

# SUSTAINABILITY REPORT

# SUSTAINABILITY REPORT

## BOARD STATEMENT

### DEAR STAKEHOLDERS,

Nanofilm Technologies International Limited (“**Nanofilm**” or the “**Company**”, “**We**”, “**us**”), together with our subsidiaries (the “**Group**”), is delighted to present our fourth Sustainability Report (“**Report**”) for the financial year ended 31 December 2023.

Nanofilm adopts a four-pillar sustainability strategy comprising, ‘Sustainable Innovation’, ‘Environment’, ‘Social’ and ‘Responsible Business’. The ‘Sustainable Innovation’ pillar reflects Nanofilm’s deep tech DNA and our commitment to using our deep tech capabilities to address various global environmental issues.

In FY2023, Nanofilm has continued to make progress on our sustainability efforts despite the difficult business environment. In particular we have made significant milestones in the ‘Sustainable Innovation’ and ‘Environment’ pillars with the NTI-NTU Corporate Laboratory and GHG emissions reduction through procurement of clean hydroelectricity and solar installations. Steady progress has also been continued in our ‘Social’ and ‘Responsible Business’ pillars through initiatives like the Nanofilm Technology Forum.

In FY2023, we have established the \$66 million NTI-NTU Corporate Laboratory in collaboration with Nanyang Technology University (“**NTU**”), supported by the Singapore government under RIE2025<sup>1</sup>. Leveraging the expertise of Corp Lab, we aim to drive sustainable innovations that position Nanofilm as a leading deep tech company, advancing our Environmental, Social, and Governance (“**ESG**”) goals. This NTI-NTU Corporate Laboratory will also be a common platform for public and private collaborators to access NTI’s deep tech, contributing to a more vibrant and robust RIE ecosystem. This is in addition to the continued investment in clean technology for hydrogen solutions through Sydrogen Energy.

Throughout the year, Nanofilm has achieved notable environmental sustainability milestones, particularly in our commitment to clean energy initiatives.

- In FY2023, we have utilised approximately 66,761.64 MWh of clean electricity, achieved sourcing 100% of our electricity used in our Shanghai plants from renewable sources.
- In Shanghai, we have successfully installed solar panels on the roofs of both plants with a total capacity of 2.4 MWp. Since implementation, the solar panels have generated approximately 1,828.36 MWh of electricity and has marked a substantial step in reducing our carbon footprint.

On the social and training front, Nanofilm implemented our inaugural Nanofilm Technology Forum for our global technical staff to interact, learn and collaborate about the new deep technology that the various parts of the Group have been undertaking and further hone our skills in commercialising deep technology.

In FY2023, we have reviewed our material topics inventory to ensure alignment with our sustainability approach across four pivotal pillars: Sustainable Innovation, Environmental, Social, and Responsible Business. Sustainability is a vital and integral part of our corporate strategy for achieving long-term sustainable growth through value creation for our people, our environment and our society.

1 RIE2025 refers to Research Innovation Enterprise 2025 national 5 year research plan.

# SUSTAINABILITY REPORT

Nanofilm maintains a robust sustainability governance structure, overseen by its Board, CEO, and senior management (“**Senior Leaders**”). The Senior Leaders are responsible for managing sustainability and climate-related matters, including formulating strategies, goals, policies, and guidelines. The CEO, supported by the Chief Strategy Officer (“**CSO**”), chairs the sustainability team, which executes the work plan and monitors key performance indicators. The CSO provides leadership on sustainability strategy, goals, and targets, ensuring a holistic approach across Nanofilm’s operations. In accordance with Rule 720(7) of the SGX-ST Listing Rules, all the Directors of the Company have attended sustainability training courses to equip themselves with knowledge on sustainability matters.

This Report is a valuable tool for engaging with stakeholders and addressing issues that matter most to them and our business. It enhances our risk management, strategy development, and stakeholder engagement activities, helping us to focus and prioritise sustainability and corporate social responsibility initiatives.

The scope of this Report encompasses material sustainability aspects from 1 January 2023 to 31 December 2023, with performance data from operations in China, Singapore, Vietnam and Japan. We believe this Report adequately addresses stakeholders’ concerns related to sustainability issues arising from our major business operations. In FY2023, we have updated and restated the machine production hours and the scope 2 greenhouse gas (“GHG”) emission baselines for FY2022. This is a result of updates to the calculation methodology and the grid emission factor, respectively.

Moreover, in alignment with our commitment to transparency and best practices, we have adopted the “dual reporting” method for disclosing scope 2 greenhouse gas (“GHG”) emissions. This approach enables us to provide comprehensive insights by disclosing both market-based and location-based emissions for FY2023.

This Report is prepared in compliance with the SGX-ST Listing Rules 711A & 711B and with reference to the latest Global Reporting Initiative (“GRI”) Standards as it provides an extensive framework that is widely accepted as a global standard for sustainability reporting. The Report also takes into account Sustainability Reporting Guide of Practice Note 7.6 of the SGX-ST Listing Manual. In addition, Nanofilm quantifies and reports its GHG emissions in alignment with the World Resources Institute’s Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and the Scope 2 Guidance.

Our commitment to transparency and accuracy is demonstrated through internal data monitoring, verification processes, and regular internal review and audit of our sustainability reporting processes. We welcome your views and feedback on our sustainability practices and reporting at [sustainability@nti-nanofilm.com](mailto:sustainability@nti-nanofilm.com).

Thank you for your continued support as we work towards a sustainable and responsible future.

**Board of Directors**  
**Nanofilm Technologies International Limited**

## APPROACH TO SUSTAINABILITY

### SUSTAINABILITY GOVERNANCE

Sustainability is a fundamental focus at Nanofilm, and we are dedicated to establishing a robust governance structure that ensures the entire organisation is aligned with sustainability principles, aiming for positive and lasting impacts.

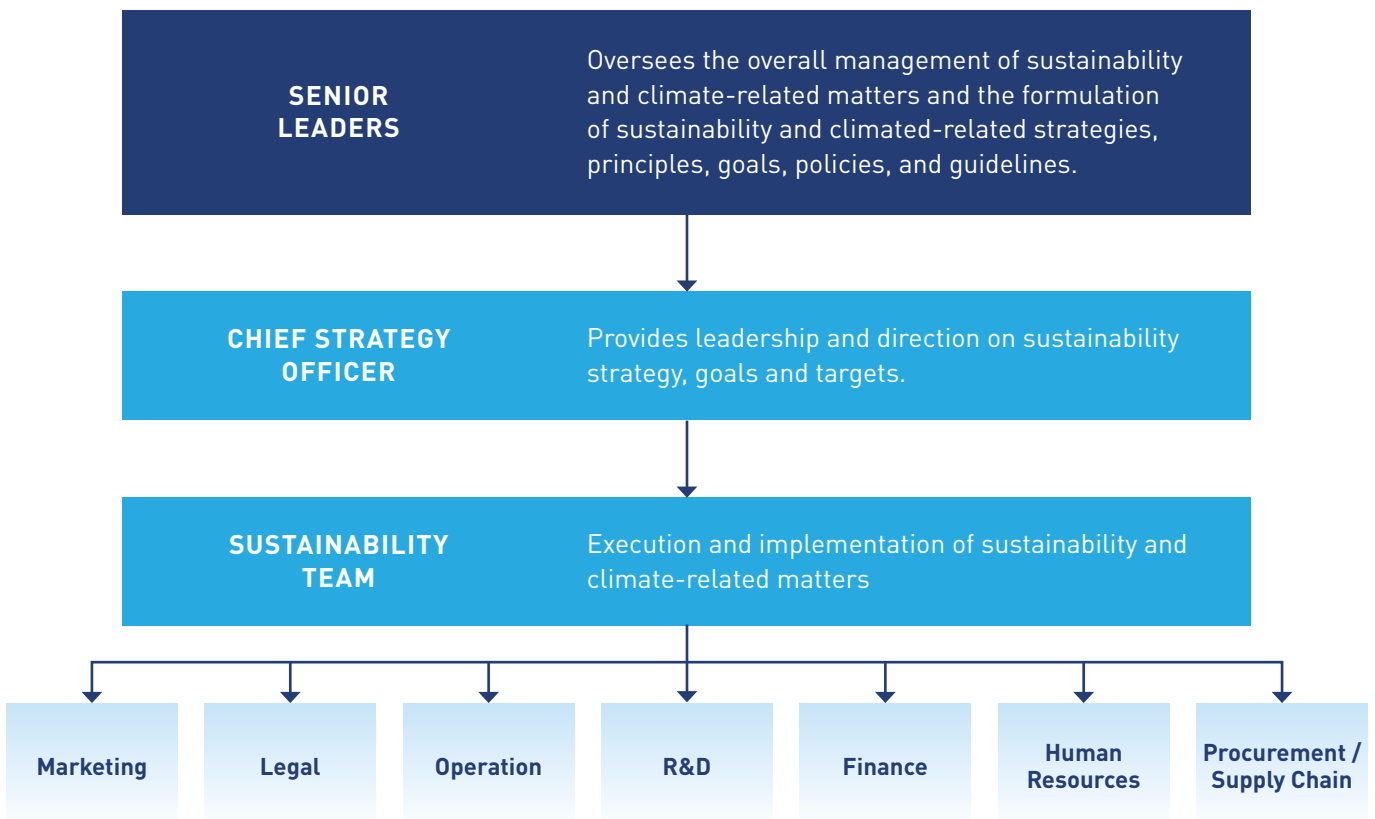
The Board, CEO and Senior Leaders oversee the overall management of sustainability and climate-related matters and the formulation of sustainability and climate-related strategies, principles, goals, policies and guidelines. At least two meetings are held annually for the Board to approve Nanofilm’s sustainability plans and review the progress updates presented by the CEO and CSO. The Board oversight extends to the material ESG factors, subject to annual reviews to maintain relevance and alignment with current business needs. These factors are integral to shaping the strategic direction and policies of the organisation.

In the preparation and review of this Report, the Senior Leaders actively participated, ensuring a comprehensive and informed perspective before its approval and publication.

The CEO is supported by the CSO, the sustainability leader, to chair the sustainability team. The CSO is responsible for providing leadership and direction on the sustainability and climate-related strategy, goals and targets. The CSO also regularly reviews and monitors the Company’s sustainability and climate-related key performance indicators.

The sustainability team, comprised of experts from various functions such as human resources, finance, procurement/supply chain, marketing, research and development, operations, and legal, is responsible for executing the sustainability and climate-related work plan. They provide timely monitoring of key performance indicators to the CSO, ensuring a holistic approach to sustainability throughout Nanofilm’s operations.

#### SUSTAINABILITY GOVERNANCE AT NANOFILM



# SUSTAINABILITY REPORT

## SUSTAINABILITY PILLARS

Sustainability is a vital part of our corporate strategy for achieving long-term sustainable growth through value creation for our people, our environment, and our society. We have structured our organisational structure to lead and execute our sustainability framework:

### Sustainable innovation

Advancing technological solutions and innovations with a commitment to sustainability. Drive the commercialisation of deep tech solutions and position Nanofilm as a leader in sustainable innovation.

### Environment

Minimising environmental impact and reducing resources consumption. Contribute to a cleaner and more sustainable environment through technological advancements.

### Social

Building and sharing knowledge, fostering education, and contributing to societal well-being. Empower individuals with the skills needed for the future and positively impact society through collaboration and education.

### Responsible Business

Integrating responsible and sustainable practices into business operations. Foster a culture of responsibility, innovation, and excellence, positioning Nanofilm as a socially and environmentally conscious business leader.



### SUSTAINABLE INNOVATION

- Technology-Based Sustainable Solutions
- Hydrogen Economy
- Continuous Operational Improvements
- Sustainable “Green Plating”



### ENVIRONMENT

- Managing Carbon Footprint
- Energy Efficiency
- Water Efficiency



### SOCIAL

- Employees Development & Welfare
- Community Involvement



### RESPONSIBLE BUSINESS

- Sound Corporate Governance
- Robust Systems & Policies

## MATERIALITY ASSESSMENT

The materiality assessment serves as a crucial process, enabling us to stay attuned to evolving sustainability issues and proactively manage sustainability-related risks and opportunities integral to our long-term business viability.

In the current reporting year, we undertook a comprehensive materiality assessment, meticulously capturing market trends and gaining insights into emerging sustainability risks and opportunities impacting our industry and operations. Nanofilm remains committed to an annual review and evaluation of the list of material sustainability topics. This iterative process ensures that our sustainability initiatives remain harmonised with our business goals and aligned with the expectations of our stakeholders.

Using a three-step approach, the materiality assessment process started with the identification of material topics relevant to Nanofilm, followed by prioritisation by stakeholders and lastly, the chosen material topics were reviewed and approved by the Board.

### THREE-STEP APPROACH FOR MATERIALITY ASSESSMENT PROCESS

1

#### STEP 1 REVIEW AND IDENTIFY

- Conduct a peer benchmarking exercise.
- Review ESG rating agencies' requirements and mainstream sustainability reporting standards.

2

#### STEP 2 ALIGN AND PRIORITISE

- Sustainability topics were shortlisted through a broad stakeholders' engagement.
- Conduct stakeholder interviews to obtain their input and expectation on Nanofilm's sustainable practices.

3

#### STEP 3 VALIDATE

- The Board and CSO reviewed the material topics to ensure that the prioritisation of the selected material topics remain relevant and pertinent to Nanofilm.

# SUSTAINABILITY REPORT

In FY2023, we have refined the list of material topics, focusing on core issues and aligning them with our sustainability approach across four pillars: sustainable innovation, environment, social, and responsible business. This refinement reflects our dedication to fostering an agile business framework and a sustainability strategy with a clear focus.

## NANOFILM'S MATERIAL SUSTAINABILITY TOPICS

SUSTAINABILITY PILLAR	MATERIAL TOPIC	RELEVANT SECTION OF THE REPORT
<b>Sustainable Innovation</b>	Sustainable Innovation	Sustainable Innovation
<b>Environment</b>	GHG Emissions & Climate Strategy	Environment - Carbon Emissions and Climate Change
	Energy Consumption	Environment - Energy Management
	Water Consumption	Environment - Water Management
	Waste Management	Environment - Waste Management
<b>Social</b>	Human Capital Development	Social - Human Capital Development Social - Employment Profiles and Welfare
	Diversity and Inclusion	Social - Diversity and Inclusion
	Health and Safety	Social - Health and Safety
	Human Rights and Labour Management	Social - Human Rights and Labour Management
	Local Communities	Social - Local Communities
<b>Responsible Business</b>	Corporate Governance	Responsible Business - Corporate Governance
	Business Ethics	Responsible Business - Business Ethics

## STAKEHOLDER ENGAGEMENT

We value our stakeholders and recognise the importance of responsible business development. To achieve this, understanding stakeholders' expectations in the economic, environmental, and societal realms is paramount. We regularly consult our stakeholders using a holistic framework to identify key issues.

Our stakeholders are categorised into internal and external groups. Internally, we engage with the Board, management, and employees. Externally, we collaborate with customers, strategic business partners, regulatory authorities, shareholders/investors, media, analysts, suppliers, and vendors.

### NANOFILM'S INTERNAL AND EXTERNAL STAKEHOLDERS

Stakeholders	Engagement Method	Stakeholders' Expectation	Nanofilm's Responses
<b>CUSTOMERS AND STRATEGIC BUSINESS PARTNERS</b>	<ul style="list-style-type: none"> <li>• Direct feedbacks via sales channel engagement</li> <li>• Site visits to our production facilities</li> <li>• Co-development of research and development projects</li> <li>• Periodic assessment and audits performed by customers relating to impacts on environment, health, safety, and social factors</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to develop innovative solutions that are mission critical in nature</li> <li>• Establish green factory</li> <li>• Ensure business continuity</li> </ul>	<ul style="list-style-type: none"> <li>• Provide a sustainable factory environment while providing solutions needed by customers</li> <li>• Creating value in a sustainable and responsible manner</li> <li>• Ensure that we meet customers' ESG requirements</li> </ul>
<b>EMPLOYEES</b>	<ul style="list-style-type: none"> <li>• Employee's survey and interactions</li> <li>• Internal updates and communication</li> <li>• Events and functions</li> </ul>	<ul style="list-style-type: none"> <li>• Provide training and education</li> <li>• Manage occupational health and safety</li> <li>• Maintain work life balance</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure workplace health and safety enable the employees to work comfortably and safely</li> <li>• Employment benefits to address basic needs and help to manage stress and improve health</li> <li>• Training and career development are in place to improve effectiveness and productivity</li> </ul>
<b>REGULATORY AUTHORITIES</b>	<ul style="list-style-type: none"> <li>• Regular updates and communication</li> <li>• Reports and compliance</li> <li>• Periodical meetings with government bodies</li> <li>• Dialogue with government bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute to regulatory landscape shaping as a market participant</li> </ul>	<ul style="list-style-type: none"> <li>• Attending market events to increase communication, visibility and transparency</li> <li>• Play a part in contributing to economy activities and value-adding output in countries we have presence in</li> </ul>
<b>SHAREHOLDERS/ INVESTORS, MEDIA, AND ANALYSTS</b>	<ul style="list-style-type: none"> <li>• SGX Announcements</li> <li>• Shareholders' meeting</li> <li>• Annual reports and Circulars</li> <li>• Company's website</li> <li>• Regular updates and communication</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term profitability</li> <li>• Sustainability matters</li> <li>• Group's performance against targets</li> <li>• Compliance with all relevant requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Committed to delivering economic value to our capital providers through a strong financial performance and our engagement with them</li> <li>• Regular and effective communication</li> </ul>
<b>SUPPLIERS, VENDORS</b>	<ul style="list-style-type: none"> <li>• Periodic supplier's assessment</li> <li>• Supplier's meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to meet Company's quality standards</li> <li>• Ability to meet Company's delivery timelines</li> </ul>	<ul style="list-style-type: none"> <li>• Periodic suppliers' assessments to ascertain quality of products and services acquired to ensure that they are free from hazardous substances</li> <li>• Supply chain due diligence to ensure our suppliers do not have incidents of human rights and child labour violation</li> </ul>



# SUSTAINABILITY REPORT

## OUR TARGETS AND PERFORMANCE


The United Nations Sustainable Development Goals (“**UN SDGs**”) constitute a pivotal component of the 2030 Agenda for Sustainable Development, a global framework unanimously adopted by World Leaders during the United Nations Sustainable Development Summit in September 2015.

At Nanofilm, we are unwaveringly committed to actively supporting the UNSDGs. Our dedication extends to fostering social and economic development within the societies and communities where we operate, alongside our commitment to climate action and responsible business practices.

In the past year, we fine-tuned our 2030 targets, aligning them with FY2022 data to ensure a fairer comparison that encapsulates the full scope of the Group’s operations. Moving into FY2023, with an improved data collection system for our coating operations, we have significantly increased granularity on our operational status including production hours calculations. In addition, we have launched various sustainability initiatives, furthering our progress towards achieving our long-term goals. For a comprehensive understanding of our sustainability efforts, the table below provides detailed insights into our focus areas, targets, and contributions to the various SDGs.



OUR 2030 TARGETS MEASURED AND FY2023 PERFORMANCE AGAINST 2022 BASE YEAR

Nanofilm's Sustainability Pillars	UN SDGs	Metrics	FY2022 Performance	FY2023 Performance	2030 Target
Sustainable Innovation		Research and Development ("R&D") and engineering expenses as a percentage of total revenue	7.7%	9.4%	>7.0%
		GHG emissions intensity (tCO <sub>2</sub> e/'000 production hours)	41.07 (market-based)	6.38 (market-based)	40% reduction in GHG intensity to achieve 24.64 tCO <sub>2</sub> e/'000 production hours <sup>2</sup>
Environment	   	Percentage of total energy use from renewable sources or purchased carbon credits	0%	87%	At least 50%
		Production wastewater discharge intensity (m <sup>3</sup> /'000 production hours)	649.00	409.68	80% reduction in production wastewater discharge intensity to achieve 129.8 m <sup>3</sup> /'000 production hours
		Annual staff training (average hours/employee)	31.44	21.07	40
Social	  	Rate of recordable work-related injuries (per 1,000,000 hours worked) <sup>3</sup>	1.64	0.84	<1.0
		% of critical direct suppliers covered by human rights, environmental, health and safety due diligence screening	100%	100%	100%
Responsible Businesses	 	% of new employees who have completed the Compliance and Code of Conduct training within 6 months of employment	100%	100%	100%
		No. of instances of forced and child labour in operations	Zero Instances	Zero Instances	Zero Instances

This commitment underscores our proactive stance in addressing global challenges and contributing to a sustainable future in line with the United Nations' ambitious agenda.

2 Production hours refers to machine production hours.

3 Number of total recordable work-related injuries over the total man hours for the period (per 1,000,000 hours worked)

SUSTAINABILITY REPORT:

# SUSTAINABLE INNOVATION

## CORE PRINCIPLES



**Striving for innovation and operational excellence in a sustainable and responsible way**



**Continue R&D of technologies to create solutions with positive sustainability impact and improve lives**

# SUSTAINABILITY REPORT

## TECHNOLOGY-BASED SOLUTIONS

Since our establishment in 1999, Nanofilm has emerged as a leading provider of nanotechnology solutions, leveraging our proprietary technologies, core competencies in R&D, engineering and production, to provide technology-based solutions across a wide range of industries. Our commitment extends across a diverse array of industries, where we deliver technology-based solutions that set industry standards.

Our comprehensive portfolio includes cutting-edge solutions in advanced materials, nanofabrication, and equipment engineering. Through the formulation of advanced materials and nanofabrication processes, we actively contribute to fostering a more sustainable environment. Our solutions play a pivotal role as catalysts, empowering our customers to achieve high-value advancements in custom end-products. By replacing finite base materials, our innovations introduce new functionalities and extend product lifespans.

The adaptability and advantages afforded by our proprietary technologies enable our solutions to be seamlessly applied across various industries. This flexibility has allowed us to venture into new markets previously inaccessible to conventional technologies. At Nanofilm, we consistently push the boundaries of technology applications, integrating new materials and techniques to explore novel applications.



## KEY HIGHLIGHTS

Nanofilm has made a significant investment of \$16.6 million to propel R&D, underlining our dedication to pushing the boundaries of technological advancement.

R&D investments accounted for 9.4% of our total revenue.

Formation of the NTI-NTU Corporate Laboratory

# SUSTAINABILITY REPORT

Nanofilm's strategic vision involves a substantial increase in investment proportions dedicated to clean technology R&D, in particular investment to develop solutions for the hydrogen economy and replacement for electro-plating. This initiative underscores our commitment to developing innovative solutions that address pressing environmental challenges and aligns seamlessly with our broader sustainability goals. We adhere strongly to our policy and guideline governing our clean technology investment that outlines the Company's commitment to sustainability innovation.

To enhance our R&D capabilities, we have formed a robust and highly skilled team devoted to supporting the Group across all facets of technical innovations. With over 400 employees globally dedicated to R&D and engineering endeavours in FY2023, Nanofilm remains at the forefront, driving advancements and establishing benchmarks in the dynamic nanotechnology landscape.

Currently, Nanofilm holds an impressive portfolio of a more than 100 patents and trademarks, a testament to our commitment to innovation. In FY2023, we have made a significant investment of \$16.6 million to propel R&D, underlining our dedication to pushing the boundaries of technological advancement. Notably, our R&D investments accounted for 9.4% of our total revenue. Looking ahead to 2030, our ambition is to continue to invest more than 7.0% of our total revenue in R&D and engineering, aligning with our vision to drive innovative and sustainable growth.

## SUSTAINABLE "GREEN PLATING"

As the global economy intensifies its pursuit of decarbonisation, various industries, including surface treatments, are actively seeking sustainable alternatives to conventional industrial processes. There is a growing demand for environmentally friendly surface treatment solutions, particularly for anti-corrosion and protection, to replace traditional methods like electroplating, which are inherently pollutive.

Through the synergy of Nanofilm's advanced vacuum solutions and Shenzhen Everwin Precision Technology Co. Ltd.'s ("**Everwin**") manufacturing capabilities, Sichuan Apex Technologies Co., Ltd ("**ApexTech**"), is strategically poised to harness opportunities in the commercialisation of vacuum coating technologies for metal components in electric vehicle ("**EV**") battery packs and energy storage systems. This approach aims to replace the conventional electroplating method with a sustainable, scalable, cost-competitive, and environmentally friendly solution.

The long-term goal is to introduce environmentally friendly coating solutions in various industries and applications, gradually replacing electroplating across diverse domains. This strategic vision aligns with the broader trend towards sustainable practices and positions ApexTech as a key player in advancing cleaner and more sustainable manufacturing processes.

## HYDROGEN ECONOMY

The World Bank<sup>4</sup> has emphasised the pivotal role of clean hydrogen in mitigating the impacts of climate change and facilitating the decarbonisation of challenging-to-abate sectors heavily reliant on fossil fuels. Unlike traditional clean energy sources such as solar, wind, and hydropower, which are subject to nature's variability, clean hydrogen stands out as a promising solution. Nanofilm recognises the limitations of conventional clean energy, particularly in terms of predictability and effective long-term storage through batteries.

At Nanofilm, we believe that hydrogen fuel cell technology represents the future of carbon neutrality due to its utilisation of hydrogen as a storable and transportable fuel. In line with this vision, Sydrogen Energy Pte. Ltd., a Joint Venture between Nanofilm and a wholly owned subsidiary of Temasek Holdings Private Limited, has been established. Sydrogen is dedicated to the development and manufacturing of fuel cell components that play a crucial role in overcoming existing limitations and facilitating the widespread use of hydrogen as a clean energy source.

One of our breakthrough innovations, SydroDIAMOND®, is a cutting-edge Bipolar Plate ("BPP") carbon coating. This technology can replace costly noble metals like gold, leveraging the superior properties of diamond and graphite to provide outstanding corrosion resistance and high conductivity for metallic BPPs. Sydrogen's advanced materials solutions find applications in both hydrogen fuel cell systems, where hydrogen is used to generate electricity, and electrolyser systems, where hydrogen is produced from water. In FY2023, we have begun commercial shipments of SydroDIAMOND® coated BPP to a key Chinese automotive customer for integration into their fuel cell system. Through such innovations, we are actively contributing to the advancement of clean energy and sustainable solutions for a carbon-neutral future.

In FY2023, Sydrogen Energy Pte Ltd achieved a significant milestone by signing a MOU with Pyxis Maritime Pte Ltd. This collaboration aims to develop hydrogen fuel cell solutions for the maritime harbour craft ecosystem, spanning from shore to sea. The objective is to support Singapore's electrification goals and pave the way towards achieving net-zero emissions. This initiative underscores our commitment to driving sustainable advancements and promoting the adoption of clean energy solutions in critical sectors.

4 <https://www.worldbank.org/en/topic/energy/publication/sufficiency-sustainability-and-circularity-of-critical-materials-for-clean-hydrogen>

# SUSTAINABILITY REPORT

## CONTINUOUS OPERATIONAL IMPROVEMENTS

At Nanofilm, our commitment to environmental sustainability is ingrained in the very fabric of our innovations and technologies. We steadfastly pursue enhancements in our operational processes and systems, not merely for efficiency gains but also to minimise the environmental footprint of our business. Our Operational Excellence Suite encompasses various aspects, including manufacturing operational systems (MES, QTS, PTS), LEAN system thinking, process transformation, customer engagement, talent management, sustainability, and technology. This suite serves as a guiding framework for the day-to-day operation of our business.

### LEAN SYSTEM THINKING



Since our inception in mid-2017, the integration of LEAN system thinking into our daily business operations has been a consistent and integral aspect of our approach. In FY2023 alone, we successfully concluded 16 LEAN projects, addressing critical processes such as minimising cycle time for industrial equipment, enhancing maintenance downtime, optimising equipment capacity, increased productivity and yield. This builds on a robust legacy, as we have completed over 1,300 LEAN projects since FY2017.

#### Key areas of focus for LEAN projects in FY2023

- Improving operational efficiencies
- Improving production quality and productivity
- Waste reduction and costs optimisation

### MES, QTS MOVE TOWARDS INDUSTRY 4.0



We are actively advancing toward Industry 4.0, the Fourth Industrial Revolution, within our manufacturing operations. A significant milestone was achieved in 2021 with the successful implementation of SAP systems group-wide. Building upon this foundation, we have taken proactive measures to enhance our MES, QTS, and PTS systems<sup>5</sup>.

In alignment with our commitment to technological progress, we have initiated the integration of automation and robotics into our manufacturing lines. This includes the deployment of remote diagnostics tools for inspecting coating quality, the implementation of robotic welding, and transformative processes for wire coiling. Furthermore, we have introduced automation for loading and unloading, sorting, and visual inspection.

As part of our strategic vision, we are dedicated to further refining and expanding our smart manufacturing processes. Plans are underway to increase the use of robotics and automation across our manufacturing lines wherever feasible.

5 Manufacturing Execution System ("MES"), Quality Tracking System ("QTS"), Project Tracking System ("PTQ")

## OTHER COLLABORATIONS

### NTI-NTU CORPORATE LABORATORY

Nanofilm is dedicated to sustainable innovation, evident in our collaboration with NTI and NTU to establish the NTI-NTU Corporate Laboratory. Launched on 1 November 2023, and supported by the Singapore government under RIE2025, this initiative is aligned with national commitments to research and innovation, driving economic growth and addressing challenges. With the total project value of \$66M for 5 years, we are intending to provide research scholarship opportunities to 13 Ph.D. candidates in grooming local talents.

The Corporate Laboratory aims to propel the commercialisation of Innovation and Technologies, combining NTI's deep technology with NTU's innovation environment. Over 2023 to 2028, the lab focuses on four key areas:

#### Coating Equipment

Develop cost-effective technologies for depositing protective coatings at an accelerated rate.

#### Advanced Materials

Research coatings with functional applications, protecting against wear, corrosion, and providing alternatives to anti-stick solutions.

#### Nano-fabrication Technologies

Explore nanoscale optical and sensory components for augmented and virtual reality devices.

#### Hydrogen Energy

Focus on fuel cell technologies for affordable and sustainable hydrogen energy.

NTI-NTU CORPORATE LABORATORY LAUNCHING CEREMONY





SUSTAINABILITY REPORT:

# ENVIRONMENT

## CORE PRINCIPLES



Protecting the environment for the benefit of future generations



Committing to improve carbon footprint and water efficiency

# SUSTAINABILITY REPORT

## CARBON EMISSIONS AND CLIMATE CHANGE

### RESPONDING TO CLIMATE CHANGE

Nanofilm is dedicated to navigating the complexities of climate change with a proactive and responsible approach. As stewards of sustainability, we recognise the profound impact that climate change can have on our operations, supply chain, and the broader business landscape.

We acknowledge the growing importance of transparency regarding climate-related risks and opportunities. While we have not yet included disclosures aligned with the Task Force on Climate-Related Financial Disclosures (“TCFD”) recommendations in this year’s Sustainability Report, we are actively working on to embark on the climate reporting journey and to develop a comprehensive report encompassing disclosures which are consistent with TCFD’s recommendations for the coming year.

### CARBON EMISSIONS

[GRI 305-1](#), [GRI 305-2](#), [GRI 305-4](#), [GRI 305-7](#)

Nanofilm is dedicated to adopting sustainable practices to minimise its GHG emissions across both Scope 1 and Scope 2 categories. Our ongoing initiatives are aligned with international benchmarks, and we continuously seek innovative solutions to further reduce our environmental impact.

The daily operations of our manufacturing contribute a certain percentage to the overall GHG emissions. Hence, we strive to mitigate the environmental footprint as much as possible while achieving the highest manufacturing performance. Our journey began in FY2020 when we initiated the monitoring and measurement of energy consumption and GHG emissions. In FY2021, we expanded our reporting scope to include performance data from our operations in Vietnam. Continuing this commitment, FY2022 saw the inclusion of operations in Yizheng, China, and Osaka, Japan, reflecting our dedication to encompassing all material operations across the entire Group. In FY2023, we maintain the same reporting boundaries, covering the entire Group, while improving our production data collection system.

### KEY HIGHLIGHTS

**5,636.28 tonnes of carbon dioxide equivalent (“tCO<sub>2</sub>e”)** total scope 1 and scope 2 GHG emissions (market-based)

**GHG Intensity: 6.38 tCO<sub>2</sub>e/’000 machine production hours (market-based)**

**28,807.65 tCO<sub>2</sub>e avoidance** due to usage of electricity from the solar power and hydropower

Sourcing **100%** electricity from renewable sources for Shanghai site

**37% reduction in wastewater discharge intensity** in FY2023 compared to FY2022

**44% reduction in water consumption** in FY2023 compared to FY2022

Waste recycling **increased from 34 metric tons to 206 metric tons**

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## SCOPE 1 AND 2

Our Scope 1 emissions are direct GHG emissions from owned sources of the Group, including the consumption of petrol and diesel. Our Scope 2 GHG emissions arise from the usage of electricity by third parties for use at our operations. We started calculated Scope 2 GHG emissions using the “dual reporting”<sup>6</sup> methodology outlined in the GHG Protocol corporate standards 2015 revision.

In FY2023, Nanofilm reported a total of 5636.28 tCO<sub>2</sub>e for combined scope 1 and scope 2 GHG emissions (market-based) across our diverse operations in Singapore, China, Vietnam, and Japan. The use of electricity from solar and hydropower sources in Shanghai operations resulted in zero Scope 2 GHG emissions from the indirect energy consumption in that location. As we continue to expand our global footprint, we expect to tap into market-based carbon abatement opportunities where available and suitable.

### NANOFILM'S FY2022(RESTATED), FY2023 GHG EMISSIONS

	FY2023				FY2022 <sup>7</sup>	
	Singapore	China (Shanghai + Yizheng)	Vietnam	Japan	Group	Group
Total Scope 1 GHG emissions (tCO <sub>2</sub> e)	0	69.36	7.76	0.98	78.09	271.82
Total Scope 2 GHG emissions (Location based) (tCO <sub>2</sub> e)	1,381.85	31,635.63	1,140.91	207.59	34,365.99	37,461.62
<b>Total Scope 2 GHG emissions (Market based) (tCO<sub>2</sub>e)</b>	<b>1,381.85</b>	<b>2,827.83</b>	<b>1,140.91</b>	<b>207.59</b>	<b>5,558.19</b>	<b>37,461.62</b>
Total Scope 1 and Scope 2 GHG emissions (Location based) (tCO <sub>2</sub> e)	1,381.85	31,704.99	1,148.67	208.57	34,444.08	37,733.44
<b>Total Scope 1 and Scope 2 GHG emissions (Market based) (tCO<sub>2</sub>e)</b>	<b>1,381.85</b>	<b>2,897.19</b>	<b>1,148.67</b>	<b>208.57</b>	<b>5,636.28</b>	<b>37,733.44</b>

Our GHG emissions intensity levels are measured in tCO<sub>2</sub>e per 1,000 machine production hours<sup>8</sup>. In FY2023, the GHG emission intensity is reported at 6.38 tCO<sub>2</sub>e per thousand ('000) machine production hours under market-based method. The restated GHG emission intensity in FY2022 was 41.07 tCO<sub>2</sub>e per thousand ('000) machine production hours under market-based method. We are committed to closely monitoring the emissions intensity across our sites and enhancing the efficiency of our operational processes. Our target is to achieve a 40% reduction in GHG emissions intensity, aiming for 24.64 tCO<sub>2</sub>e per 1,000 machine production hours by 2030 based on the 2022 baseline under market-based method.

<sup>6</sup> Dual reporting requires the Company to report scope 2 emissions in two ways and label each result according to the method: one based on the location-based method, and one based on the market-based method. (GHG Protocol Scope 2 Guidance Pg.8)

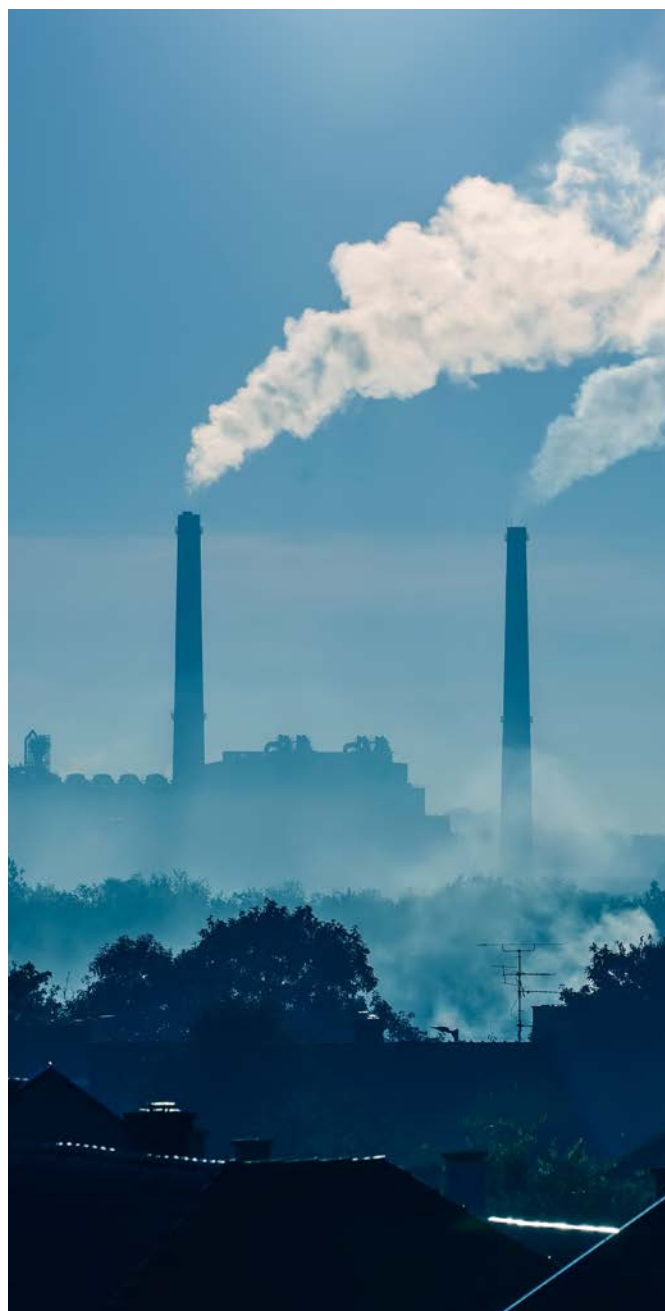
<sup>7</sup> We updated and restated the Scope 2 GHG emission baselines in FY2022 due to the update in the emission factors in China. We have adopted the national average grid emission factor for our operations in Shanghai and Yizheng as per Ministry of Ecology and Environment of the People's Republic of China's notice in 2022.

<sup>8</sup> In FY2023, we have updated and restated the calculation method for the machine production hours.

## REDUCING AIR EMISSIONS

Certain operations within our facilities generate various air emissions as by-products of chemical reactions, encompassing volatile organic compounds (“VOCs”), hydrogen chloride, fluoride, and others. All our permitted sites actively monitor these emissions to guarantee strict compliance with local regulations. In FY2023, we initiated the practice of transparently disclosing significant air emissions resulting from our operations. In the reporting year, our Shanghai operations reported a total of 83.04 kg of air emissions, with the following breakdown of emission types.

Type	Emissions (kg)
Volatile organic compounds (VOC)	63.00
Hydrofluoric acid	5.88
Fluoride	4.45
Oil mist	3.94
Sulphuric acid	3.23



# SUSTAINABILITY REPORT

## ENERGY MANAGEMENT

GRI 302-1, GRI 302-3, GRI 302-4, GRI 302-5

Recognising the growing importance of environmental responsibility in our industry, Nanofilm prioritises energy efficiency as a key focus area. While our advanced coating technologies necessitate energy consumption, we are committed to minimising our environmental footprint and continuously seek opportunities to optimise energy usage.

Nanofilm has obtained ISO 14001 certification across our sites in Singapore, China, and Vietnam, and has implemented environmental policies in line with national and local regulations. The Company is committed to pollution prevention, waste reduction, energy conservation, and promotes environmental awareness among its employees.

Nanofilm is committed to reaching a goal of sourcing a minimum of 50% of its total energy consumption from renewable sources or purchased carbon credits by 2030. We have implemented various energy conservation initiatives across our operational locations to support this objective.



### SOLAR POWER

Staying true to our commitment, Nanofilm is taking steps to implementing renewable energy throughout our production plants. Starting with Shanghai, we have successfully installed solar panels on the roofs of both plants, spanning a total of 19,000 m<sup>2</sup>, with a total capacity of 2.4 MWp, supporting our operations across both plants. Since implementation, the solar panels have generated approximately 1,828.36 MWh of electricity, which is equivalent to 767.76 tCO<sub>2</sub>e avoidance<sup>9</sup>.



### HYDROPOWER

Since January 2023, we have switched to hydropower in our Shanghai plants as one of the initiatives to utilise clean electricity for our production. With hydropower, we have successfully converted the power supplied to our coating machines to one that is renewable. In FY2023, we have utilised approximately 66,761.64 MWh of hydropower electricity, achieved sourcing 100% of our electricity from renewable sources for Shanghai site, and this has led to 28,039.89 tCO<sub>2</sub>e avoidance.



### SHUTTING DOWN WHEN NOT IN USE

We have implemented an 'OWN' (Off When Not-in-use) initiative which enforces our production to shut down the coating machines in between coating batches. When each batch completes its coating cycle, the unloading – cool down – loading process in between the next batch would typically take about 2 hours. With OWN, we have successfully reduced the idling energy consumption of our equipment contributing to reduction of over 10% of our production energy consumption.

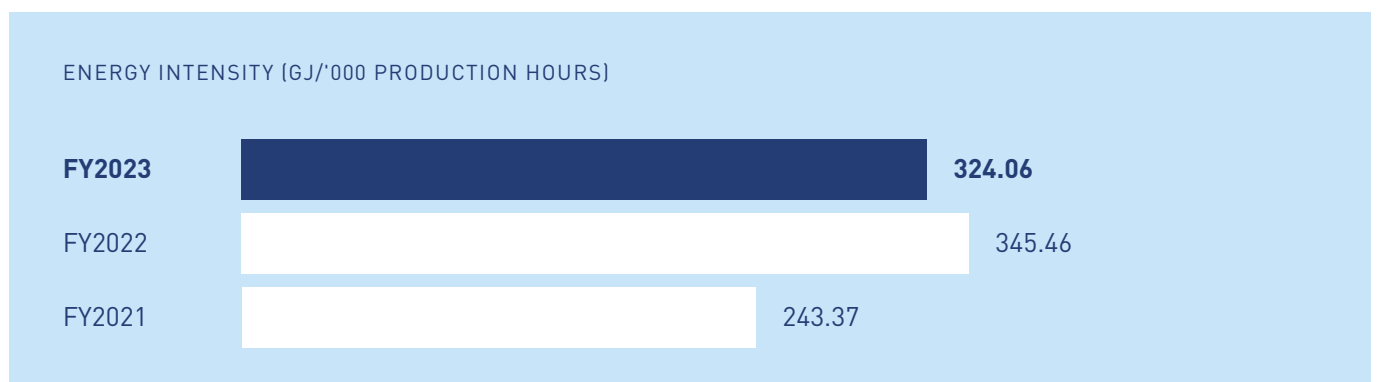
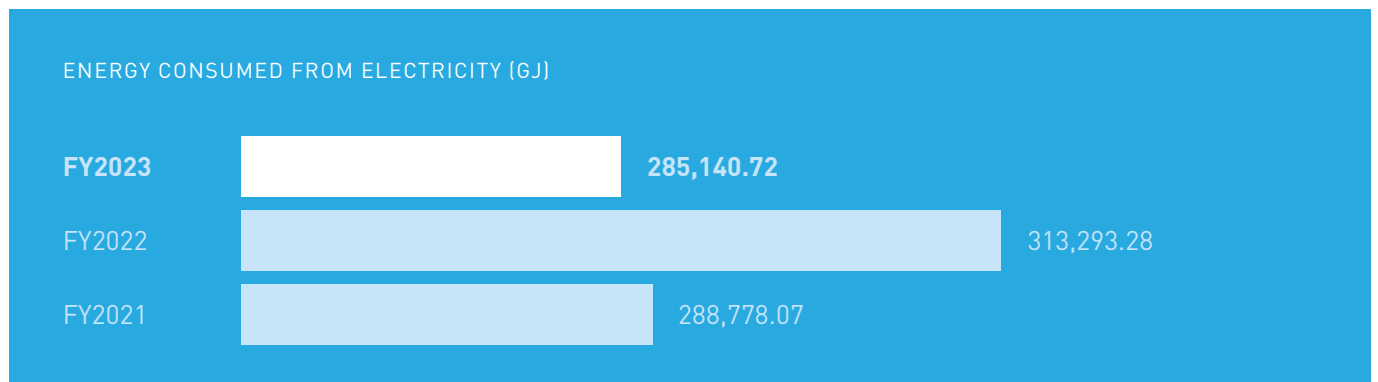


### ENERGY EFFICIENT EQUIPMENT

Use of energy efficient inline machines, chillers and compressors has been implemented throughout our production plants. We have increased the use of our proprietary inline machines, which are more energy efficient as they have the load-lock mechanism, reducing the need for vacuum pumping. Inline machines can be up to 20% more energy efficient than traditional batch machines. Since the setup of Shanghai Site 2, with our greater scale, Nanofilm has been shifting to more efficient chillers and compressors, contributing to energy consumption reduction.

<sup>9</sup> Emissions avoidance in this Report is defined as the full displacement or prevention of GHG emissions expected to be generated by planned GHG emitting actions in energy from the Electric Grid. The Shanghai regional grid emission factor (4.2t CO<sub>2</sub>/10kWh, source: Shanghai Municipal Bureau of Ecology and Environment.) is selected for the emission avoidance calculation. Source: UNFCCC A.6.4 and A.6.2 Issues on Emissions Avoidance.

In FY2023, Nanofilm consumed a total of 286,247.22 GJ of energy, with energy intensity of 324.06 GJ per thousand ('000) machine production hours<sup>10</sup>, reflecting a 6.2% reduction compared to the restated energy intensity in FY2022, which was 345.46 GJ per thousand ('000) machine production hours. The energy consumed from fuel totalled to 1,106.50 GJ. The total energy consumed from electricity amounted to 285,140.72 GJ. Notably, a substantial 86.6% of this electricity was sourced from clean energy, namely solar and hydropower, underscoring our commitment to environmentally friendly power sources. This significant proportion of clean energy usage aligns with our sustainability goals and reflects our dedication to reducing our carbon footprint.



<sup>10</sup> In FY2023, we have updated and restated the calculation method for the machine production hours. The restated energy intensity in FY2022 was 345.46 GJ per thousand ('000) machine production hours.

# SUSTAINABILITY REPORT

## WATER MANAGEMENT

GRI 303-1, GRI 303-2, GRI 303-3, GRI 303-4, GRI 303-5

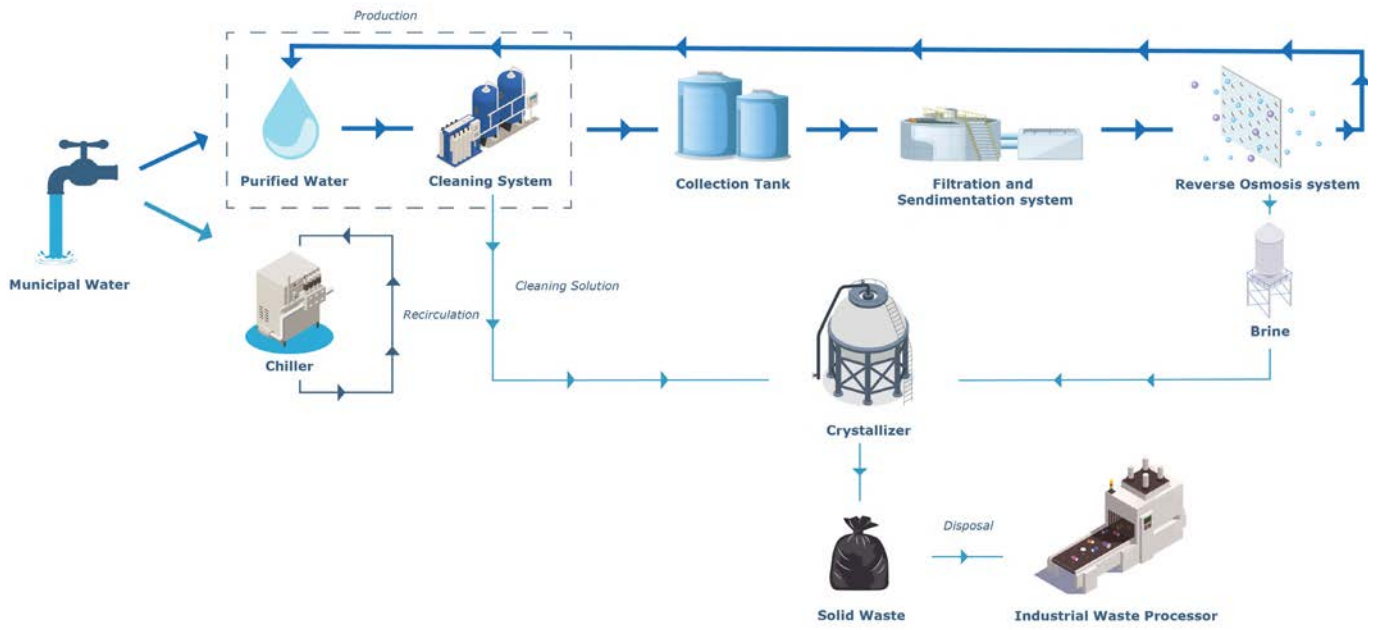
Nanofilm recognises the importance of our planet’s natural resources and strive to adhere to high standards to responsibly manage our environmental impact. In response to the growing concerns related to water as a natural resource, Nanofilm aims for zero production liquid waste discharge and has adopted a wide range of measures to reduce water consumption at our factories, installing water-efficient fittings and raising awareness of water scarcity issues among our employees to promote sustainable water management.

Water discharge from Nanofilm’s production processes, if not managed responsibly, could potentially lead to water contamination, aquatic life disturbance, community health concerns and more. Hence, we place great emphasis on adhering to environmental standards, regularly monitoring and testing discharge, and investing in sustainable practices to contribute to a more responsible and eco-friendly operation.

Nanofilm has implemented water recycling process in our cleaning operations since 2015, to ensure the wastewater from the cleaning process (prior to coating) is collected, filtrated, and reused in our daily operations besides the cleaning process. However, to further improve our water recycling rates, we have installed a reverse osmosis wastewater recycling system in 2022 that purifies our cleaning process wastewater into the pure water suitable for the cleaning process. Cleaning solutions that cannot be reused will be combined with the brine generated from the reverse osmosis system and sent to a crystalliser where they will be crystallised and disposed as solid waste. As a result, we have achieved a substantial reduction in water consumption since implementation. In FY2023, there was a remarkable 43.8% reduction compared to the previous fiscal year (FY2022).



NANOFILM WATER RECYCLING SYSTEM AND PROCESS



Nanofilm demonstrates its dedication to sustainable water management through comprehensive measures implemented across its global operations. In China, 100% of water discharged from production undergoes treatment, a result of significant investments in evaporative wastewater treatment and water recycling systems, effectively reducing overall water discharge. We remain committed to building on this success by planning to install additional water recycling systems, aiming for zero production water discharge globally.

In Shanghai, Nanofilm monitors sewage and wastewater discharge adhering to Shanghai’s Comprehensive Sewage Discharge Standard (DB31/199-2018). All wastewater is crystallised and disposed of through third-party licensed contractors. Importantly, Nanofilm’s production processes do not release or produce chemicals classified and labelled as high-concern substances.



# SUSTAINABILITY REPORT

In Vietnam, we use a small amount of water for production in the grinding stage. Water used for grinding is recirculated and reused, without generating wastewater. For domestic wastewater, we have a preliminary treatment system and have partnered with the industrial park management board to ensure the discharged water meets the quality standards specified by Vietnamese law, with regular sampling and analysis conducted by third parties and local authorities. The Company adheres to the Environmental law in Vietnam and complies with QCVN 14:2008 Column B, the National Technical Regulation on Domestic Wastewater.

In Singapore, Nanofilm adheres to the environmental standards set by the National Environment Agency ("NEA"). We closely monitor sewage and wastewater discharge, ensuring strict compliance with the nation's environmental regulations.

In FY2023, our total water withdrawal amounted to 406,887.51 cubic meters (m<sup>3</sup>), exclusively sourced from third-party (municipal) water supplies. Of the total water consumed, 368,014.51 m<sup>3</sup> is used for production.

The total volume of water discharged from our production facilities in FY2023 was lower than in FY2022, totalling 359,936.51 m<sup>3</sup>. Our production wastewater discharge intensity for FY2023 was 409.68 m<sup>3</sup> per thousand ('000) machine production hours<sup>11</sup>, indicating a 37% reduction in wastewater discharge intensity compared to the restated figure in FY2022 attributed to the implementation of a water-recycling system.

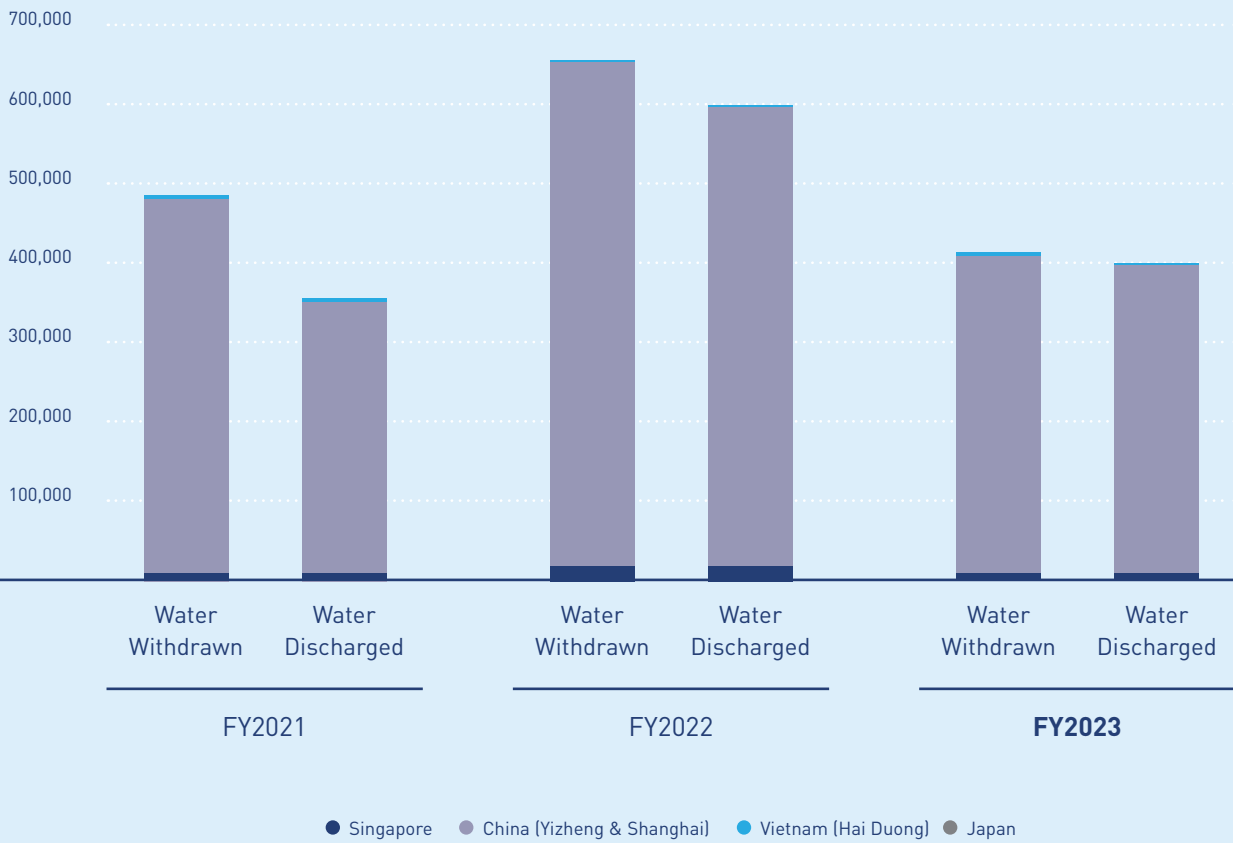
## PRODUCTION WATER WITHDRAWAL AND DISCHARGE (M<sup>3</sup>)

	Water Stress <sup>12</sup>	FY2021		FY2022		FY2023	
		Water Withdrawn	Water Discharged	Water Withdrawn	Water Discharged	Water Withdrawn	Water Discharged
Singapore	Low	7,800.00	7,800.00	18,228.00	18,228.00	9,663.51	9,663.51
China (Shanghai & Yizheng)	Extremely High (Shanghai) Low (Yi Zheng)	480,858.00	352,989.00	634,498.44	576,463.00	355,896.00	350,241.00
Vietnam (Hai Duong)	Low to Medium	1,151.00	1,151.00	1,949.00	1,559.00	2,423.00	1,938.00
Japan	Low to Medium	-	-	7.00	7.00	32.00	32.00
Group	-	489,809.00	361,940.00	654,682.44	596,257.00	368,014.51	361,874.51

11 In FY2023, we have updated and restated the calculation method for the machine production hours. The restated water discharged intensity in FY2022 was 649.00 m<sup>3</sup> per thousand ('000) machine production hours.

12 Water stress levels based on future projections in 2030 (Optimistic). Analysis was done using WRI Aqueduct Water Risk Atlas Tool.

WATER WITHDRAWAL AND DISCHARGE (M<sup>3</sup>)



WATER DISCHARGE INTENSITY (M<sup>3</sup>/’000 MACHINE HOURS)



# SUSTAINABILITY REPORT

## WASTE MANAGEMENT

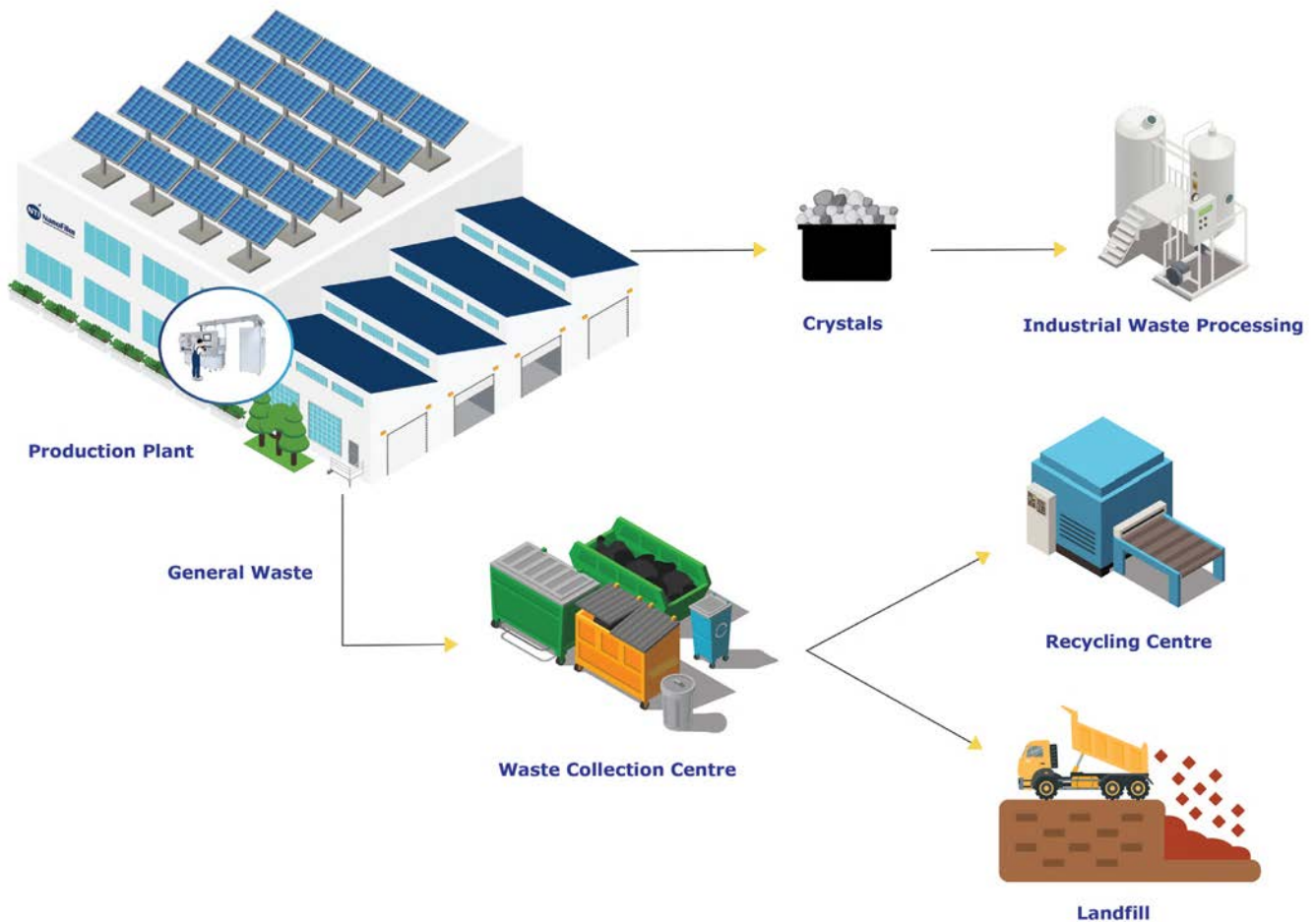
GRI 306-1, GRI 306-2, GRI 306-3

In the realm of industrial production, the efficient management of waste has emerged as an indispensable pillar of sustainability and responsible business practice. As the global production landscape continues to grow, Nanofilm has taken the initiative to address waste generation and disposal with utmost diligence. Considering that the volume of waste materials generated from our production process is not significant and mostly non-hazardous, we will continuously improve our waste handling and its management to protect the environment as to minimise the negative environmental impact.

At Nanofilm, we prioritise responsible waste management practices for both engine oils and materials derived from machinery maintenance. These materials are systematically aggregated in isolated containers and disposed of through appropriate industrial channels. In cases involving hazardous waste, we ensure proper disposal through third-party engagements.

To proactively address environmental concerns, Nanofilm identifies and assesses factors contributing to waste generation. Control measures are then formulated to minimise their impact. Our Shanghai site exemplifies these practices by adhering to national requirements and involving qualified third-party contractors for waste processing. Notably, certain waste materials undergo processes to harness renewable energy.

### NANOFILM'S WASTE MANAGEMENT SYSTEM



Nanofilm promotes a recycling culture by providing recycling bins at offices and production sites. Employees are actively supporting this initiative, facilitating effective sorting. Prior to incineration, recyclables are sorted to ensure proper recycling processes. In production sites like Shanghai, metal and non-metal waste, including paper and wood, are recycled through licensed third-party contractors. In FY2023, our commitment to recycling led to a significant increase, from 34 metric tons to 206 metric tons.

In our Shanghai site, all aspects of waste treatment adhere to Chinese national waste regulations, covering generation, collection, storage, and processing.

In Singapore, waste management follows ISO 14001 certification requirements, while in Vietnam, the Water & Wastewater Management OHS-10 procedure guides our operations.

In FY2023, we generated a total of 307.30 tonnes of hazardous waste, with China contributing to the majority at 306.21 tonnes. Non-hazardous waste totalled 236.98 tonnes, with China leading at 194.13 tonnes. We diverted 270.93 tonnes of hazardous waste and 176.45 tonnes of non-hazardous waste from disposal.

Overall, there has been a decrease of hazardous and non-hazardous waste from FY2022 to FY2023. This highlights Nanofilm's commitment and continuous improvement of their waste management initiatives.

#### HAZARDOUS WASTE (TONNES)

	FY2022			FY2023		
	TONNES	LITRE	PC	TONNES	LITRE	PC
Singapore	1.10	5,508.00	90.00	-	4,245.00	143.00
China	330.70	-	-	306.21	-	-
Vietnam	1.20	-	-	1.09	-	-
Japan	-	-	-	-	-	-
Total	333.00	5,508.00	90.00	307.30	4,245.00	143.00

#### NON-HAZARDOUS WASTE (TONNES)

	FY2021	FY2022	FY2023
Singapore	-	-	-
China	261.70	298.30	194.13
Vietnam	9.70	38.00	40.30
Japan	-	-	2.55
Total	271.40	336.30	236.98

SUSTAINABILITY REPORT:

# SOCIAL

## CORE PRINCIPLES



Caring for our employees' well-being and providing for their training and development



Caring for the community that we operate in through various community involvement

# SUSTAINABILITY REPORT

## EMPLOYMENT PROFILES AND WELFARE

GRI 2-7, GRI 401-1, GRI 401-2, GRI 401-3

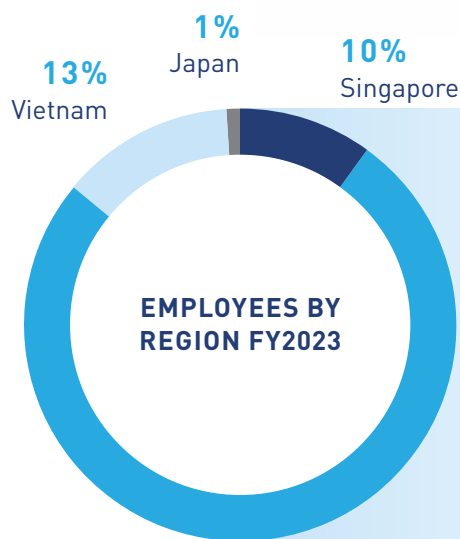
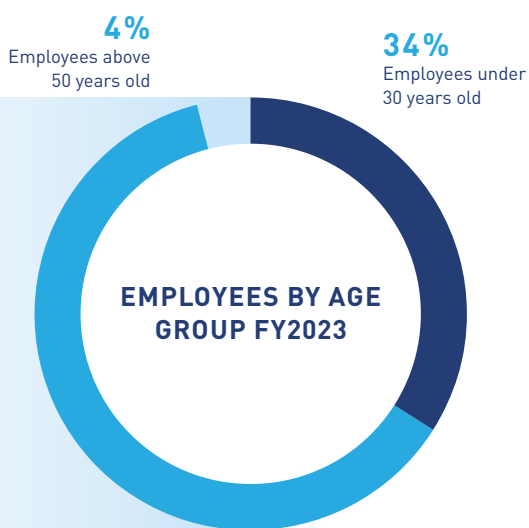
In FY2023, we have a total of 2,215 permanent employees and 525 workers. The workers are outsourced and primarily stationed at our Shanghai site. The permanent employees of overall hiring rate and turnover rate for the Group was 32 % and 44% respectively.

## KEY HIGHLIGHTS

NTI-NTU Corp Lab is intending to offer research scholarship opportunities to 13 Ph.D. candidates, fostering local talents

Employment of 16 individuals with disabilities across various teams

Rate of recordable work-related injuries (per 1,000,000 hours worked): 0.84



# SUSTAINABILITY REPORT

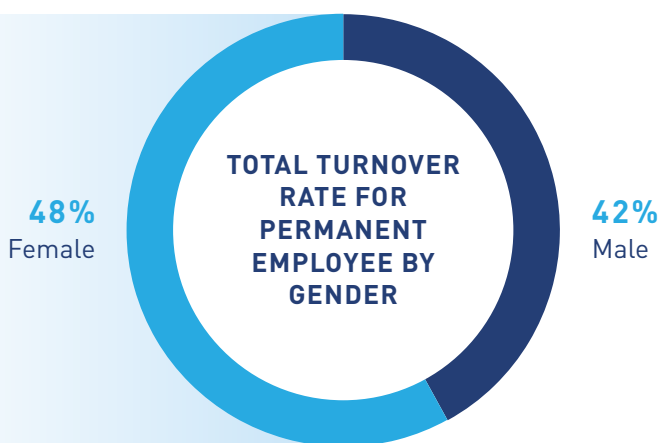
## EMPLOYEE WELFARE

We believe people are the cornerstone of our business and thus embrace a comprehensive approach, aligning ourselves with industry-leading frameworks to cater to our employees' needs and overall well-being. We have created a robust employment programme to provide welfare and benefits for our employees, benefiting both their individual growth and our long-term prospects as a company.

Recognising the impact of the office environment on health and well-being, our new office at Tai Seng Drive adheres to the principles outlined in The WELL Building Standard, focusing on Water, Light, and Comfort. The workspace design prioritises a distraction-free and comfortable atmosphere, offering various breakout areas and meeting rooms for brainstorming. Additionally, it establishes quiet zones and minimises sound from building systems to optimise employees' emotional health.

Our full-time employees enjoy benefits including health care coverage; employer-funded contributions to retirement benefits stems; insurances including Group hospital insurance, disability and invalidity coverage, as well as different leave types, such as annual leave, parental leave, medical and hospitalisation leave. In FY2023, 146 employees were entitled parental leave, 128 employees have taken parental leave, and 102 employees have returned to work after parental leave.

Other welfare benefits include health screening exercises for our employees. By conducting this exercise, our employees will better understand their health status and take the necessary steps to manage any potential health risks or concerns. We value every one of our employees, and their mental being. Hence, we also provide mental health assessments such as Perceived Stress Tests for all employees so that everyone can have a better understanding of their stress level in conjunction with World Mental Health Day. Mental Wellbeing Pack is also disseminated and aims to provide our employees with some tips, guidelines, and helplines, should they require them.



## DIVERSITY AND INCLUSION

GRI 405-1, GRI 406-1

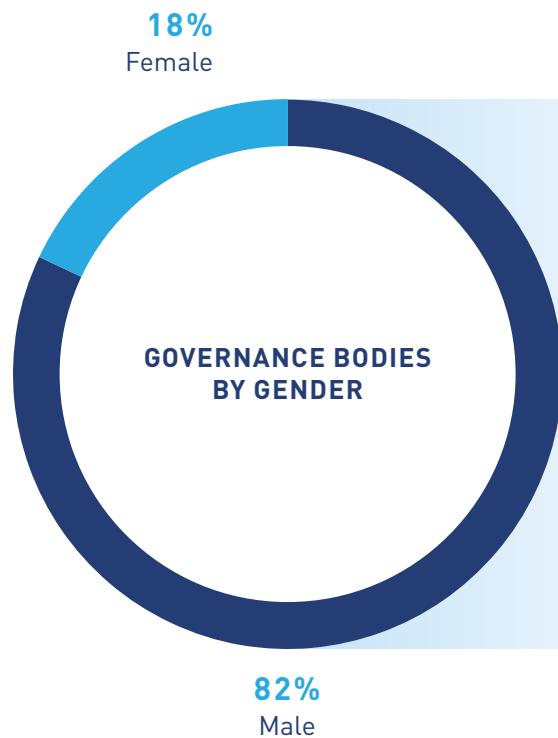
At Nanofilm, we deeply embed diversity and inclusion into our core value system, going beyond mere policy to embody our commitment to social justice and anti-discrimination. This stance resonates with our employees and is evident in our workplace culture, which is celebrated for its fairness, respect, and dignity towards every individual. Our steadfast adherence to our code of conduct, prohibiting any form of discrimination or harassment, is validated by our FY2023 record of zero discrimination incidents.

Inclusion at Nanofilm means every team member feels valued and integral. We create an environment where individuals are empowered to be their authentic selves and where their voices are heard and respected. We recognise that diverse teams and inclusive cultures not only meet our employees' expectations but also provide a significant competitive advantage to our business.

Our approach to fostering diversity and inclusion is methodical and ingrained in our key human resources processes. This includes recruitment, succession planning, performance management, and leadership development, ensuring that these values are reflected in every aspect of our workforce strategy.

In FY2023, Nanofilm's global workforce consisted of 2,215 employees, with females representing approximately 40% of the total workforce. Our staff predominantly falls within the age range of between 30 to 50 years, accounting for 61% of our employees. Geographically, a significant 76% are based in China, followed by 13% in Vietnam, 10% in Singapore, and the remainder in Japan. Reflecting on our governance structure, the Board and senior management team comprise 82% male and 18% female members, respectively.

We are deeply committed to inclusive hiring practices, firmly believing in their vital role in enriching our Company's culture. In our Shanghai operations, we actively recruit individuals with disabilities for various operational and corporate roles. This initiative, which has earned commendation from local authorities, currently includes 16 individuals with disabilities contributing significantly to areas such as operations, administration, procurement, and marketing.





# SUSTAINABILITY REPORT

## CELEBRATING DIVERSITY, IGNITING INNOVATION AT NANOFILM

### International Women's Day

At Nanofilm, we are committed to fostering gender equality and diversity within our organisation, recognising the invaluable contributions of individuals irrespective of gender.

In celebration of International Women's Day, we take pride in highlighting the inspiring stories of two extraordinary women who have defied stereotypes in the traditionally male-dominated manufacturing industry. Wang Ting, a dedicated Manager in the R&D department

at Nanofilm Shanghai, has traversed diverse work scopes within the organisation, showcasing her responsibility and exceptional talent. Wang Ting's journey is a testament to breaking barriers and excelling in her field.

Similarly, Chan Jia Yi, an engineer in the Catalyst section at Sydrogen® Singapore, shares her thoughts on the empowerment she derives from being a woman in the industry. Their stories exemplify the spirit of inclusivity and resilience, reflecting Nanofilm's commitment to creating an environment where everyone, regardless of gender, can thrive and contribute to the success of Nanofilm.



## HUMAN CAPITAL DEVELOPMENT

GRI 404-1, GRI 404-2, GRI 404-3

At Nanofilm, we believe that talent is precious and the key driver of our success. We have established a comprehensive in-house talent training and development programme, aptly named “Nanofilm College”. This initiative is spearheaded by our Group Chief Executive Officer, who is supported by a Dean and a Director of Training. The organisational structure of Nanofilm College is illustrated in the chart provided below.

NANOFILM COLLEGE STRUCTURE



# SUSTAINABILITY REPORT

Nanofilm College represents a structured training and development system that begins immediately when a new employee joins our Group. The process kicks off with an orientation programme followed by on-the-job training (“OJT”). This system is not just a one-time event but a continuous journey that accompanies an employee’s progression within our Group. It includes specialised training tailored for each stage of their career, particularly focusing on the skills and knowledge required for promotions. This approach ensures that our team members are consistently equipped and ready to excel in their evolving roles.

## OVERVIEW OF NANOFILM COLLEGE TRAINING PROCESS



### COMMUNICATION & FEEDBACK

- Performance review
- Job application assessments
- Development and training mechanisms
- Salary adjustments
- Job objectives



### NURTURE & DEVELOPMENT

- Self learning
- OJT
- Role expansion
- Programme participation
- Training & job rotation



### TALENT SELECTION

- Result, capabilities, quality assessment
- Potential and trends
- Development and training mechanism



### TALENT POOL & REVIEW

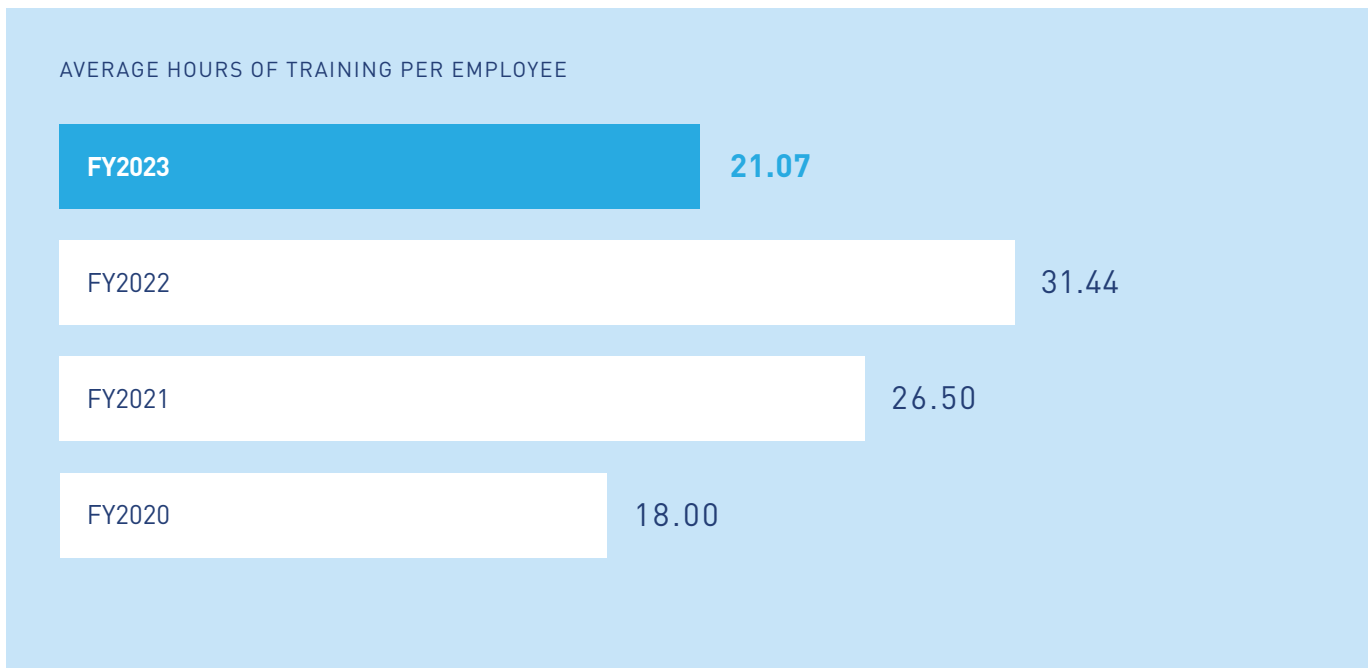
- Recommend suitable employees for promotion by looking at role matchings, track records and past results of employees

Nanofilm College offers an extensive range of over 30 training courses across the following course categories: (a) Standard & Internal Auditing, (b) Environment Health and Safety, (c) Quality, (d) Fire Prevention Training, (e) Technical and Operations, (f) Quality, (g) Corporate Function Systems, (h) Labview software.

Our training programmes are meticulously designed to not only enhance the technical and professional competence of our employees but also to develop their soft skills. This comprehensive approach ensures that our team members are well-equipped for their current roles and responsibilities, while also being prepared

for future challenges and advancements within their careers.

In FY2023, we invested an average of 21.07 hours per employee in training, with 19.69 hours per male employee and 23.54 hours per female employee.<sup>13</sup> Looking ahead, our goal is to ensure that by 2030, each employee receives an average of at least 40 hours of training annually, aligning with our steadfast commitment to nurturing a skilled and empowered workforce.



13 In FY2023, we have restated the average hours of training per employee in FY2022 due to the change of the calculation method. The restated data is 31.44 hours per employee.

# SUSTAINABILITY REPORT

## INTERNAL TRAINING AND TECHNOLOGY EXCHANGE PLATFORM: NANOFILM TECHNOLOGY FORUM

The Nanofilm Technology Forum 2023, held for the first time in Nanofilm's history at our Shanghai site from 4<sup>th</sup> to 7<sup>th</sup> March 2023, saw participants joining from China, Singapore and Vietnam. The forum created a dynamic platform for sharing technological ideas and knowledge within the organisation.

The forum features 35 technology topics spanning equipment, coating solutions, and applications in Consumer, Industrial, and New Energy markets. It was a proud moment to have leaders and business representatives from all units participating as both speakers and attendees, enriching the event with valuable experiences and knowledge. The forum also served as an excellent networking platform.

During discussions on our Business and Technology outlook, it became evident that Nanofilm possesses numerous technological strengths with ample opportunities to extend our nanotechnology into new growth areas. The Chairman's Innovation Award was presented for the most impactful technology, and the Best Poster Award recognised outstanding contributions.

Under the Chairman's Innovation Award category, two notable achievements were celebrated:

- i. **Diamond Award for Bipolar Plates Coating Development:**  
The team developed a coating with exceptional conductivity and corrosion resistance, significantly increasing the lifespan of metallic plates and facilitating mass production for the new energy market.

## TECH FORUM AWARDEE



- ii. **Gold Award for DLC Coating Systems:**  
Recognising outstanding achievements in DLC source and product design.

## NANOFILM SCHOLAR PROGRAMME

In FY2023, Nanofilm introduces the Nanofilm Scholars Programme (“**NSP**”), a prestigious initiative aimed at nurturing industry-ready talent and fostering professional development. The NSP encompasses various funding sources, including the Economic Development Board - Industrial Postgraduate Program (“**EDB-IPP**”), offering exceptional opportunities for higher education, skill enhancement, and career growth to talented employees.

Under the NSP framework, graduate research projects cover diverse areas such as advanced plasma technologies, nanocomposites, optical design, hydrogen fuel cell technologies, and other emerging technologies. The program is designed to elevate academic and career aspirations while contributing to the Company’s growth.

Specifically, Nanofilm has fully sponsored two Senior Process Engineers, Zhao Sheng Fu and Tan Yik Kai, for post-graduate study and training under the EDB-IPP program. Through the NSP and EDB-IPP sponsorship, employees like Zhao Sheng Fu and Tan Yik Kai are provided with opportunities for higher education and career empowerment, aligning with Nanofilm’s commitment to fostering talent and innovation within the organisation.

## LOCAL TALENT DEVELOPMENT

The NTI-NTU Corporate Laboratory is dedicated to fostering a new generation of engineering experts, thereby enriching the local talent pool. Our approach to talent development is twofold. Firstly, we are intending to offer research scholarship opportunities to 13 Ph.D. candidates, providing them with the platform to excel in their academic pursuits. Secondly, we aim to train and employ an additional 27 full-time research staff, offering them invaluable hands-on experience in their respective fields.

To harness the innovative outcomes emerging from the NTI-NTU Corporate Laboratory, we plan to, as a strategic move, expand our operations in Singapore over the next five years, thereby creating numerous employment opportunities and utilising the cutting-edge research developed at the NTI-NTU Corporate Laboratory. This training and mentorship program is not just about imparting knowledge and skills but is about inspiring and guiding future innovators who will continue to push the boundaries in technology and engineering.

# SUSTAINABILITY REPORT

## PERFORMANCE APPRAISAL

We have established a comprehensive performance appraisal program coupled with a rewards system that directly ties employee recognition and incentives to their appraisal outcomes. This program is instrumental in driving the achievement of our corporate performance targets and goals. It serves as a mechanism to align employee interests with appropriate rewards, assess the skill levels of our workforce, and pinpoint areas where targeted training programs can be developed to address skill gaps.

Our commitment to employee career pathing and progression is paramount. To ensure this, we have implemented various two-way communication

channels, facilitating an ongoing dialogue that considers the career development needs of our employees whenever feasible. All employees are afforded training opportunities tailored to their identified needs.

These initiatives collectively position us as an organisation committed to providing a constructive and enriching working experience for our employees. Beyond our organisational interests, we recognise the broader impact on the economic development and skilled labour resources of our local community, reinforcing our dedication to contributing positively to the communities in which we operate. In FY2023, all permanent employees of Nanofilm received their annual performance appraisal.

## NUMBER OF STAFF WHO RECEIVED PERFORMANCE AND CAREER DEVELOPMENT REVIEW

	Singapore	Shanghai	Yizheng	Vietnam	Japan	Group
Number of staff who received performance and career development review	125	1179	45	276	16	1641
Percentage of employees receiving regular performance and career development reviews	55	71	100	100	100	74

## HEALTH AND SAFETY

### OCCUPATIONAL HEALTH AND SAFETY SYSTEM

GRI 3-3, GRI 403-1

Nanofilm is dedicated to ensuring a healthy and safe working environment across all its business operations. This commitment encompasses our employees, customers, and contractors, as detailed in our Health and Safety Policy. This policy is universally applicable, ensuring everyone under the Nanofilm umbrella adheres to the highest standards of health and safety.

In compliance with national laws and regulations, our operations in Singapore align with the Ministry of Manpower's ("MOM") health and safety obligations and expectations, as outlined in the Workplace Safety & Health Act. Additionally, in 2022, the MOM introduced a workplace safety and health code of practice, comprising four principles and seventeen measures for companies to integrate into their business practices. Similarly, in China, our adherence to local regulations is rigorous and thorough.

Our commitment to OHS is further demonstrated by our ISO certifications for health and safety across all factory and office locations, reflecting our dedication to comprehensive OHS goals and systems. Specifically, our Shanghai and Singapore sites are certified to ISO 45001:2019, a globally recognised standard for OHS management systems. The Shanghai site also holds an ISO 45001:2018 certification. In Vietnam, our system, tailored to local activities and workplaces, prepares for emergency situations, and includes annual training and drills in line with customer and legal requirements. Additionally, we follow the Emergency Preparedness and Response NFV-E-03 procedure. In Singapore, our system complies with SG WSH (“**Workplace Safety and Health**”) and ISO 14001 certification guidelines.

To further reinforce our commitment to safety, we have established safety committees at our sites in Shanghai, Yizheng, Singapore, Vietnam, and Japan. These committees, comprised of employee representatives from various departments, are responsible for the monitoring of safety practices and conducting monthly safety inspections, ensuring continuous improvement and adherence to our high safety standards.

## **OCCUPATIONAL HAZARD IDENTIFICATION AND RISK ASSESSMENT**

GRI 403-2

Nanofilm employs processes to identify and assess work-related hazards, tailoring our approach to each country’s regulations. Our strategy is based on the hierarchy of controls to eliminate hazards and minimise risks effectively.

In Shanghai, we have established a hazard identification and evaluation management procedure, conducting annual assessments using the likelihood, exposure and consequences (LEC) method. Control measures are applied to reduce major risks, ensuring employee safety. Our safety management system, focusing on “three violations,” encourages reporting while strict anti-retaliation measures protect whistle-blowers. HR protocols explicitly safeguard employees’ rights,

allowing them to refuse unsafe operations and report concerns anonymously through suggestion boxes. Established grievance mechanisms, including email and phone, protect employees’ interests. Our accident investigation procedures, guided by the “Four No-misses” principle, aim to prevent incidents and continually enhance safety.

In Vietnam, a robust risk assessment process identifies and controls high risks. Worker training on related risks is conducted, aligning with our OHS-01 risk assessment procedure. Workers can anonymously report hazards and near-misses, and established processes ensure thorough investigations of work-related incidents. In Singapore, the Risk Management and Assessment process identifies work-related hazards routinely and non-routinely, with subsequent actions aimed at eliminating hazards and minimising risks effectively.

## **APPROACH TO HAZARDOUS SUBSTANCES/ CHEMICAL SAFETY**

At Nanofilm, we are committed to the highest level of regulatory compliance to sustainably manage our portfolio. This commitment extends to the identification and regulation of substances used in our operations. We ensure that all chemical substances used in our operations are duly registered and comply with the local regulations of the countries where our business units operate. This includes obtaining and renewing necessary permits and licenses for the handling, storage, and use of these chemicals as mandated by local authorities. Nanofilm does not use chemicals classified as of concern or high concern by the Regulations on the Safety Management of Hazardous Chemicals (2013 Revision) in China, the Singapore Environmental, Health & Safety (EHS) Legislation and Vietnam Chemicals Decree No.113/2017/ND-CP. Therefore, the issue of phasing out such substances or introducing alternatives is not applicable to our operations.



# SUSTAINABILITY REPORT

In our routine workplace risk assessment, we meticulously evaluate indicators related to hazardous material storage and hazardous chemical usage, among other factors. This proactive approach allows us to identify and mitigate potential risks effectively, thereby maintaining a safe working environment for our employees. We adhere strictly to regulations governing the storage and usage of hazardous materials and chemicals, mitigating risks and ensuring the safety of our employees and the environment.

During our ISO certification process in 2022, we undertook a comprehensive evaluation focusing on environmental aspects. This assessment included examining our practices related to disposal, waste management, noise levels, electricity usage, and dust control in the working environment. This approach is part of our ongoing commitment to maintaining a safe and sustainable working environment.

## **OCCUPATIONAL HEALTH SERVICES**

GRI 403-3

Pre-employment health checks are offered to employees in roles exposed to occupational hazards, like loud noises leading to noise-induced deafness. Regular health monitoring ensures our employees are safe and free from occupational health diseases. Our commitment extends to local initiatives promoting a health-conscious work environment, fostering awareness of a healthy lifestyle.

In China, our canteens feature nutritional menus, supporting employees in maintaining a balanced diet. Regular health check-ups are organised, allowing staff to identify minor health issues early and encouraging the adoption of a healthy lifestyle. These initiatives serve as proactive reminders for employees to prioritise their well-being and adopt a healthy lifestyle.

## **WORKER PARTICIPATION, CONSULTATION, AND COMMUNICATION ON OCCUPATIONAL HEALTH AND SAFETY**

GRI 403-4

In Shanghai, a joint labour union committee is established, along with internal and external communication management procedures mandating employee participation in Occupational Health and Safety (“OHS”) activities. Monthly meetings, attended by the labour union chairman and department managers, are organised to discuss and decide on OHS-related matters.

In Vietnam, we conduct bi-weekly meetings with employee representatives to address environmental health and safety issues, ensuring compliance with legal and customer requirements. Employee opinions are actively received and processed as needed.

In Singapore, stakeholder engagement involves monthly WSH reviews and line walks with Safety Committees to ensure opinions are actively received.

## **OHS TRAINING**

GRI 403-5

Comprehensive health and safety training programs are implemented for all employees at Nanofilm. New hires undergo mandatory training covering emergency preparedness, hazard identification, risk assessments, and participate in an annual occupational health and safety session.

In Shanghai, we formulate an annual EHS training plan every year, and employees receive regular training in alignment with the plan, with detailed records maintained.

In Vietnam, we adhere to Vietnamese law and customer requirements, conducting extensive training:

- Annual safety training for 6 groups according to ND144/2016/ND -CP
- Chemical safety training for relevant subjects
- Electrical safety training for relevant subjects
- Fire safety and rescue training

In Singapore, we conduct monthly/bimonthly Safety Awareness Training for New Hire Orientation and On Job Training to ensure that employees conduct procedures safely.

### **PROMOTION OF WORKER HEALTH**

GRI 403-6

In Shanghai, we provide non-occupational physical examinations to employees every year to ensure our employees are fit and care for their health. They will receive their medical check-up results and explanations by a medical examiner.

In Vietnam, we provide yearly health examination according to the provisions of law and explain to employees the benefits of having a periodic health check-up once a year by the Company through safety training courses.

In Singapore, we follow Group and HR policy. All confirmed and permanent employees are entitled to enjoy the Group Hospital and Surgical insurance coverage. In FY2023, a health screening exercise was provided to all permanent staff at no cost. Medical reports from this exercise were released to the employees so that they have a better awareness of their health status and may take appropriate steps to manage any potential health risks or concerns.

### **WORKERS COVERED BY AN OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM**

GRI 403-8

Health and safety of our employees in the workplace is of utmost priority and importance to us. Nanofilm has implemented an OHS management system, complying with our health and safety policies, statutory regulations and industry standards, global customers' world class standards and legal requirements. Our OHS management system covers all of our 2,215 employees and 525 workers who are not employees but whose work or workplace is controlled by the organisation as of December 2023. In Shanghai, the OHS system is internally audited and certified by an external party in FY2023.

### **WORK-RELATED INJURIES**

GRI 403-9

In FY2023, we achieved zero fatalities resulting from work-related injuries. However, there were seven cases of high-consequence work-related injuries and five cases of recordable work-related injuries, all occurring in Shanghai. These incidents were attributed to falling objects or the use of machinery and equipment. To address these challenges, the Shanghai factory has developed a comprehensive list of major safety and health risks along with corresponding control measures. The facility focuses on targeted control of major risks and conducts regular evaluations to ensure the effectiveness of these measures in maintaining a safe working environment.

Notably, we recorded zero cases of recordable work-related ill health for all employees and non-employee workers whose work or workplace is controlled by the organisation.

Nanofilm aims to achieve a recordable work injury rate of less than 1.0 (per one million man-hours worked) by 2030, reflecting our dedication to continuous improvement in workplace safety.

# SUSTAINABILITY REPORT

## HEALTH AND SAFETY PERFORMANCE

	FY2021	FY2022	FY2023
Rate of fatalities as a result of work-related injury (per 1,000,000 hours worked)	Not reported	0	0
Rate of high-consequence work-related injuries (excluding fatalities) (per 1,000,000 hours worked)	Not reported	0.13	0.84
Rate of recordable work-related injuries (excluding high-consequence work-related injuries) (per 1,000,000 hours worked)	2.14	1.64	0.84
Total Recordable Injury Rate (TRIR) (per 100 workers)	0.43	0.33	0.34
Lost Time Incident Rate (LTIR) (per 1,000,000 hours worked)	Not reported	Not reported	0.84

## HUMAN RIGHTS AND LABOUR MANAGEMENT

GRI 408-1, GRI 409-1

To ensure that our employees are aware of the responsibilities expected of them and understand their role in ensuring human rights' ethical compliance and behaviour, all our new employees are required to complete the Code of Business Conduct and Ethics training. We are firmly committed to maintaining a secure work environment that rejects human trafficking, slavery, forced labour, and unlawful child labour across all facets of our operations. Our organisation unequivocally condemns these practices, and we actively collaborate with customers to conduct regular reviews, preventing any incidents of human rights violations.

As part of our human rights due diligence process, we have identified 2 countries where there is risk of child labour and forced labour. Our operations and critical direct suppliers in these 2 countries are required to undergo an annual social compliance audit to ensure that their business practices are in compliance with our Supplier Code of Conduct as well as international best practices on human rights. Our target is to ensure zero instances of forced or child labour in our operations or critical direct suppliers.

## SUPPLY CHAIN DUE DILIGENCE

GRI 308-1, GRI 414-1

At Nanofilm, we set high standards in our factories, emphasising fair working hours, a safe work environment, and zero discrimination based on job roles or locations. We also mandate responsible sourcing policies for all raw materials, expecting both our factories and suppliers to adhere to these principles. Prior to onboarding suppliers, we conduct rigorous

due diligence screenings to ensure ethical practices, including a zero-tolerance approach to bribery and corruption, and the responsible sourcing of raw materials from non-conflict areas.

Our due diligence screening involves comprehensive measures such as site visits, background checks, certification verification, and sample testing. Approved suppliers, periodically reviewed internally, must adhere to our stringent criteria. We establish anti-bribery and environmental agreements with critical vendors to ensure ongoing compliance throughout our long-term relationships.

In FY2023, all critical direct material suppliers underwent screening based on social and environmental criteria, covering aspects like environmental policies, waste management practices, prohibition of forced and child labour, and adherence to health and safety practices. Our commitment is to maintain 100% human rights, environmental, health, and safety due diligence screening for all new critical direct material suppliers.

## CONFLICT MINERALS POLICY

We strictly abide by the relevant regulations of international organisations and the industry, and effectively avoid the risk of conflict minerals by formulating related regulations and policies. We request suppliers to strictly comply with the relevant legal requirements of "prohibiting conflict minerals". When selecting and introducing suppliers, we request all suppliers to provide the Conflict Minerals Questionnaire and the Commitment Letter on Not Using Conflict Minerals, which includes investigation and research on conflict minerals. For suppliers involved in raw metal materials, we request suppliers to trace back to the source of smelting plants and ensure the traceability of

raw materials. When necessary, we actively cooperate with customers to conduct relevant audits and inspections. During the reporting period, 100% of our suppliers met the compliance requirements.

## LOCAL COMMUNITIES

GRI 413

Grounded in a deep sense of corporate responsibility, we believe in fostering meaningful connections and making a positive impact on community development. From supporting local projects to empowering educational endeavours, our community engagement initiatives are an integral part of Nanofilm's sustainability ethos, demonstrating our belief in creating shared value and building a more sustainable and inclusive future for all.

### COMMUNITY GIVE BACK GOLF AND APPRECIATION DINNER 2023

Nanofilm proudly sponsored the "Community Give Back Golf and Appreciation Dinner", organised by the North East Community Development Council. This event successfully raised over \$500,000, a remarkable feat that enables us to extend support to 20% more lower-income families than before. Our involvement in this event reflects our dedication to empowering families and fostering a compassionate society.

### SGX BULL CHARGE RUN

Since 2021, Nanofilm has been a dedicated sponsor of the SGX Group Cares Bull Charge charity run. Our commitment to this event is part of our broader initiative to give back through charitable activities. We aim to raise funds to aid underprivileged families, individuals with disabilities, and the elderly in our community, making a tangible positive impact where it is most needed.

### NORTH EAST COMMUNITY GIVE BACK GOLF & APPRECIATION DINNER 2023



### DONATION TO RESILIENCE COLLECTIVE

We have contributed to the 'Celebrating the People of Resilience' fundraising campaign, supporting the mental health recovery journey for those in need. Resilience Collective ("CR") brings together peers from diverse backgrounds to share their experiences and support each other, fostering authentic living and hope. Our donation aids in impacting the lives of individuals grappling with mental health issues, reinforcing our commitment to the well-being of our community.

### SGX BULL CHARGE RUN



SUSTAINABILITY REPORT:

# RESPONSIBLE BUSINESSES

## CORE PRINCIPLES



Ensure a sound corporate governance structure to drive the overall strategy of the Group



Compliance with rules and regulations to ensure the continued operation of the Group

# SUSTAINABILITY REPORT

## CORPORATE GOVERNANCE

GRI 2

We are meticulous in our approach to governance and responsible business. Our governance structure ensures that we monitor and quantify compliance, manage risk as well as maintain customers' and society's confidence and trust. Under our Group CEO's active direction and in collaboration with our Board of Directors and its committees responsible for performance and compliance review, we hold ourselves to the highest standards of economic, environmental, and societal performance as well as compliance with laws, regulations, and corporate policies that govern our operations and practices worldwide. The CEO is supported by the CSO, the sustainability leader, to chair the sustainability team. The CSO is responsible for providing leadership and direction on the sustainability strategy, goals and targets. This is balanced and integrated with the Group's business strategy and commercial goals. The sustainability team is also supported by other expert functions such as human resources, finance, procurement/supply chain, marketing, R&D, operations and legal.

We affirm our commitment to align the corporate governance framework with the principles and provisions of the Code of Corporate Governance 2018 (the "**Code**"), its accompanying Practice Guidance, and the Listing Rules of the Singapore Exchange Securities Trading Limited ("**SGX-ST**"). For details of our Board of Directors, board independence and other corporate governance policies and practices, please refer to our Corporate Governance Report in our Annual Report 2023.

## BUSINESS ETHICS

GRI 205

Adherence to good business ethics and the promotion of a benign competitive environment are the foundation of the Company's sound development. Nanofilm complies strictly with anti-corruption policies of the countries and regions in which we operate and is committed to conducting our businesses with honesty and integrity. Our CEO oversees and directs the Group's efforts on business ethics and anti-corruption issues and reports annually to the Board on related matters.

## KEY HIGHLIGHTS

Zero cases of significant fines or non-monetary sanctions related to the environmental and socio-economic areas

Zero confirmed incidence of corruption

Zero cases of legal actions relating to anti-competitive behaviour, anti-trust, and monopoly practices

100% of all new employee attending the Compliance and Code of Conduct training

# SUSTAINABILITY REPORT

We have established Group-wide procedures to ensure compliance with legal and regulatory standards as well as internal standards. In our Code of Business Conduct and Ethics, we set standards of ethical conduct for all of our employees, which cover all aspects of the business operation of the Group such as work ethics, personal conflicts of interest, confidentiality of information, related party transactions, gifts and share dealings. It is also the policy of our Group to ensure that the Company conducts its business in a way that is fair and competitive in its relationships with customers, suppliers, competitors and employees. Our critical vendors are required to ensure that they continue to comply with our anti-bribery and environmental protection requirements as we engage in a long-term relationship with them. We will review and refine our policies and approaches regularly to promote ethical behaviour and integrity both within our organisation and in the entities with which we have relationships with.

To ensure that our employees are aware of the responsibilities expected of them and understand their role in ensuring ethical compliance and behaviour, we communicate the content and requirements of policies such as the code of conduct and other relevant information as necessary to our employees through training, communication and consulting activities. We aim to maintain our target to have 100% of our new employees complete the compliance code of conduct training within 6 months of employment. For existing employees, an annual compulsory refresher awareness training is required to stay up to date on the latest Group-wide compliance and code of conduct.

Significant resources have also been invested by the Company to ensure that we have in place a robust compliance and integrity platform. Our compliance and integrity programme has three pillars:

## **Prevention**

Enforce policies, code of conduct, risk assessment and internal controls metrics when we onboard new employees and periodically during their tenure.

## **Early detection**

Whistle-blowing platform is in place and each reported incident is independently reviewed and investigated. Internally, we have continuous compliance reviews, controls and internal audits to ensure we pick up any irregularities early.

## **Response**

Disciplinary action on compliance breaches, process adaptation, resolution plans, and remediation of internal control systems. We are committed to continuously fine-tune the policies to seek further improvements going forward.

A Whistle-Blowing Policy is deployed to ensure independent investigations of complaints, aiming at encouraging the reporting of such matters in good faith, with the confidence that Group employees and other persons making such reports will be treated fairly and, to the extent possible, protected from any detrimental or unfair treatment including reprisal. Any suspected non-compliance and/or concern regarding practices concerning the Group or any of its officers or employees may be reported by (i) submitting the completed reporting form, available at the Company's corporate website, to [whistleblow@anti-nanofilm.com](mailto:whistleblow@anti-nanofilm.com); (ii) directly to the AC Chairman and/or the Company's Compliance Officer at [siewkoon.ong@anti-nanofilm.com](mailto:siewkoon.ong@anti-nanofilm.com) and [yihsen.gian@anti-nanofilm.com](mailto:yihsen.gian@anti-nanofilm.com) respectively.

During the reporting period, there were no cases of significant fines or non-monetary sanctions related to the environmental and socio-economic areas. There were zero confirmed incidence of corruption and zero cases of legal actions relating to anti-competitive behaviour, anti-trust, and monopoly practices. The target of 100% new employee attending the Compliance and Code of Conduct training was achieved.

## SUSTAINABILITY PERFORMANCE SUMMARY

Standard	Metrics	Unit of Measurement	FY2020	FY2021	FY2022	FY2023
/	Revenue	S\$ million	218	247	237	177
<b>Sustainable Innovation</b>						
/	R&D and engineering expenses	Percentage	5.9	7.1	7.7	9.4
/	Patents and trademarks	Number	> 70	> 80	> 90	>100
/	Employees engaged in R&D and engineering	Number	> 270	> 300	> 400	> 400
/	Completed LEAN projects	Number	375	373	95	16
<b>Responsible Business</b>						
GRI 205-2	Percentage of members who have undergone anti-corruption training					
	Management Committee	Percentage	Not reported	100	100	100
	All Employees	Percentage	Not reported	100	100	100
GRI 205-3	Confirmed incidents of corruption	Number of incidents	0	0	0	0
/	Human rights incidents in supply chain	Number	0	0	0	0
GRI 204-1	Sourcing from local suppliers	Percentage	49	72	60	71
<b>Environment</b>						
GRI 302-1	Total energy consumption	GJ	219,897.53	322,343.94	317,383.88	286,247.22
GRI 302-4	Energy consumption intensity	GJ/ 1,000 machine production hours	231.00	243.40	345.46 <sup>14</sup>	324.06
GRI 303-3	Total water withdrawal	m <sup>3</sup>	324,471.00	516,820.00	708,827.20	406,887.51
GRI 303-4	Total water discharge to all areas	m <sup>3</sup>	292,677.00	361,940.00	596,257.00	361,874.51
GRI 303-5	Total water consumption from production	m <sup>3</sup>	292,855	489,809	654,683	368,014.51
GRI 305-1	Total Scope 1 GHG emissions	tCO <sub>2</sub> e	1,601.00	2,463.00	271.82	78.09
GRI 305-2	Total Scope 2 GHG emissions (Location-based)	tCO <sub>2</sub> e	42,290.00	66,545.00	37,461.62 <sup>15</sup>	34,365.99
GRI 305-2	Total scope 2 GHG emissions (Market-based)	tCO <sub>2</sub> e	Not reported	Not reported	37,461.62 <sup>16</sup>	5,558.19
GRI 305-1, 305-2	Total Scope 1 and scope 2 GHG emissions (Location-based)	tCO <sub>2</sub> e	43,891.00	69,007.00	37,733.44	34,444.08
GRI 305-1, 305-2	Total Scope 1 and scope 2 GHG emissions (Market-based)	tCO <sub>2</sub> e	Not reported	Not reported	37,733.44	5,636.28
GRI 305-4	Total GHG emission intensity (Location-based)	tCO <sub>2</sub> e/ 1,000 machine production hours	46.10	52.10	41.07 <sup>17</sup>	38.99
GRI 305-4	Total GHG emission intensity (Market-based)	tCO <sub>2</sub> e/ 1,000 machine production hours	Not reported	Not reported	41.07 <sup>18</sup>	6.38
GRI 306-3	Total waste generated	tonne	176.20	419.70	669.30	544.29
GRI 306-4	Total waste diverted	tonne	Not reported	Not reported	Not reported	447.38
<b>Social</b>						
GRI 2-7	Total employees	Number	Not reported	Not reported	2,658	2,215
GRI 401-1	New employees hire rate	%	Not reported	Not reported	34	32
	Employee turnover rate	%	Not reported	Not reported	30	44
GRI 403-9 GRI 403-10	For ALL EMPLOYEES					
	Rate of fatalities as a result of work-related injury (per 1,000,000 hours worked)	Rate	Not reported	Not reported	0	0
	Rate of high consequence work-related injuries (excluding fatalities) (per 1,000,000 hours worked)	Rate	Not reported	Not reported	0.13	0.84
	Rate of recordable work-related injuries (excluding high-consequence work-related injuries) (per 1,000,000 hours worked)	Rate	1.89	2.14	1.64	0.84
	Total recordable incident rate (TRIR) (per 100 workers)	Rate	0.45	0.43	0.33	0.34
GRI 404-1	Average hours of training per employee	Hours	18.00	26.50	31.44 <sup>19</sup>	21.07
GRI 404-2	Employees groupwide subject to regular performance appraisal	Percentage	Not reported	Not reported	100	74

14 Restated figure.

15 Restated figure.

16 Nanofilm did not have contractual instruments for energy consumption in FY2022. The location-based result has been used as a proxy since a market-based result cannot be calculated.

17 Restated figure.

18 Restated figure.

19 Restated figure.



# SUSTAINABILITY REPORT

## GRI CONTENT INDEX

**Statement of use** Nanofilm has reported the information cited in this GRI content index for the period from 1<sup>st</sup> January 2023 to 31<sup>st</sup> December 2023 with reference to the GRI Standards.

**GRI 1 used** GRI 1: Foundation 2021

Index	GRI Disclosure	Page Reference/Remarks
2-1	Organisational details	SR: Board Statement (Pg. 33-34)
2-2	Entities included in the organisation's sustainability reporting	SR: Board Statement (Pg. 33-34)
2-3	Reporting period, frequency and contact point	SR: Board Statement (Pg. 34)
2-4	Restatements of information	SR: Board Statement (Pg. 34) SR: Carbon Emissions (Pg. 50) SR: Energy Management (Pg. 52-53) SR: Water Management (Pg. 56)
2-5	External assurance	Nanofilm did not seek for external assurance.
2-6	Activities, value chain and other business relationships	Please refer to Annual Report Pg. 6-7
2-7	Employees	SR: Employment Profiles and Welfare (Pg. 61-63)
2-8	Workers who are not employees	SR: Employment Profiles and Welfare (Pg. 61)
2-9	Governance structure and composition	SR: Board Statement (Pg. 34) SR: Corporate Governance (Pg. 77)
2-10	Nomination and selection of the highest governance body	Please refer to Annual Report Pg. 96
2-11	Chair of the highest governance body	Please refer to Annual Report Pg. 26
2-12	Role of the highest governance body in overseeing the management of impacts	SR: Sustainability Governance (Pg. 35)
2-13	Delegation of responsibility for managing impacts	SR: Sustainability Governance (Pg. 35)
2-14	Role of the highest governance body in sustainability reporting	SR: Sustainability Governance (Pg. 35)
2-15	Conflicts of interest	SR: Business Ethics (Pg. 77-78)
2-16	Communication of critical concerns	SR: Business Ethics (Pg. 77-78)
2-17	Collective knowledge of the highest governance body	Please refer to Annual Report Pg. 85
2-18	Evaluation of the performance of the highest governance body	Please refer to Annual Report Pg. 100
2-19	Remuneration policies	Please refer to Annual Report Pg. 101-106
2-20	Process to determine remuneration	Please refer to Annual Report Pg. 101-102
2-21	Annual total compensation ratio	Please refer to Annual Report Pg. 105
2-22	Statement on sustainable development strategy	SR: Sustainability Pillars (Pg. 36)
2-23	Policy commitments	SR: Health and Safety (Pg. 71) SR: Human Rights and Labour Management (Pg. 74) SR: Business Ethics (Pg. 77-78)

Index	GRI Disclosure	Page Reference/Remarks
2-24	Embedding policy commitments	SR: Health and Safety (Pg. 71) SR: Human Rights and Labour Management (Pg. 74) SR: Business Ethics (Pg. 77-78)
2-25	Processes to remediate negative impacts	SR: Business Ethics (Pg. 77-78)
2-26	Mechanisms for seeking advice and raising concerns	SR: Business Ethics (Pg. 77-78)
2-27	Compliance with laws and regulations	SR: Business Ethics (Pg. 77-78)
2-28	Membership associations	The information is not available for FY2023.
2-29	Approach to stakeholder engagement	SR: Stakeholder Engagement (Pg. 39)
2-30	Collective bargaining agreements	The information is not available for FY2023
3-1	Process to determine material topics	SR: Materiality Assessment (Pg. 37)
3-2	List of material topics	SR: Materiality Assessment (Pg. 38)
3-3	Management of material topics	The management of material topics can be found in each pillar across the report.
204-1	Proportion of spending on local suppliers	SR: Sustainability Performance Summary (Pg. 79)
205-1	Operations assessed for risks related to corruption	SR: Business Ethics (Pg. 77-78)
205-2	Communication and training about anti-corruption policies and procedures	SR: Business Ethics (Pg. 77-78)
205-3	Confirmed incidents of corruption and actions taken	SR: Business Ethics (Pg. 77-78)
302-1	Energy consumption within the organisation	SR: Energy Management (Pg. 52-53)
302-2	Energy consumption outside of the organisation	The information is not available for FY2023.
302-3	Energy intensity	SR: Energy Management (Pg. 53)
302-4	Reduction of energy consumption	SR: Energy Management (Pg. 52-53)
302-5	Reductions in energy requirements of products and services	SR: Energy Management (Pg. 52)
303-1	Interactions with water as a shared resource	SR: Water Management (Pg. 54-57)
303-2	Management of water discharge related impacts	SR: Water Management (Pg. 54-57)
303-3	Water withdrawal	SR: Water Management (Pg. 56-57)
303-4	Water discharge	SR: Water Management (Pg. 56-57)
303-5	Water consumption	SR: Water Management (Pg. 56)
305-1	Direct (Scope 1) GHG emissions	SR: Carbon Emissions and Climate Change (Pg. 50)
305-2	Energy indirect (Scope 2) GHG emissions	SR: Carbon Emissions and Climate Change (Pg. 50)
305-3	Other indirect (Scope 3) GHG emissions	The information is not available for FY2023.
305-4	GHG emissions intensity	SR: Carbon Emissions and Climate Change (Pg. 50)
305-5	Reduction of GHG emissions	SR: Carbon Emissions and Climate Change (Pg. 50)
305-6	Emissions of ozone-depleting substances (ODS)	The information is not available for FY2023.
305-7	Nitrogen oxides (NOx), sulphur oxides (SOx), and other significant air emissions	SR: Carbon Emissions and Climate Change (Pg. 51)

# SUSTAINABILITY REPORT

Index	GRI Disclosure	Page Reference/Remarks
306-1	Waste generation and significant waste-related impacts	SR: Waste Management (Pg. 58-59)
306-2	Management of significant waste-related impacts	SR: Waste Management (Pg. 58-59)
306-3	Waste generated	SR: Waste Management (Pg. 59)
306-4	Waste diverted from disposal	SR: Waste Management (Pg. 59)
306-5	Waste directed to disposal	The information is not available for FY2023.
401-1	New employee hires and employee turnover	SR: Employee Profiles and Welfare (Pg. 62)
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	SR: Employee Profiles and Welfare (Pg. 62)
401-3	Parental leave	SR: Employee Profiles and Welfare (Pg. 62)
403-1	Occupational health and safety management system	SR: Health and Safety (Pg. 70-71)
403-2	Hazard identification, risk assessment, and incident investigation	SR: Health and Safety (Pg. 71)
403-3	Occupational health services	SR: Health and Safety (Pg. 72)
403-4	Worker participation, consultation, and communication on occupational health and safety	SR: Health and Safety (Pg. 72)
403-5	Worker training on occupational health and safety	SR: Health and Safety (Pg. 72)
403-6	Promotion of worker health	SR: Health and Safety (Pg. 73)
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	The information is not available for FY2023.
403-8	Workers covered by an occupational health and safety management system	SR: Health and Safety (Pg. 73)
403-9	Work-related injuries	SR: Health and Safety (Pg. 73)
403-10	Work-related ill health	The information is not available for FY2023.
404-1	Average hours of training per year per employee	SR: Human Capital Development (Pg. 67)
404-2	Programs for upgrading employee skills and transition assistance programs	SR: Human Capital Development (Pg. 65-69)
404-3	Percentage of employees receiving regular performance and career development reviews	SR: Human Capital Development (Pg. 70)
405-1	Diversity of governance bodies and employees	SR: Diversity and Inclusion (Pg. 63)
405-2	Ratio of basic salary and remuneration of women to men	The information is not available for FY2023.
408-1	Operations and suppliers at significant risk for incidents of child labour	SR: Human Rights and Labour Management (Pg. 74)
412-1	Operations that have been subject to human rights reviews or impact assessments	SR: Human Rights and Labour Management (Pg. 74)
412-2	Employee training on human rights policies or procedures	SR: Human Rights and Labour Management (Pg. 74)
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	SR: Human Rights and Labour Management (Pg. 74-75)
413-1	Operations with local community engagement, impact assessments, and development programs	SR: Local Communities (Pg. 75)
414-1	New suppliers that were screened using social criteria	SR: Human Rights and Labour Management (Pg. 74-75)



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