors and supporting domestic technology development.</p>	<p><i>Make cities and human settlements inclusive, safe, resilient and sustainable</i></p> <p>Our stringent environmental policies and practices are consistent with SDG 11's targets of reducing adverse environmental impacts, with special attention paid to air quality and waste management.</p>
			

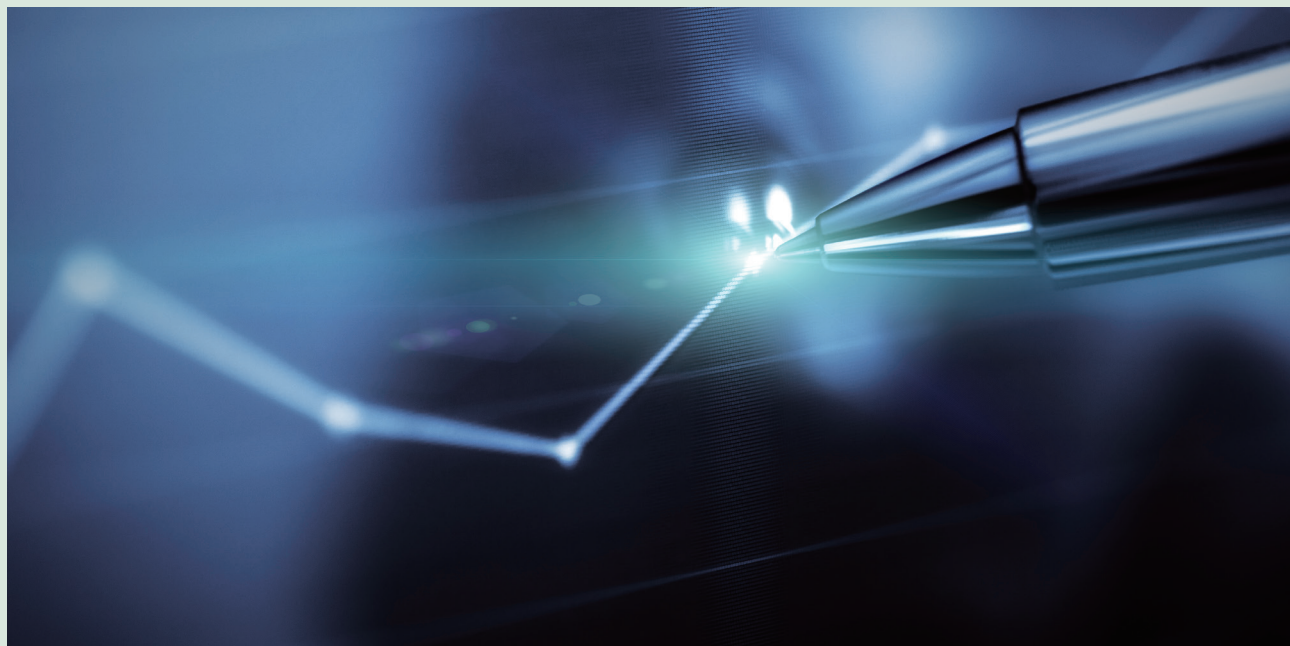
# STAKEHOLDER ENGAGEMENT

The Group's stakeholders, which include customers, employees, investors, business partners, and vendors, are an integral part of the Group's sustainability ecosystem. The Group builds and maintains symbiotic relationships with its stakeholders through regular and two-way communication channels. This allows the Group to better understand stakeholder concerns and respond to their requirements and expectations. The continued pandemic in 2021 and varying restrictions on travel, physical meetings and onsite work in different geographies have hampered many of these engagement channels and programmes' regularity. Nevertheless, the Group has invested in greater use of electronic and online means of communication and engagement to maintain ongoing links with all stakeholders.

Key Stakeholders	Expectations of ASMPT	Solutions	Engagement Channels
<b>Communities</b> 	<p>A responsible and caring corporate citizen, serving the community.</p>	<p>The Group strives to effectively contribute to communities and encourages active participation by its staff and their family members through various community engagement initiatives, which include partnerships with social enterprises and charities across key markets.</p>	<ul style="list-style-type: none"> <li>Employee community involvement programmes</li> <li>Social enterprises involvement programmes</li> <li>Corporate sponsorships and donations</li> <li>Scholarships and internships</li> </ul>
<b>Customers</b> 	<p>High quality and on-time delivery of systems and services. Environmentally responsible and ethical business operations.</p>	<p>The Group strives to innovate and deliver environmentally sustainable products and services of high quality and on-time delivery.</p>	<ul style="list-style-type: none"> <li>Regular electronic communications and meetings</li> <li>Customer training and support</li> <li>Site visits</li> <li>Trade shows</li> </ul>
<b>Employees</b> 	<p>A conducive environment where employees are treated with respect and dignity, for personal development to achieve career growth and work-life balance.</p>	<p>The Group adopts HR policies and practices that promote a fair, safe and comfortable working environment, reward good performance, ensure career growth, and provide work-life balance.</p> <p>Employees can also make use of open communication platforms such as networking sessions to provide feedback to the management.</p> <p>Regular update sessions are conducted to facilitate constant engagement with employees.</p>	<ul style="list-style-type: none"> <li>Email &amp; online collaboration tools</li> <li>Intranet and Internet communication</li> <li>Regular town hall meetings conducted by the CEO, with timely cascade of information to the team members</li> <li>Staff publications and videos</li> <li>Networking sessions</li> <li>Team building activities</li> <li>Family days and annual dinner</li> <li>Regular management communications</li> <li>Performance reviews</li> <li>Employee engagement surveys</li> <li>In-house recreational facilities</li> </ul>



Key Stakeholders	Expectations of ASMPT	Solutions	Engagement Channels
<b>Government Bodies and Regulators</b> 	Ensure that the Group complies with local laws, regulations, and policies, and addresses pertinent issues.	The Group complies with all applicable laws in the countries in which it operates, and lays down policies and procedures to ensure adherence and the sustainability of its business.	<ul style="list-style-type: none"> <li>• Regular performance reporting</li> <li>• Regular communication with government bodies and regulators</li> </ul>
<b>Investors/ Shareholders</b> 	Provide accurate and timely information on the Group's operational and financial performance and future plans.	The Group strives to create long-term shareholder value by generating optimum returns on investment, practising good corporate governance, and providing transparency and disclosure, while delivering sustainable and long-term growth.	<ul style="list-style-type: none"> <li>• Annual General Meetings</li> <li>• Annual and Interim Reports</li> <li>• Announcements and Circulars</li> <li>• Quarterly updates on financial results</li> <li>• Investor conference calls</li> <li>• Investor meetings and roadshows</li> <li>• Investors' feedback channel via the Group's website</li> </ul>
<b>Suppliers</b> 	Build long-term business relationships based on ethical and responsible business practices for mutual benefit.	The Group treats all suppliers fairly and with respect. There is zero tolerance for violations of the Supplier Code of Conduct.	<ul style="list-style-type: none"> <li>• Supplier Code of Conduct</li> <li>• Responsible Business Alliance</li> <li>• Supplier management meetings and engagement</li> <li>• Email communications</li> <li>• Supplier Assessment System</li> <li>• Supplier audits</li> </ul>



## ***MATERIALITY ASSESSMENT***

The Group believes that sustainable growth depends on meeting and exceeding the expectations and needs of its key stakeholders. The Group's material ESG factors are those with significant economic, environmental, social and governance impacts, and which would influence the assessment and decision making of the stakeholders.

The Group goes through a comprehensive annual process in identifying and finalising material ESG factors:

- It performs a comprehensive environment scan to understand the prevailing business and socio-economic context and analyse current and salient issues relevant to its business.
- It benchmarks its ESG policies and performance against comparable peers, to better understand industry-wide issues and market practices in dealing with these issues.
- It consults stakeholders such as investors, customers, employees, partners, community, and government to understand their ESG-related concerns.
- It reviews and analyses pertinent information, views, and data, so as prioritise the key material ESG issues and action plans, which are then endorsed by the Board of Directors (the "Board").

## SUSTAINABILITY SCORECARD FOR 2021

The table below summarises the Group's 2021 performance and 2022 targets for key ESG indicators.

		2021 Actual	2022 Targets
ENVIRONMENTAL	<b>Energy consumption</b>	Total usage of 119.0 million kWh  Intensity of 5.4 kWh/HK\$'000 revenue	Sustain and improve on FY2021 performance
	<b>CO<sub>2</sub> emissions</b>	Total Scope 1 and Scope 2 CO <sub>2</sub> emissions of 87.8 kilotonnes  Emissions intensity of 0.0040 tonnes/HK\$'000 revenue	Sustain and improve on FY2021 performance
	<b>NO<sub>x</sub>, SO<sub>x</sub> and particulates emissions</b>	Emissions of 3.13 tonnes  Emissions intensity of 0.00014 kg/HK\$'000 revenue	Sustain and improve on FY2021 performance
	<b>Water consumption</b>	Total water consumption of 0.56 million m <sup>3</sup>  Water consumption intensity of 0.03 m <sup>3</sup> /HK\$'000	Sustain and improve on FY2021 performance
	<b>Waste management</b>	1,008 tonnes of hazardous waste produced, with 14% recycled and the remainder disposed of by accredited vendors  2,804 tonnes of non-hazardous waste produced, with 76% recycled and the remainder disposed of by accredited vendors	Sustain and improve on FY2021 performance

		2021 Actual	2022 Targets
<b>SOCIAL</b>	<b>Employment overview</b>	Total workforce of approximately 13,900	Maintain a diverse, well-trained and motivated workforce
	<b>Health and safety</b>	Full compliance with all health and safety regulations  Lost days due to work injury of 0.033% of total work days  Zero work-related fatalities	Maintain full compliance with regulations and zero work-related fatalities; and reduce lost days due to work injury
	<b>Development and training</b>	Average of 12 training hours per employee	Increase average training hours
	<b>Community investment</b>	Contributed US\$404,845 to various social causes	Sustain ASMPT's contributions to the community
<b>GOVERNANCE</b>	<b>Reported cases of corruption</b>	Zero reported cases of corruption	Zero reported cases of corruption
	<b>Regulatory/compliance breaches</b>	Zero regulatory/compliance breaches	Zero regulatory/compliance breaches

# GOVERNANCE

ASMPT's Board and the Executive Committee ("EXCO") of the company's management work together to create long term sustainable shareholder value while taking due account of the interests of its employees, customers and other key stakeholders. As at 31 December 2021, the Group had nine directors, two of whom are female (the Chairman and an Executive Director). The Board comprised four independent non-executive directors, two non-executive directors and three executive directors. All Board members are highly experienced professionals with a range of expertise in finance, business, legal, technical, and industrial sectors.

## ESG GOVERNANCE STRUCTURE

The Group has in place a structure to oversee, manage and implement sustainability in ASMPT:

- **ASMPT's Board of Directors** provides oversight of ESG policies, issues, and implementation, to ensure alignment with the corporate objective of growing responsibly in the interest of all stakeholders. This includes overseeing the engagement of stakeholders, identification of ESG-related material issues, and prioritisation of the various programmes. The Board works closely with the EXCO to set ESG-related goals and track progress against the agreed targets. The Board also develops and reviews the Group's policies and practices on corporate governance, including the Group's risk management framework.
- The **EXCO** comprises the Senior Management team that reviews and determines the material ESG factors and their scope, and provides resourcing and implementation guidance. The EXCO evaluates and reviews long-term business and organisational goals and provides the strategic direction for the Group's ESG practices.
- The **ESG Committee** comprises staff members from different regions and functional groups. The ESG Committee coordinates and monitors reporting of the Group's ESG policies, processes, and initiatives, together with the ESG Corporate Development team.
- The **ESG Corporate Development team** is a dedicated unit operating under the leadership of Guenter Lauber, EVP and Chief Strategy and Digitalisation Officer. It provides guidance to the Group on ESG strategy and compliance, ESG risks and opportunities, ESG management performance, as well as recommendations and follow-up measures. The team also reviews and monitors the Group's ESG policies and practices, along with helping to identify development areas in the ESG space for the Group.

## RISK MANAGEMENT

The Board of Directors is responsible for the Group's risk management framework and reviewing its effectiveness. ESG risks, such as physical and transitional climate change-related risks, would come under the ambit of this corporate risk management framework.

The Board evaluates and determines the nature and extent of the risks it is willing to accept in achieving the Group's strategic objectives and ensures that the Group establishes and maintains an appropriate and effective risk management system.

The Board oversees the Group's management in the design, implementation and monitoring of the risk management system on an ongoing basis. Management provides confirmation to the Board on the effectiveness of these systems, advises the Board on the Group's risk-related matters, and is responsible for assessing the effectiveness of the Group's risk control/management system.

The Group's Strategic Risk Review Committee ("SRRC") – comprising senior executives from key functions across the organisation – is responsible for identifying and analysing strategic external and internal risks facing the Group, which would include ESG-related risks such as climate change, environmental regulations, corporate social responsibility and compliance. The SRRC reports directly to ASMPT's EXCO.

Details of the Group's corporate governance and risk management practices for the year ended 31 December 2021 have been published in the Company's 2021 Annual Report.

## ANTI-CORRUPTION

Ethics and integrity guide the manner by which the Group conducts its business and operations. Abiding by the laws and the legal system in every country where the Group does business is a fundamental operating principle. The Group does not condone any form of illicit or unlawful activity by its staff and has a zero-tolerance attitude towards bribery and corruption.

The ASMPT Code of Business Conduct sets the standards by which it conducts its business and operations. It aligns the guidelines for compliance with local and other applicable international laws in every jurisdiction in which it does business. The guidelines include the following legislative codes and guidance:

- Foreign Corrupt Practices Act (USA)
- Bribery Act (UK)
- OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions
- Modern Slavery Act 2015 (UK)
- Responsible Business Alliance, the world's largest industry coalition dedicated to electronics supply chain responsibility

The Code of Business Conduct is reviewed and updated periodically when appropriate. It is made known to all employees through the Group's intranet portal, notice boards, new hire orientation programme, internet webpage and regular compliance communications. The Group's employees are aware that they are prohibited from offering or accepting bribes, or using other means to obtain undue or improper advantage, and that each of them has the responsibility to report promptly any actual, attempted or apparent violations without fear of retaliation. Anti-corruption briefings and training are conducted regularly for employees. The Code is also made known to the Group's vendors, which are required to acknowledge that they have been notified of the Code.

ASMPT has in place a Whistleblower Programme that is part of the Group's Compliance Programme. The Whistleblower Programme is in accordance with relevant international and national guidelines and practices, including the Sarbanes-Oxley Act of 2002, the Responsible Business Alliance ("RBA") Code of Conduct and the Data Protection laws in various countries where ASMPT operates. Information on the Group's website concerning the Whistleblower Programme makes it clear that the Programme allows employees as well as third party business partners to report actual or suspected fraudulent activities or financial irregularities within the Group. Anyone reporting the same in good faith will be protected from reprisal or adverse employment action, and all reports are kept confidential. Allegations of bribery and corruption are investigated thoroughly, and appropriate corrective measures are taken based on the findings.

The operation of the Whistleblower Programme and its reporting channel is managed by ASMPT's Compliance Office, which is administratively under the purview of the Group's Legal Department. The Compliance Office has a direct reporting line to the ASMPT Board. Such independent administration of the Whistleblower Programme helps to balance vested interests and foster a 'speak-up' culture. The Board oversees the Group's ethics and compliance programme and receives quarterly updates on outstanding Whistleblower cases from the Compliance Office.

ASMPT's Audit Committee provides Board-level oversight on the adequacy and effectiveness of the Group's fraud risk management framework, policy and process, including reviews of significant investigations into allegations of fraud and corruption, and whistleblower complaints.

In 2021, the Group was not aware of any incident of non-compliance with relevant laws and regulations relating to bribery, extortion, fraud and money laundering that would have a significant impact on the Group.

## **PRODUCT RESPONSIBILITY**

The Group, as an industry leader in the semiconductor and electronics equipment manufacturing market, has the responsibility to ensure the safety and quality of its products sold to customers. The Group proactively develops improvements on its products' environmental friendliness, production efficiency and cost efficiency, with the objective of minimising or avoiding environmental cost.

The Group's commitment to this responsibility starts with product design. Product development teams follow the Group's Design for Excellence ("DFE") programme that was introduced in 2005. The products also follow in-house key design principles that focus on maintaining the quality of the products.

This responsibility continues over the production lifecycle. There are consistent, recurrent, and cumulative inputs for improvement, which result in increased product performance across the Group's product portfolio and energy savings per component.

Within the production chain, the Group uses reusable and recyclable materials wherever possible to reduce the impact on the environment. For example, the Group's SIPLACE machines can be disassembled with speed and efficiency, separating the component parts for ease of recycling and proper disposal. This allows the machines to retain their minimum environmental impact even at the end of their lifecycle.

Intellectual property is a fundamental asset monitored vigilantly by the Group. To uphold the confidentiality of proprietary information belonging to the Group and its partners, the Group has set in place various security measures, along with meticulous confidentiality and non-disclosure agreements. Agreements with third parties are comprehensively reviewed by the Company's legal team to clearly demarcate the ownership of, and rights to, intellectual property before the collaboration may proceed.

Other intangible assets shielded from external misuse through registration or other protection mechanisms would include the Group's trade and brand names, newly developed technologies, and process improvements. Employees may also submit information disclosure statements for new inventions to maintain the recognition of their contributions for the innovations developed.

Where intellectual property is deemed to be worthy of trademark protection by its registration in various territories, such applications are filed and maintained by an experienced in-house intellectual property team, with the assistance of external expertise where needed. In the event of infringement of the Group's intellectual property rights, the Group may seek legal action to prevent further misuse and to receive proper compensation for the infringements.

The Group aims to deliver the highest value and innovative solutions to its customers through products and solutions with advanced technologies and excellent quality. The Group is ISO 9001 certified for its quality management system at its main business locations in China, Germany, United Kingdom, Singapore, and Malaysia. To uphold its product quality standards, the Group provides assurance of its products through multiple avenues, including the following:

- Comprehensive systematic plans to develop and launch innovative and useful products that surpass customers' expectations and technologies.
- Best-in-class manufacturing process flow to produce and deliver quality products on time and at optimum cost.
- Provision of efficient and effective pre- and post-sales services to achieve total customer satisfaction.
- Effective feedback system to track and respond quickly to customers' requests, feedback and complaints.
- A common goal among ASMPT employees to continually improve the quality of its systems and services.

Customer safety is of paramount importance to the Group. All of the equipment has to go through stringent tests and certifications by both the Group's Quality and Reliability Departments before reaching the customer. The Group also builds trust with its customers by implementing an upgrading programme to provide customers with timely support for the products.

Whenever any potential safety hazard is identified internally or through customers' feedback, the Field Service team will conduct a review to ascertain and resolve the issue. In 2021, three complaints were received regarding product safety. No one was injured. To the Group's best knowledge, its Field Service Engineers were able to respond quickly and adequately to customer complaints and equipment-related issues. In 2021, there were no sold or shipped products that were recalled for safety or health reasons.

The Group recognises the necessity of handling the personal information of its stakeholders properly. It takes the required precautions to ensure confidentiality and avoid misuse. Stakeholders' data are safeguarded through the Group's policies and security measures.

In 2021, the Group was not aware of any incident of non-compliance with the relevant laws and regulations relating to health and safety, advertising, labelling and privacy matters in respect of the use of the Group's products and services that would have significantly impacted the Group.



# NURTURING OUR EMPLOYEES

## EMPLOYMENT OVERVIEW

The Group's employees are its most treasured asset. The Group strives to attract, develop and retain good people to develop and deliver quality products and services, as well as to provide fresh ideas and vitality.

As of 31 December 2021, the Group had a total workforce of approximately 13,900 across 4 continents. Of this, around 8,000 employees were based in Greater China, more than 3,000 employees were based in other Asia regions, about 2,400 employees were based in Europe, Middle East, and Africa, and nearly 400 employees were based in North and South America. Among the Group's employees, 27% were aged below 30, 59% were aged between 30 and 50, and 14% were aged above 50. Approximately 26% of the total workforce was female. Such geographical and cultural diversity gives the Group access to a wider range of talents to contribute to its business growth.

The Group's total workforce decreased 5% year-on-year from approximately 14,600 in 2020 to approximately 13,900 in 2021. This was due to the optimisation of its operations, including digitalisation and automation initiatives to improve productivity. There were also efforts throughout the year to manage the number of contract and short-term employees.

As the Group's commitment is to be 'A Great Place to Work', the Group continues to invest in providing a conducive environment at work, and offering various learning and training opportunities for employees to sharpen their capabilities. At the end of 2021, the Group's Staff Fellowship Program, which had been running since 2002, had supported more than 2,000 employees in the pursuit of their further education. With these training and development programmes, the Group expects to not only nurture talent and help them reach their full potential, but to also create a positive learning environment within the Group to empower every employee to be creative and innovative.

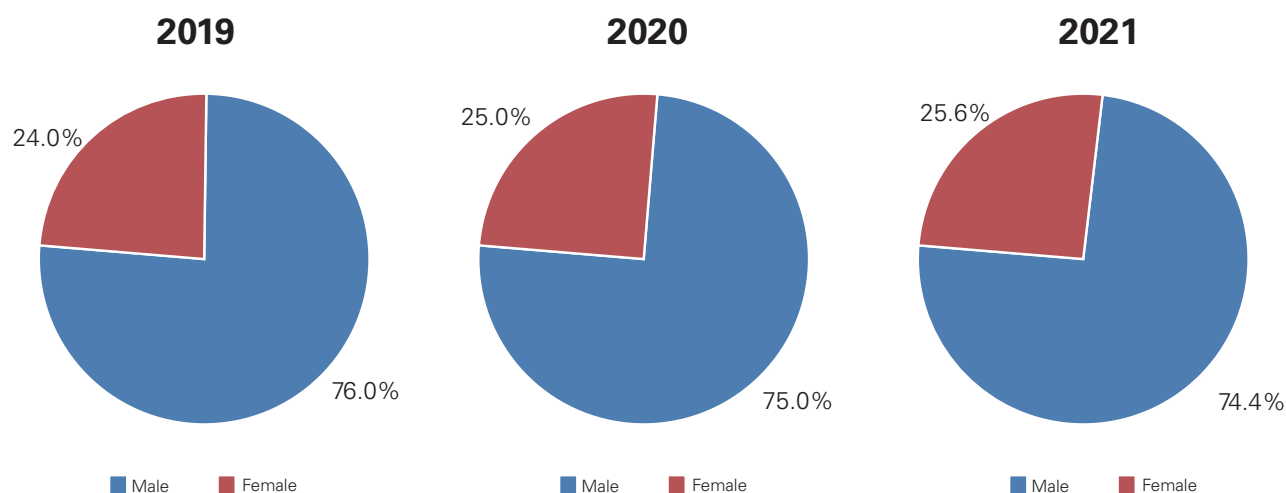
The Group adopts fair employment practices and offers equal opportunities to all staff based on their abilities, experience and performance. It values the efforts contributed by each employee, regardless of gender, ethnicity, age, religion, personal beliefs, nationality, marital or disability status. More than one quarter of the Group's employees are female, which includes working mothers with infants and young children. As part of its efforts to be a family-friendly organisation, the Group supports expectant mothers and new mothers through policies such as maternity leave arrangements and first-aid care facilities for expectant mothers who feel unwell. There are dedicated "Mother Care" rooms in the Group's larger locations.



The Group has zero tolerance towards any form of sexual harassment in the workplace. It is pleased to report that there were no reported incidents of sexual harassment in 2021.

The Group believes that a fair compensation system is crucial in rewarding its employees' performance and motivating them to do better. In this regard, it has a structured compensation and performance appraisal system that is merit-based. The Group also has in place a global competitive remuneration strategy that considers individual skills, education, responsibility and working experience for benchmarking against the relevant job profiles, industries and labour markets. The Group's competitive pay packages include both short-term and long-term incentive plans in the form of discretionary bonuses and incentive shares based on both the Group's financial results and individual performance. Moreover, the Group offers comprehensive employees' benefits that include annual leave, parental leave, mandatory provident fund schemes and medical care.

## TOTAL WORKFORCE BY GENDER



## TOTAL EMPLOYMENT BY EMPLOYMENT TYPE

	2019(%)	2020(%)	2021(%)
<b>Full Time</b>	99.0	98.7	<b>98.6</b>
<b>Part Time</b>	1.0	1.3	<b>1.4</b>
<b>Total</b>	100.0	100.0	<b>100.0</b>

## TOTAL EMPLOYMENT BY AGE GROUP

	2019(%)	2020(%)	2021(%)
<b>Below 30 years of age</b>	27.2	23.4	<b>26.6</b>
<b>Between 30 and 50 years of age</b>	60.7	61.8	<b>58.8</b>
<b>Above 50 years of age</b>	12.1	14.8	<b>14.6</b>
<b>Total</b>	100.0	100.0	<b>100.0</b>

## TOTAL EMPLOYMENT BY GEOGRAPHICAL REGION

	2019(%)	2020(%)	2021(%)
<b>Greater China</b>	64.1	58.9	<b>57.7</b>
<b>Rest of Asia</b>	20.2	22.3	<b>22.2</b>
<b>Europe, Middle East &amp; Africa</b>	13.5	16.1	<b>17.2</b>
<b>North and South America</b>	2.2	2.7	<b>2.9</b>
<b>Total</b>	100.0	100.0	<b>100.0</b>

## OVERALL EMPLOYEE TURNOVER RATE

	2019(%)	2020(%)	2021(%)
<b>Turnover Rate</b>	14.6	13.0	<b>19.6</b>

## EMPLOYEE TURNOVER BY GENDER

	2019(%)	2020(%)	2021(%)
<b>Female</b>	14.9	13.8	<b>19.3</b>
<b>Male</b>	14.5	12.7	<b>19.7</b>

## EMPLOYEE TURNOVER BY AGE GROUP

	2019(%)	2020(%)	2021(%)
<b>Below 30 years of age</b>	30.6	24.5	<b>40.8</b>
<b>Between 30 and 50 years of age</b>	9.0	10.1	<b>12.7</b>
<b>Above 50 years of age</b>	7.0	7.8	<b>8.5</b>

## EMPLOYEE TURNOVER BY GEOGRAPHICAL REGION

	2019(%)	2020(%)	2021(%)
<b>Greater China</b>	14.3	14.9	<b>12.0</b>
<b>Rest of Asia</b>	20.3	13.7	<b>42.1</b>
<b>Europe, Middle East &amp; Africa</b>	8.4	5.8	<b>14.0</b>
<b>North and South America</b>	10.9	7.1	<b>31.7</b>

In 2021, the oldest age category (above 50) had the lowest turnover rate averaging 8.5%, while the turnover rate for the youngest category (below 30) was the highest, in line with general market trends. Overall turnover was higher in 2021 (19.6%) against 2020 (13.0%) as ASMPT was not immune to some elements of the “Great Resignation”.

## HEALTH AND SAFETY

The Group is committed to ensuring good health and safety for all its employees. It recognises the significance of providing a safe work environment and strives to minimise its employees’ exposure to physical risks and injuries. The Group is constantly benchmarking against international best practices and accreditation by internationally recognised standards, including ISO 45001 in all its 3 China plants, its facilities in Hong Kong and Germany, and in Singapore.

In 2021, the Group’s senior management continued to closely monitor the COVID-19 pandemic situation and ensured that its people were kept safe, and that the Group adhered to all local and existing requirements and good practices throughout its global operations.

## GENERAL HEALTH AND SAFETY MEASURES

The Group has adopted safety and health management systems that help to track, manage and report occupational injuries and illnesses. The Group has set up workplace health and safety committees for its sites in Asia-Pacific, Europe and the Americas. Representatives are selected from across the employee spectrum to anticipate, identify and assess potential workplace safety and health issues on a regular basis, as well as drive local safety compliance such as emergency planning and response procedures.

The Group continues to work on minimising workplace risks, adhering to the latest regulatory rules and guidelines related to COVID-19, and improving its workplace safety performance. Its comprehensive employee healthcare policy covers all necessary medical treatment and supports the recovery of any affected employee. The Group strongly encourages its employees to be proactive in reporting cases of injuries and illnesses, and actively engages with them to achieve zero injuries in all its facilities. Moreover, it regularly identifies, evaluates and ensures minimum hazardous exposure of employees to physically demanding risks, such as manual material handling and lifting, prolonged hours of standing, and unnecessarily repetitive assembly tasks.

In addition to compliance with all employee safety and protection laws instituted by local governments, the Group has set up its internal rules and regulations to safeguard employees' health. The Group has instituted an Occupational Health and Safety ("OH&S") policy to provide safe and healthy working conditions in the Asia region, striving to formulate and promote good safety rules and guidelines, identify relevant issues and assess potential risks, and promote "Vision Zero" targets within the Group.

In Europe, the Group uses an "Employee Safety Green Card" system to monitor employees' operations in labs, employs a compulsory "Document Unique" audit to check safety measures adoption in the company, and assesses risks regularly. In the Americas, the Group organises medical and emergency training to raise employees' awareness of operational safety, and conducts job hazard analysis for risk mitigation purposes.

As a responsible employer, the Group will continue to strengthen its safety and health management system, so as to allow employees to focus on their work in a safe and conducive working environment. In addition, the Group expects the same rigorous safety standards from its independent service contractors, for instance, by requiring mandatory safety compliance and training when they are working for the Group.

## LOST DAYS DUE TO WORK INJURY

"Work Injury" cases include injuries sustained while commuting or travelling for work; at the workplace; or in the performance of work outside an employee's normal workplace. There were no work-related fatalities in 2021, 2020 and 2019. A total of 43 work injury cases were reported across the Group's global operations, compared to 65 work injury cases in 2020. Of these, 14 occurred at the workplace while the remaining 29 occurred outside the workplace. For 2021, there were 1,131 lost days due to work injury, a 16.2% increase from 973 lost days recorded in 2020. This increase, in part, was linked to a commuting-related accident involving a female Chinese employee which subsequently resulted in a significant absence from work. Total lost days for the Group in 2021 amounted to 0.033% of total work days, compared with 0.027% in 2020.

## NUMBER OF LOST DAYS – FEMALE

	2019	2020	2021
<b>Greater China</b>	138	122	<b>321</b>
<b>Rest of Asia</b>	86	55	<b>24</b>
<b>Europe, Middle East &amp; Africa</b>	8	54	<b>0</b>
<b>North and South America</b>	3	1	<b>1</b>
<b>Total</b>	235	232	<b>346</b>

The increase in 2021 lost days for Greater China was due to a non-work-related accident which occurred outside the workplace, resulting in 238 lost days. Following the accident, the Group worked closely on follow-up actions and injury insurance. The Group also focused on re-educating its ATC Chengdu R&D Centre staff about safety awareness, by releasing email notices, posters and other safety promotion materials.

## NUMBER OF LOST DAYS – MALE

	2019	2020	2021
<b>Greater China</b>	636	491	<b>328</b>
<b>Rest of Asia</b>	135	154	<b>70</b>
<b>Europe, Middle East &amp; Africa</b>	284	68	<b>149</b>
<b>North and South America</b>	1	28	<b>238</b>
<b>Total</b>	1,056	741	<b>785</b>

The increase in 2021 lost days for North and South America was mainly due to a workplace-related case at ASM NEXX, resulting in 221 lost days. The case was classified as due to human error. The increase in 2021 lost days for Europe, Middle East & Africa was mainly due to two workplace-related cases at ASM Assembly Systems GmbH & Co. KG, resulting in 73 lost days and 29 lost days respectively. The Group is investigating both incidents.

## TOTAL NUMBER OF LOST DAYS

	2019	2020	2021
<b>Greater China</b>	774	613	<b>649</b>
<b>Rest of Asia</b>	221	209	<b>94</b>
<b>Europe, Middle East &amp; Africa</b>	292	122	<b>149</b>
<b>North and South America</b>	4	29	<b>239</b>
<b>Total</b>	1,291	973	<b>1,131</b>

In Europe, accidents that happened while commuting to and from work are classified as 'lost days due to work injury', even if they occurred outside the workplace. Such commuting-related incidents contributed 19% of total lost days during this period and must be reported under European regulations.

## DEVELOPMENT AND TRAINING

In 2021, the Group continued to invest in training programmes and employee engagement activities, so as to sharpen its employees' competencies, boost their morale and understand their concerns. The Group continues to invest heavily in its employees to further their potential, and its vision – "Enabling the Digital World" – guides the planning of training programmes and developmental opportunities to stimulate and groom young engineering talents and future leaders.

The Group's Human Resources teams collaborated with the business leaders to develop appropriate training programmes, job rotations and related initiatives for employees. Furthermore, it offered comprehensive orientation programmes to help newcomers adapt quickly to the Group's corporate culture and find their footing in a timely manner.

In 2021, the average training hours completed per employee was 12 hours, a 4.7% decrease from 12.6 hours in 2020, mainly due to an increased number of new hires. Total training hours were 188,388 hours in 2021, a 0.6% decrease from 197,236 hours in 2020.

### A) OVERALL PERCENTAGE OF EMPLOYEES TRAINED

	2019(%)	2020(%)	2021(%)
<b>Greater China</b>	85	79	<b>86</b>
<b>Rest of Asia</b>	62	56	<b>39</b>
<b>Europe, Middle East &amp; Africa</b>	71	84	<b>78</b>
<b>North and South America</b>	52	50	<b>52</b>
<b>Total</b>	77	74	<b>69</b>

### B) PERCENTAGE OF EMPLOYEES TRAINED BY GENDER

#### Female

	2019(%)	2020(%)	2021(%)
<b>Greater China</b>	93	86	<b>87</b>
<b>Rest of Asia</b>	74	65	<b>36</b>
<b>Europe, Middle East &amp; Africa</b>	68	80	<b>76</b>
<b>North and South America</b>	32	25	<b>47</b>
<b>Total</b>	85	79	<b>67</b>

#### Male

	2019(%)	2020(%)	2021(%)
<b>Greater China</b>	83	77	<b>85</b>
<b>Rest of Asia</b>	56	52	<b>40</b>
<b>Europe, Middle East &amp; Africa</b>	71	85	<b>78</b>
<b>North and South America</b>	55	54	<b>53</b>
<b>Total</b>	75	73	<b>70</b>

### C) PERCENTAGE OF EMPLOYEES TRAINED BY EMPLOYEE CATEGORY

#### Management

	2019(%)	2020(%)	2021(%)
Greater China	62	52	81
Rest of Asia	60	43	71
Europe, Middle East & Africa	76	77	79
North and South America	38	36	45
<b>Total</b>	<b>62</b>	<b>52</b>	<b>75</b>

#### Engineers

	2019(%)	2020(%)	2021(%)
Greater China	63	54	71
Rest of Asia	64	52	51
Europe, Middle East & Africa	73	88	81
North and South America	65	64	59
<b>Total</b>	<b>66</b>	<b>61</b>	<b>68</b>

#### Corporate Staff

	2019(%)	2020(%)	2021(%)
Greater China	92	84	88
Rest of Asia	67	44	36
Europe, Middle East & Africa	77	87	75
North and South America	31	30	54
<b>Total</b>	<b>85</b>	<b>78</b>	<b>75</b>

#### Production Staff

	2019(%)	2020(%)	2021(%)
Greater China	97	94	97
Rest of Asia	59	66	29
Europe, Middle East & Africa	56	76	75
North and South America	58	63	45
<b>Total</b>	<b>85</b>	<b>87</b>	<b>67</b>

**D) AVERAGE TRAINING HOURS COMPLETED PER EMPLOYEE BY GENDER**  
**Female**

	2019	2020	2021
<b>Greater China</b>	16	12	<b>15</b>
<b>Rest of Asia</b>	9	13	<b>5</b>
<b>Europe, Middle East &amp; Africa</b>	20	21	<b>20</b>
<b>North and South America</b>	2	3	<b>2</b>
<b>Total</b>	14.6	13.0	<b>11.8</b>



**Male**

	2019	2020	2021
<b>Greater China</b>	17	12	<b>14</b>
<b>Rest of Asia</b>	11	9	<b>7</b>
<b>Europe, Middle East &amp; Africa</b>	18	19	<b>18</b>
<b>North and South America</b>	17	10	<b>2</b>
<b>Total</b>	15.9	12.5	<b>12.1</b>





## E) AVERAGE TRAINING HOURS COMPLETED PER EMPLOYEE BY EMPLOYEE CATEGORY

### Management

	2019	2020	2021
Greater China	11	9	10
Rest of Asia	8	6	10
Europe, Middle East & Africa	18	12	13
North and South America	8	4	2
<b>Total</b>	<b>10.8</b>	<b>7.8</b>	<b>9.7</b>

### Engineers

	2019	2020	2021
Greater China	12	8	7
Rest of Asia	16	14	13
Europe, Middle East & Africa	21	20	25
North and South America	29	14	2
<b>Total</b>	<b>15.3</b>	<b>12.2</b>	<b>12.7</b>

### Corporate Staff

	2019	2020	2021
Greater China	15	9	13
Rest of Asia	10	4	6
Europe, Middle East & Africa	26	30	26
North and South America	8	5	2
<b>Total</b>	<b>15.8</b>	<b>12.4</b>	<b>14.5</b>

### Production Staff

	2019	2020	2021
Greater China	21	16	20
Rest of Asia	6	10	3
Europe, Middle East & Africa	6	9	4
North and South America	4	8	1
<b>Total</b>	<b>16.6</b>	<b>14.1</b>	<b>11.1</b>

The Group recognises that younger generations of employees will have a larger influence on future market trends. To engage younger employees and integrate them into the Group well, ASMPT continued to groom local talent from the communities it operates in through internship programmes, scholarship opportunities and sponsoring competitions held by local universities. For example, in November 2021, ASMPT China Intelligent Manufacturing Centre sponsored the 5th ASM Cup Guangdong University of Technology Electronic Design Competition. Nearly 300 students participated in this competition, which provided students with the opportunity to combine theory and practice, and deepened university-enterprise cooperation.



Under the leadership of its inaugural Chief People Officer, ASMPT has put in place a people strategy for the Group, with key focus on developing promising employees as a strategic business differentiator. More structured approaches in assessing performance and development needs; in career pathing; and succession planning are being introduced to support ASMPT's next phase of growth.

## LABOUR PRACTICES

ASMPT firmly opposes the employment of forced or coerced labour or of child labour as stipulated by local laws and regulations. The Group is committed to providing a friendly and fair working environment for its employees. ASMPT's Code of Business Conduct and Supplier Code of Conduct collectively set out the Group's stance against any discrimination based on race, colour, age, gender, ethnicity, religion, pregnancy status, nationality, marital status, disability, gender identity and expression, sexual orientation and/or other individual attributes. The Code of Business Conduct is applicable to all employees of the Group. In 2021, there were no reported incidents of discrimination, or of child or forced labour.

The Group takes special precautions to ensure that the relevant and appropriate checks of individual identity and employment eligibility are carried out before any employment offer is made. These checks involve verifying documentation such as passports, permits, working visas and personal identification documents issued by the relevant authorities.

The Singapore plant maintains good relationships with organisations such as the Singapore National Employer Federation for industry engagement, and the Singapore Semiconductor Industry Association for sharing best practices. The Group also supports and benchmarks its human resource policies against the Tripartite Standards of Fair and Progressive Employment Practices.

The Group works closely with business partners to adopt its human rights and labour practices and standards, including the prohibition of child labour in accordance with ASMPT's Supplier Code of Conduct. It conducts regular assessments and checks on these partners to ensure that acceptable standards are in place.

# *SUPPORTING OUR COMMUNITIES*

## **SUPPLY CHAIN MANAGEMENT**

The Group's working relationships with its suppliers, External Manufacturing Vendors and Partners ("EM Vendors") are critical to the realisation of its strategic and business goals, thus allowing the Group to sustain good performance through the cyclical states of the ever-changing semiconductor market. The Group has a robust procurement process that encourages fair competition through fair and transparent selection of suppliers. Suppliers and EM Vendors are reviewed on five criteria of Quality, Costing, Delivery, Service and Technology.

Performance needs are communicated to suppliers and EM Vendors during quarterly reviews. Each supplier or EM Vendor can access their performance and feedback received on the 'ASMPT Procurement — Suppliers' ("APS") portal, an in-house tool to boost the Group's supply chain turnaround by forging close communications with the Group's suppliers and EM Vendors. Via the APS, the Group shares its market estimates periodically throughout the annual business cycle. This helps suppliers and EM Vendors to plan and respond to the Group's business and procurement needs. In turn, the Group achieves optimal delivery times and inventories, thus keeping the supply chain as efficient as possible.

The Group selects and categorises its suppliers and EM Vendors into Certified Strategic Suppliers ("CSS"), Certified Preferred Suppliers ("CPS"), and Approved Firefighter Suppliers ("AFS").

A CSS supplies critical components and stands out in terms of Technological Capabilities, Vendor Managed Inventory ("VMI"), On Time Delivery ("OTD") and other key support criteria, for example, rapid response. Their capabilities allow them to adjust to the Group's dynamic needs for additional capacity and contingency supplies within a short timeframe.

A CPS is the next tier with lead-times typically between one and three months based on historical performance. They are able to respond quickly to fulfil the Group's market demands with good VMI, OTD and Quality metrics.

AFS suppliers are selected for their proven ability to source and deliver particular items with short lead-times at a premium. AFS vendors serve the Group well typically during market ramp up beyond a certain capacity limit, which can challenge the abilities of other suppliers.

The Group has over 2,160 suppliers and EM Vendors located in different countries including China, USA, Singapore, Malaysia, and across Europe. ASMPT constantly reviews its supply chain management processes to deliver sustainable results to customers and stakeholders.

The Group has meticulously built tight-knitted business relationships with its suppliers and EM Vendors across the world. The goodwill and common values form a base of trust and support as they expand their business together with the Group. The Group expects its vendors to adhere to the same high standards for ethics, labour rights, health and safety, and the environment as set out in ISO 14000 and the ASMPT Supplier Code of Conduct. This Code of Conduct is comprehensive and includes principles covering important areas such as supplier relationships, child labour, forced or coerced labour, human rights, the environment, health & safety, bribery, corruption & fair competition.

The ASMPT Supplier Code of Conduct is aligned with the RBA Code of Conduct, which clearly sets out the Group's culture and beliefs, core values and business practices. It is updated regularly and is made available on the Group's website.

## COMMUNITY INVESTMENT

As a good corporate citizen, the Group encourages and advocates active participation and contribution to the communities in which it operates, particularly through activities that target three main areas: ensuring the well-being of these communities, empowering youth through education, and encouraging eco-friendly initiatives. The Group supports various charities and non-profit organisations through donations and staff volunteerism.

In 2020, the COVID-19 pandemic limited the Group's community initiatives because of the various health, safety and movement requirements and restrictions in place. This continued into 2021 as new variants of the virus appeared in the year, bringing waves of infections globally. The Group's employees were required to reduce social interactions and were unable to put in as many volunteer hours compared to pre-pandemic times.

Nevertheless, ASMPT continued its efforts to build relationships with the local Non-Governmental Organisations ("NGO") and charities. In 2021, the Group's employees took part in 98 activities with sponsorship or donation, and put in approximately 5,591 hours of volunteer service. This was an increase in the number of activities from 69 in 2020, while the number of hours decreased from 12,903 hours logged. This was because the Group responded to more community requests while reducing the number of staff involved in each activity for health and safety reasons.

On the whole, combined volunteer hours fell by 57% across the Group and the number of volunteers decreased by 32%. These decreases were offset by the Greater China region, where the volunteer hours increased by 48% and the number of volunteers increased by 15% due to the strict border and pandemic control regulations in China, which led to relatively fewer infections and restrictions on domestic movement.

The Group's financial contributions to the community increased by 123% from US\$181,027 in 2020 to US\$404,845 in 2021. While it supported various social causes, the Group's top three focus areas were culture, education and vulnerable groups. The biggest event in 2021, with 210 participants, was a virtual run organised in Hong Kong called the Charity Online Run. Such participatory activities raised money for the needy and encouraged employees to stay fit and healthy at the same time.



Another noteworthy activity was a team of weekly staff volunteers at Pingshan High-Speed Railway Station in Shenzhen, Guangzhou who guided travellers on pandemic measures and crowd control. This contributed 79 hours per participant to community service. The Group's employees also participated in Red Cross Donation Day 2021 in Hong Kong, a practice in place since 1991 but especially meaningful in 2021 as the local hospitals were facing a shortage of blood donors due to pandemic-related restrictions.

Student internship programmes saw a reduced number of participating students from 446 in 2020 to 310 in 2021, and hours clocked by the students also declined from 233,157 in 2020 to 210,062 in 2021. The Group spent more than US\$800,000 in 2021 to sponsor interns, and it will continue to invest in internships as a means to engage and expose youth across the world to its line of work and the opportunities it offers.

In September 2021, the Group was awarded the Outstanding Caring Award at the Hong Kong Industry Cares Recognition Scheme 2021 event. The Group was recognised as one of the top 6 out of 200 nominated organisations for its social commitment and outstanding CSR activities.

# CREATING VALUE THROUGH INNOVATION

## INNOVATION IN ASMPT AND ENVIRONMENTAL BENEFITS

Competing in a technology-driven industry, the Group places great importance on innovation and cutting-edge capabilities that support its customers' technology roadmaps, and enable them to succeed in an environmentally friendly and sustainable manner. The Group consistently invests approximately 10% of its equipment revenue in R&D activities to develop industry-leading processes, capabilities and intellectual property, as well as to build a deep talent pool.

The Group also looks externally for technology innovations through mergers, acquisitions and strategic partnerships. As part of its long-term strategy to invest ahead of the curve, the Group has a strong record of integrating acquired companies to deepen and broaden its products and services portfolio. Some of the cutting-edge areas that it is actively working on include AI chip development, hybrid bonding and advanced manufacturing software solutions, which will help drive the Group's long-term competitiveness and revenue growth.

The Group has a strong pipeline of initiatives to address existing technology bottlenecks and capture new opportunities. Beyond being a technology leader in the semiconductor industry, its solutions can have a positive sustainability multiplier effect in terms of helping its customers save energy, reduce material use and lower emissions.

The Group is a market leader in providing packaging and other solutions for the LED and Electric Vehicle ("EV") industries, which are critical technologies to help reduce global energy usage and emissions. LEDs are up to 80% more efficient than previous technologies, while EVs can have at least 30% lower emissions compared to Internal Combustion Engine vehicles on a lifecycle basis. The Group is offering a collection of tools to address the needs of both mini LED and micro LED display makers, as well as design and assembly solutions for the increasingly high-powered electronics components in EVs. Thus, the Group is contributing to global technological developments and market solutions that can enhance energy efficiency and lower emissions.

## INTEGRATED SMART SMT FACTORY: BUSINESS TRANSITION TO A DIGITAL WORLD

As the manufacturing industry gears up to Industry 4.0, ASMPT is actively working on solutions tapping the Industrial Internet of Things ("IIoT") and connected manufacturing operations to help its customers smoothly transit their business model in tandem with evolving industry trends. The introduction and evolution of the Integrated Smart SMT Factory has been a significant step taken by the Group for digital transformation, which enables the Group and its customers to sustain their business growth in the face of rapidly evolving industries.

The integrated Smart SMT Factory provides solutions for end-to-end data communication and allows customers to produce faster and better, with more cost-effective and flexible manufacturing procedures. Customer feedback on this has been very positive.

## **VORTEX: A HIGH-SPEED, HIGH-PRECISION MINI LED SOLUTION**

With the integration of Mini/Micro LED, VORTEX provides a higher-speed and higher-precision solution with small-sized LED chips for the LED equipment industry. This technological breakthrough optimises the insufficiency and inaccuracy of traditional technologies and enables ongoing innovation in automation, smart production and smart factories.

ASMPT has been a pioneer in the LED equipment industry for more than 30 years. The innovation of VORTEX enabled the Group to secure the Gold Award at the Hangjia Aurora Awards for two consecutive years. The Group will continue to have dedicated resources for technology innovation, to help its customers automate mass production of Mini/Micro LEDs.

## **ASM INNOVATION CENTRE IN SINGAPORE: A BRIDGE TO CONNECT CUSTOMERS AND ASM EXPERTS**

The ASM Innovation Centre serves as a platform to showcase the Group's latest technology in the field of electronics manufacturing processes, ranging from wafer chip assembly to SMT placement – technologies that support its customers in their development of advanced packaging technologies, Industry 4.0 projects and smart factories.

The Group's well-equipped seminar rooms and auditorium serve as a bridge to connect customers with the Group's experts, offering opportunities to share the Group's innovative achievements and to engage more closely with customers and stakeholders.

## **STRATEGIC ACQUISITIONS AND COLLABORATIONS**

In 2021, the Group continued to explore strategic acquisitions and collaborations to strengthen its technological capabilities. In September 2021, the Group announced the acquisition of Automation Engineering, Inc. ("AEI"). This is consistent with the Group's strategy of pursuing sustained, profitable growth via expansion into promising adjacent markets. Furthermore, the acquisition enables the Group to enhance its presence in the automotive camera assembly and test solutions space.

## **INNOVATION SUMMIT: A WAY TO CULTIVATE EMPLOYEES' CREATIVE AND INNOVATIVE MINDS**

The Innovation Summit is a group-wide R&D event for employees to gain insights, exchange ideas and build connections. In 2021, the Summit received 68 innovative project submissions from three R&D centres: Singapore, Hong Kong, and Chengdu. Notable projects include the Smart Turret for units per hour ("UPH") boost-up, to enhance existing machines by minimising idle time during the package-under-test process.



# MINIMISING ENVIRONMENTAL IMPACT

## CORPORATE ENVIRONMENTAL POLICY

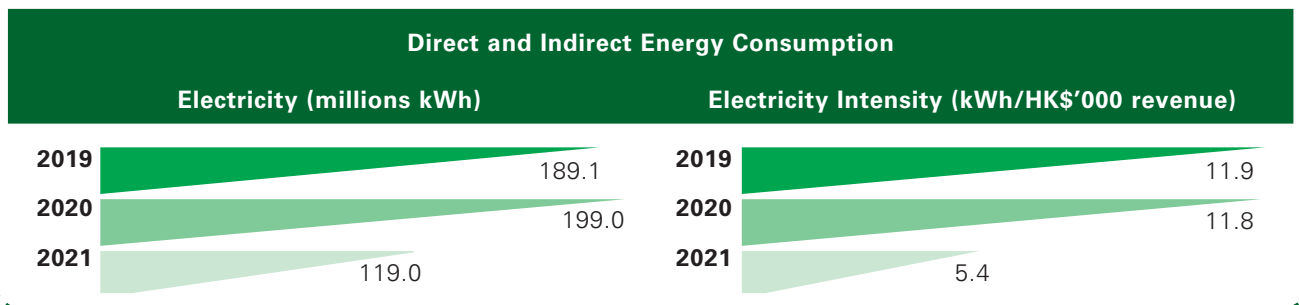
ASMPT’s environment charter highlights the Group’s commitment to managing the environmental impact of its business operations through energy-efficient practices and technologies, resource conservation, recycling, monitoring of greenhouse gas (“GHG”) emissions and minimising pollution.

The Group is proactive in managing the environmental footprint of its business. It sets guidelines on environmental design requirements for product development and has a comprehensive checklist for its product development teams to ensure that all relevant environmental factors are considered at the product design stage. New products will be assessed according to a set of stringent criteria with grades given to drive improvement in product design. ASMPT closely monitors the product lifecycle, which consists of product design, manufacturing, storage, packing and delivery, use and reuse, and disposal, to minimise emissions and other environmental impacts.

The Group’s main business locations in China (including Hong Kong), Germany, United Kingdom, United States, Singapore, and Malaysia are all ISO 14001 certified yearly for their environmental management systems. The ISO 14001 standard specifies the requirements for an environmental management system that an organisation can use to enhance its environmental performance, fulfil its compliance obligations, and achieve its environmental objectives.

ASMPT has been consistently vigilant in ensuring that any potential adverse impact on the environment because of its operations is identified and addressed in a timely manner. The Group has complied with all relevant international and national environmental laws and regulations.

## ENERGY CONSUMPTION



In 2021, the total energy consumption (kWh) decreased by 40% while energy consumption intensity (kWh/HK\$'000 revenue) decreased by 54%. This was partly attributable to the divestment of AAMI’s energy-intensive lead frame business with effect from 28 December 2020. Key energy efficiency initiatives included the following:

- At ASM Technology (Huizhou) Co., Ltd in China, solenoid valves were installed in the Compressed Dry Air (“CDA”) systems, to stop the CDA supply during off-peak hours such as weekends, holidays and plant shutdowns. The estimated electricity usage reduction is 378,756 kWh annually, an approximate 7.6% energy savings at the systems level. In addition, the independent chiller systems for Buildings A and B were combined into a single chiller system to cool both buildings. In cooler temperatures, the combined chiller system uses approximately 147,684 kWh less electricity annually, an approximate 21% energy savings at the systems level.
- At ASM Technology Singapore Pte. Ltd., the adoption of Air Handling Units (“AHU”s) with high energy-efficiency fans is in progress, replacing old AHUs with constant speed fans. In 2021, four such AHUs were replaced. When all such AHUs are replaced, projected electricity savings are approximately 1,086,941 kWh annually, an approximate 43.47% energy savings at the systems level.

- At ASM Technology (M) Sdn. Bhd. in Malaysia, Building 3 was awarded the GreenRE Gold rating in 2020, for its high-efficiency CDA and chiller systems. Building 3 was also designed to have a low Envelope Thermal Transfer Value that allowed minimal heat gain through the external walls and windows of the building. Compared to the traditional concrete and metal roof structures of Buildings 1 & 2, the estimated reduction in electricity used for cooling in 2021 was approximately 17,325,847 kWh annually, an approximate 42.5% energy savings at the systems level.

## GREENHOUSE GAS (“GHG”) EMISSIONS

ASMPT’s Scope 1 emissions are generated from use of vehicles and gaseous fuel consumption, while Scope 2 emissions are generated from use of purchased electricity. While the Group is currently not tracking Scope 3 emissions, it is assessing the feasibility of doing so.

Direct Scope 1 Emissions			Indirect Scope 2 Emissions		
CO <sub>2</sub> Emissions from Gaseous Fuel consumption (kilotonnes)		CO <sub>2</sub> Emissions from Vehicles usage (kilotonnes)	CO <sub>2</sub> Emissions from Electricity consumption (kilotonnes)		
2019	1.4	2019	1.0	2019	137.0
2020	1.5	2020	0.8	2020	144.2
2021	2.9	2021	0.8	2021	84.2

Total Scope 1 and Scope 2 CO <sub>2</sub> Emissions (kilotonnes)		CO <sub>2</sub> Emissions Intensity (tonnes/HK\$’000 revenue)	
2019	139.4	2019	0.0088
2020	146.5	2020	0.0087
2021	87.8	2021	0.0040

In 2021, total Scope 1 and Scope 2 emissions decreased by 40% while emissions intensity decreased by 54%, primarily because of the divestment of the lead frame business.

ASMPT is mindful of international efforts to set science-based decarbonization targets to keep global warming within the safe 1.5°C threshold by 2100. The Group is working towards developing a net-zero emissions target and specific plans to achieve this goal.

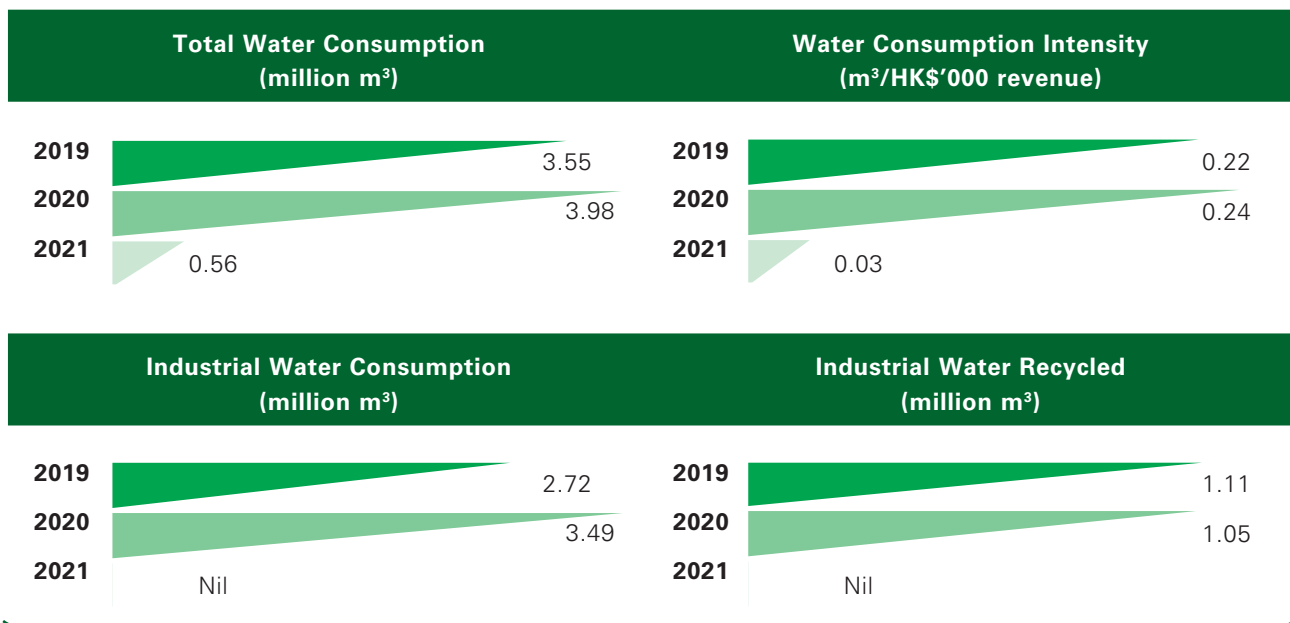


## NITROGEN OXIDES (“NO<sub>x</sub>”), SULPHUR OXIDES (“SO<sub>x</sub>”) AND PARTICULATES EMISSIONS



NO<sub>x</sub>, SO<sub>x</sub> and particulates are atmospheric pollutants from ASMPT’s fuel consumption. As they can affect human health and ecosystems, the Group ensures that the emission levels are within legal limits and that active steps are taken to reduce such emissions. In 2021, emissions of NO<sub>x</sub>, SO<sub>x</sub> and particulates increased by 4% whereas the emission intensity per HK\$1,000 revenue decreased by 29%. The year-on-year increase in emissions was attributable to one of the Group’s business unit’s relocation, which resulted in higher gas usage for heating purposes.

## WATER USAGE



In 2021, there was a significant 86% year-on-year decrease in total water consumption due to the divestment of the lead frame business, which also contributed to an 88% reduction in consumption intensity. There was no consumption or recycling of industrial water for the Group in 2021, as such usage was entirely due to the lead frame manufacturing business in prior years.

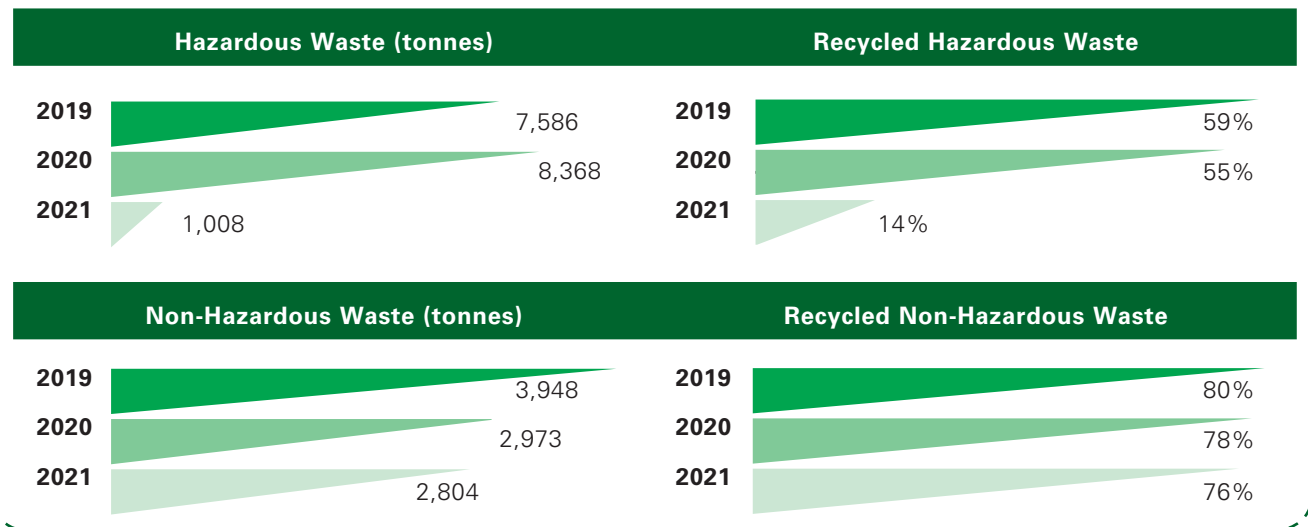
## WASTE MANAGEMENT

The Group’s waste-reduction measures are diligently monitored, including how specific types of waste are handled, in view of their potential adverse impact on surrounding communities. Waste generated is categorised as general waste or hazardous waste. General waste is consolidated and collected by licenced vendors, while hazardous waste is segregated and placed in dedicated waste rooms and disposed of by accredited vendors on a regular basis.

The Group continues to promote the reuse of equipment materials. “Materials Recycling Days” are organised regularly in certain locations, where used materials from the production floor are collected and sorted, either to be kept for internal reuse or disposed through external recycling channels. Over the years, the Group has implemented waste reduction and recycling programmes to manage resources more effectively and minimise wastage. ASMPT’s products incorporate reusable and recyclable materials where possible, and the Group encourages its suppliers to adopt reusable and returnable packaging for shipments.

Across the Group, employees are strongly encouraged to print only when absolutely necessary.

The Group generated 1,008 tonnes of hazardous waste and 2,804 tonnes of non-hazardous waste in 2021, a reduction of 88% and 6% respectively compared with 2020. Of these, 14% of hazardous waste and 76% of non-hazardous waste were recycled, with the remainder being disposed of by accredited vendors. The sharp reduction in hazardous waste was due to the divestment of the lead frame business. A large proportion of recyclable hazardous waste originated from the lead frame business, accounting for 2021’s drop in recycled percentage. The Group is compliant with international standards and local regulations, engaging accredited vendors to handle hazardous waste treatment and disposal.

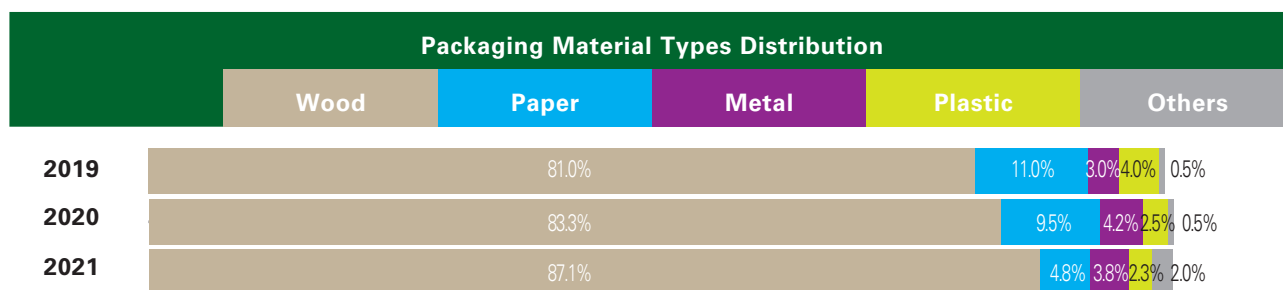
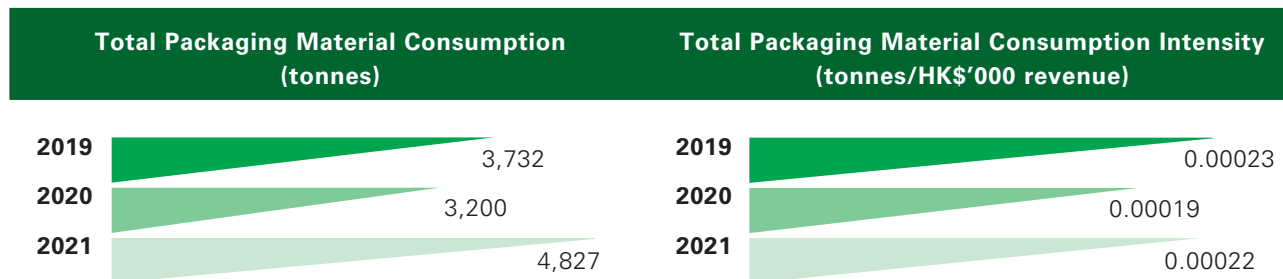


## USE OF RESOURCES AND PACKAGING MATERIALS

The Group endeavours to use reusable and recyclable materials in its products to reduce the consumption of raw materials. It also designs products with a lower weight and volume wherever possible. Additionally, there is a continuous effort to improve manufacturing processes to reduce machine fabrication hours and the use of materials, thereby conserving energy and material resources.

The Group’s manufacturing operations are designed with exceptionally compact assembly lines to minimise long transport routes, while making the production floor infrastructure (i.e. water, electricity, lighting and air-conditioning) as efficient as possible to optimise logistics within the production plants.

Wherever possible, ASMPT uses recyclable crates for packaging its large industrial equipment products, and cardboard boxes for common packaging materials. In general, plastic material is kept to a minimum in the Group’s packaging.



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ENABLING THE DIGITAL WORLD



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