Green Pulse

A Publication from Green In Future Pte Ltd, Singapore

Volume 8 Issue 32 • 2024 • www.greeninfuture.com

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INTRODUCTION



CONNECT TO NATURE









Learn about sustainable practices through the hands-on activity of upcycling plastic bottles into planters and explore the benefits of engaging with nature and incorporating eco-friendly habits in your daily lives.









On 02.07.2024 @ 9am Students of K2, Riverlife Kindergarten



We are proud to announce that we are part of the national sustainability movement 'Go Green SG 2024' led by the Singapore Ministry of Sustainability and the Environment and in support of the SG Green Plan. We will be organising a workshop for kindergarten school students at Riverlife Kindergarten, with a focus on recycling and upcycling. The hands-on workshop will help students learn about creating a planter from plastic bottles.

Go Green SG is an initiative to bring people together to build a cleaner and greener Singapore together as a community. To find and participate in similar activities, visit https://www.gogreen.gov.sg/

Green in Future has the expertise to conduct many such workshops to cater to various audiences with a focus on sustainability, carbon credits and circular economy. You can reach us at:

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SIT establishes Mangrove Conservatory in Punggol – a common space for students, scientists and community

The Singapore Institute of Technology (SIT) announced the building of a new Mangrove Conservatory which will serve as an integrated platform combining community outreach, education, and applied research to improve climate resilience with mangrove conservation and to develop future-proof mangrove strains for the region.

On 23rd May 2024, SIT launched the Mangrove Conservatory as the first of SIT's '10 Acts for Good', a year-long community and social initiative in celebration of its 10th anniversary as an Autonomous University. The university is embarking on 10 activities to give back to the community, including mentorship programmes for at-risk youth, providing healthy food options for beneficiaries within the Punggol community and the setting up of the Mangrove Conservatory.



SIT receiving the cheque from Rotary Club for the establishment of the Mangrove Conservatory

Image credit – Studio Zeros

At the event, the Foundation of Rotary Clubs Singapore (FRCS) signed a cheque of \$\$680,000 that would be donated over three years to SIT for the building of this conservatory. Ms Low Yen Ling, Senior Minister of State for Culture, Community and Youth & Trade and Industry, had presided as the guest of honour. The construction of the Conservatory will commence in July 2024 and is projected to be completed by December 2025.

Professor Chua Kee Chaing, President of SIT, in his welcome address, called to attention that, "The sea is rising and mangroves are known to be able to protect our shorelines against storm and erosion. Mangroves also act as a refuge and nursery for biodiversity, and as a carbon sink that is up to 10 times more impactful than that of a tropical rain forest." With climate change resulting in sea levels rising by 1.37m by 2150, densely populated areas and critical infrastructure in Singapore could be vulnerable to regular flooding. Reimagining coastlines will be crucial in bolstering Singapore's coastal defence and climate change mitigation, with mangroves forming a key nature-based solution in Singapore's long-term coastal adaptation planning.

He further added that the SIT mangrove conservatory is a dream project that checks many boxes for the University. He further added that sustainability is one of their key education and applied research focus. SIT will remain a firm supporter of Singapore's national priorities through the creation of innovative solutions aligned with the Singapore Green Plan 2030, and the broader UN Sustainable Development Goals. The Conservatory will aid in making SIT's new Punggol Campus a hub for knowledge, innovation and test-bedding.



Artist impression of The Mangrove Conservatory Image credit – Singapore Institute of Technology

Historically, 13-14% of Singapore's natural environment used to be covered by mangroves. Among the 70 of world-known species of mangroves, about 33-35 species of mangroves grew here, in Singapore. Now, with land reclamation and development, only about 0.5% of Singapore's land has mangroves. As mangroves have proved their importance in biodiversity, in protecting the shores and in sequestering carbon; SIT realises the need to bring them back in the form of the Conservatory - it is the natural choice in solving various challenges of the coastal regions.

The Conservatory will focus on preserving a wide array of genetically diverse mangroves and reintroducing lost species, serving as a hub for knowledge, innovation and test-bedding efforts. SIT staff and students will benefit from real-world learning opportunities at the Conservatory. Experiments and simulations will be conducted to identify mangroves that can help Singapore and the

region address global warming and rising sea levels, increase biodiversity, and maximise carbon sequestration. Some examples of students who would potentially benefit through practical understanding from this site include courses related to sustainable construction and carbon accounting and with an easily accessible site that by itself is a lab, the experiments could be short or long term as demanded by a project.

As part of the Conservatory's focus on public outreach, there will be displays featuring findings and data analyses on various mangrove species and their suitability at various coastal locations. This knowledge will be instrumental in guiding the cultivation and application of valuable mangrove species across Singapore and the region. Furthermore, SIT will collaborate with FCRS to engage the community, particularly the youth. By raising awareness about the critical role mangroves play in environmental protection, future generations can be inspired to become stewards of our planet.

Integrating outreach, education, and applied research, the Mangrove Conservatory is unique in that the public can learn about and contribute to preserving mangrove diversity and restoring lost species while providing a platform for researchers to develop solutions to tackle climate change and rising sea levels. While most global mangrove research occurs in an open environment, the Conservatory distinguishes itself by creating a controlled environment that simulates Singapore's climate change and sea level conditions. With the concept of a retreat, the Conservatory aims to develop sea-level-rise-ready mangroves to protect Singapore's shorelines and cultivate climate resistant mangrove forests for carbon sequestration and as carbon sinks.

SIT is exploring the construction of a boardwalk along the length of the mangrove area. This will serve two purposes – one of which is the tourism aspect of it, since people will have a nice walkway to explore along; and the other is a scientific one. With no footfall through the mangroves, the soil structure and content in and around the mangrove will be maintained and retained, making it perfect for scientists to obtain perfect and precise measurements and specimens.

Another unique feature of the Conservatory is that it will be situated next to the upcoming Punggol Coast MRT station and in the heart of JTC's Punggol Digital District. The public can explore the Punggol Heritage Trail easily and readily presenting them with first-hand opportunities to gain meaningful insights into Singapore's ecological heritage and the importance of mangrove ecosystems. Beyond students, staff and the public, SIT plans to extend outreach to include experts working on applied research projects, community volunteers and agencies such as the National Parks Board (NParks) and Conservation International.

NParks will help to identify the right species of mangroves needed for different areas, and bring the seeds, samples of the soil with the right microbes and to create the right environment for the mangrove species to flourish. Furthermore, they will assure diversity by being intentional in their actions for the nation to benefit. They will be the steward of the 86m x 12m plot of land where the mangroves will be cultivated.

Conservation International, a non-governmental organisation (NGO), has already been involved in mangrove restoration in Indonesia, Malaysia, and Colombia, and their contribution is three-fold. One is to learn from indigenous knowledge and to pass it on, second is to use advanced technology and help to guarantee the carbon credits through the process and lastly, and most importantly, in helping

the transition of the displaced livelihood who give up the land for the conservation to take place thereby ensuring the respect for the locals and their business.

SIT's Associate Professor Cesar Jung-Harada, the principal investigator and project lead, said, "With the ongoing climate crisis, mangroves should play a critical role. Mangroves, coral, and seagrass can protect our shores, increase biodiversity and sequester carbon. We are grateful to FRCS and Rotary Clubs in Singapore for helping us build this Conservatory. The Mangrove Conservatory will be very special, as it will help to address climate challenges and simulate Singapore's climate in controlled environments, and with our public outreach and education efforts, we can raise awareness of the importance of environmental protection in a very tangible way."

He also identifies that by designing a controlled environment for the mangroves and creating it in a modular fashion, it can be duplicated in other parts of the world. And with the reach FCRS has, globally, the potential to repeat the lab and their expertise becomes viable and affordable. He further added, "It's not just for us, it's science, we are trying to make a wave."

With additional support from FRCS, SIT will expand mangrove research and development to ecological restoration at nearby Coney Island and Pulau Ubin. These places will have a large mangrove forest that will boost authentic learning opportunities for students. It will also enable ecological restoration, where natural cycles are incorporated to restore the land, improving the hydrology and the soil. By letting nature do its job with some man-made tweaks, the whole process becomes more sustainable, more resilient and eventually economically sound.

Mr. Chew Ghim Bok, Board of Directors, Rotary International, and 2024 Rotary International Convention Head of Organising Committee Chair, said, "With the drive of Singapore Green Plan 2030 and Rotary International's seventh area of focus, Protecting the Environment, the timing cannot be better than now. For Rotarians, who are People of Action, the establishment of a mangrove conservation facility at SIT is a huge opportunity for us to make a lasting impact on the world and community around us. The Rotary Clubs in Singapore and SIT partnership, in mangrove conservation to mitigate effects of climate change and maximising carbon sequestration, is a match made in heaven."

About Singapore Institute of Technology

The Singapore Institute of Technology (SIT) is Singapore's first University of Applied Learning, offering industry-relevant degree programmes that prepare its graduates to be work- and future-ready professionals. Its mission is to maximise the potential of its learners and to innovate with industry, through an integrated applied learning and research approach, so as to contribute to the economy and society.

The University's unique pedagogy integrates work and study, embracing authentic learning in a real-world environment through collaborations with key strategic partners. Its focus on applied research with business impact is aimed at helping industry innovate and grow. Ready in 2024, SIT's centralised campus within the larger Punggol Digital District will feature a vibrant learning environment where academia and industry will be tightly integrated with the community.

Mark Perry

Mark Perry is a dedicated and skilled leader with expertise in executive management, technology commercialisation, product development, operations and organisational development. With a passionate entrepreneurial spirit and 13 years of B2B experience in Water, Energy and Environment sectors, including a decade in Singapore, he excels in leadership, P&L management, project management, business development and marketing.

SideStorm is a company obsessed with efficiency: efficiency of industrial processes and efficiency in building sustainable business models. They are reinventing resource recovery and industrial microbial fermentation by means of advanced membranes technologies that allow selective recovery and extraction of water & solutes.

How does SideStroem use forward osmosis to recycle wastewater and help the environment? What are its main benefits over traditional methods for companies using your technology?

SideStroem uses forward osmosis (FO) to recycle wastewater, offering significant benefits over traditional methods.

The FO process is the opposite of reverse osmosis. The process involves specialised membranes that allow water molecules to pass while retaining solutes, driven by an osmotic gradient between the wastewater and a drawn solution. In other words, instead of pushing water through a membrane we're gently pulling water through the membrane, requires minimal pre-treatment, reducing complexity and costs.

The benefits of FO include reduced fouling, longer membrane lifespan, higher water recovery rates, and consistent performance even with varying feedwater quality. FO also allows gentle extraction of product streams and operates at lower pressures, saving energy.

Overall, FO contributes to water conservation, reduced environmental footprint, and sustainable practices, enhancing efficiency and environmental responsibility for companies.

Why does SideStroem focus on the textile industry and how can your technology positively impact this sector?



The textile industry, especially textile dyeing, is highly water-intensive, leading to significant environmental issues such as water scarcity and pollution. SideStroem's nano-selective forward osmosis technology addresses these challenges by optimising water recycling and resource recovery in the form of sodium chloride, significantly reducing the environmental footprint of textile dyeing. The system ensures recycled water meets quality standards, removes impurities, and maintains consistent dyeing results. It also recovers and reuses salt from wastewater, reducing waste and additional salt requirements.

Moreover, SideStroem's technology helps optimise operation of existing Zero Liquid Discharge (ZLD) systems designed to ensure no harmful substances are released into the environment. This promotes sustainability and a more environmentally responsible textile production process.



SideStroem's first prototype nano-selective forward osmosis element

Given global water scarcity concerns, how does SideStroem plan to ensure sufficient clean water for future generations?

SideStroem takes a proactive approach to ensure sufficient clean water for future generations by focusing on efficient water and resource recovery, reducing freshwater consumption, and balancing industrial needs with drinking water availability. Our innovative technologies optimise water usage and minimise waste, helping industries recycle and treat wastewater effectively. This reduces reliance on freshwater sources and preserves these resources.

By improving industrial water and resource recovery, SideStroem frees up freshwater supplies and reduces the carbon footprint of treatment processes ensuring enough clean water for both industrial and human consumption, contributing to a water-resilient and more sustainable world.

Could you share some key takeaways from SideStroem's participation in the recent Singapore International Water Week?

There is no substitute for meeting people in person. SIWW brings together industry experts, investors, and potential partners. It is through this platform that we network, collaborate, and build relationships. There were plenty of plenaries, panel discussions, and networking sessions to connect with like-minded individuals. It is THE place to be seen for any water tech start-up owing to Singapore's status as a global hydro hub.

Additionally, SIWW provides a stage to showcase our innovations. I learned a lot from other established players in the water sector and emerging technologies at the show. Plus, the water industry is such a small world that when everyone gathers at SIWW, it feels like a family reunion.

Participating in SIWW not only enhances our visibility but also positions us to attract investors and validate our business model. The exposure gained here is invaluable for scaling our operations and gaining recognition within the global water technology landscape.





What message does SideStroem intend to convey to potential investors and collaborators who are interested in supporting environmental initiatives?

Our message to potential investors and collaborators interested in supporting environmental initiatives is clear: collaboration is at the heart of what we do at SideStroem. We actively seek to engage with partners, investors, and stakeholders to drive meaningful impact and sustainable solutions. Our agile approach allows us to innovate quickly and bring novel solutions to market efficiently.

We encourage investors to see the value in our flexibility and our commitment to advancing environmental sustainability through pioneering technology. Together, we can make a significant difference in addressing global water challenges.

SideStroem Water Technologies Pte. Ltd. was incorporated in Singapore March 17th, 2021, as a private company.

Green Lab and Ninja Van Singapore Sign MOU to Help Singapore Businesses Journey towards Going Green in their Packaging and Logistics Needs

Green_Lab, Singapore's first eco-solution manufacturing plant, has joined forces with Ninja Van Singapore, a tech-enabled express logistics company, in a collaborative effort to help companies achieve their sustainability goals while optimising their storage and delivery needs. Green Lab CEO and Co-Founder Muralikrishnan Rangan and Ninja Van Group CEO and Co-Founder Lai Chang Wen both signed a Memorandum of Understanding at Green Lab's Tuas production facility, witnessed by Senior Minister of State, Ministry of Sustainability and the Environment, and Ministry of Transport, Dr Amy Khor.

The partnership between the two Singapore-born firms seeks to enhance the accessibility and affordability of eco-solutions for local businesses. The shared objective is to contribute to the achievement of Singapore's sustainability goals.

Green Lab manufactures 100% compostable and biodegradable solutions, enabling local businesses to find the right eco-friendly packaging solutions to meet their business needs regardless of requirement or budget. The 200,000-square-foot plant in Tuas can cater to larger corporations and SMEs alike and can provide just-in-time delivery. The plant has also been equipped with solar panels which cover almost the entire rooftop and is able to generate 1596 MWh of electricity annually at present. The annual CO2 abatement or annual greenhouse gas emissions reduction would equate to 668 tCO2e. Green Lab itself has ambitions to be carbon neutral by 2030.

With expertise from Ninja Van Singapore, businesses will be provided with improved logistics support, reducing the need for on-site and off-site storage, associated costs, or just-in-time complexities. In an effort to manage its carbon footprint, Ninja Van Singapore launched 10 electric vehicles (EVs) in October 2022, steadily expanding the EV fleet a year later, with the goal set to have 30% of its inhouse fleet transitioned to EVs before Q2 2024.



(From left to right) Green Lab's CEO and Co- Founder Muralikrishnan Rangan, Senior Minister of State, Ministry of Sustainability and the Environment, and Ministry of Transport, Dr Amy Khor and Ninja Van Group's CEO and Co-Founder Lai Chang Wen standing in front of Ninja Van's new EV van at the MOU signing.

The partnership between the two parties will help address the pain points faced by many Singapore businesses, including the perception that most sustainable products are often perceived as niche items. This often leads to businesses having difficulty meeting the Minimum Order Quantity (MOQ) requirements while spending a significant amount of money on logistical and storage requirements.

Among the partnership offerings, Green Lab and Ninja Van Singapore will provide free delivery and storage as a one-stop eco-friendly solution for businesses needing more space or looking to free up areas to aid in business expansion and diversification. There is also no MOQ requirement for Green Lab products.

This seamless integration between Green Lab and Ninja Van Singapore will simplify the process and efforts required for local SMEs to adopt eco-friendly practices. This will help them improve their Environmental, Social, and Governance (ESG) performance and impact reports.

Chief Executive Officer Mr Muralikrishnan Rangan of Green Lab, a fully-owned subsidiary of Print Lab, a member of F&N's Times Publishing Group, said, "This is a gamechanger for businesses in Singapore. Through our partnership, Green Lab and Ninja Van Singapore will help businesses take steps towards making sustainable choices, and also help them alleviate business pain points, with space being one of them. With Green Lab producing 100% compostable, biodegradable or recyclable products in a Singapore facility, Green Lab and Ninja Van coming together will help walk on their green paths as they green their supply chains along with last mile deliveries being done in electric vans. In essence, renewable energy in the production mix, sustainable products and last mile using electric vans will mean a greener platform for our clients' supply chains. In addition, there is free storage and delivery with no conditions attached, definitely a first in Singapore."

The collaboration between both parties is also part of Ninja Van Singapore's sustainability efforts, at which the logistics company will provide last-mile deliveries using their EVs for customers when they purchase eco-friendly packaging products from Green Lab. Their support will also help businesses walk towards their green journey from material sourcing to production, supported by a low-carbon last-mile delivery. Among these are businesses in the food and beverage industry, and fast food restaurants.

"Sustainability is part of Ninja Van's long-term goals, and we are committed to growing our initiatives at a responsible and sustainable pace. Since we began our EV pilot trial in October 2022, we are on track to have 30% of our in-house fleet transitioned to EVs before Q2 2024. We are also cutting down single-use plastics in our warehouse operations and recycling waste materials where viable," said Mr Lai Chang Wen, Chief Executive Officer and Co-Founder of Ninja Van Group.

He added: "As our business scales and we expand into other express verticals like Ninja B2B and Ninja Cold, we recognise the opportunity and responsibility to do our part for the environment. This partnership with Green Lab isn't our first collaboration together as we have relaunched Ninja Van's Eco Ninja Packs, designed to minimise our environmental footprint beyond our last-mile operations. Our Eco Ninja Packs, tailored to local requirements with Green Lab's expertise, were well-received by our customers. As we come together again, I am delighted that we can leverage our collective strengths to make a meaningful difference in the environment."

In recent years, various industries have found ways to promote sustainable practices that benefit the environment and provide a better experience for their end customers. Accor Group, a hospitality company, has pioneered sustainable development in the industry for more than 30 years and is now accelerating its global transformation by building a model that contributes more and collaborating closely with hotel owners and teams.

Said Mark Gaynor, Director, F&B, and Operating Supplies & Equipment Procurement (South East Asia, Japan and South Korea) of Accor Group, "At Accor, we believe it's our role to shape a more sustainable future of travel. Amongst our initiatives and actions, we committed to joining the UN Global Tourism Plastics Initiative and to removing all single-use plastic items from our hotels in 2020. Today, our

partnership with Green Lab provides us with a key ally in our mission to remove single-use plastic across all areas of our hotel operations.

He added: "With our Asia Pacific regional office based in Singapore, and with key distribution partners in Asia, this partnership's impact can be felt both within and beyond the borders of Singapore. Accor is the biggest hospitality company in the region and will continue to engage with and drive change in this critical area. We are excited to be partnering with Green Lab to help drive this change,"

About Green Lab

Green Lab is an eco-initiative by Print Lab, a member of F&N's Times Publishing Group. It is South-East Asia's first-ever one-stop eco-solution with manufacturing capabilities and distribution points all in the region. As Singapore's leading supply chain for 100% compostable or biodegradable range of products, we create new and exciting possibilities for corporations to realise a sustainable future. For more information, please visit www.greenlab.com.sg

About Ninja Van Singapore

Ninja Van Singapore is a tech-enabled logistics organisation, backed by marquee investors including GeoPost, Alibaba Group, and B Capital Group. Launched in 2014, Ninja Van Singapore has since grown to become the region's fastest-growing last-mile logistics company, supporting businesses of all sizes with innovative logistics solutions. To maximise its scale in e-commerce, Ninja Van Singapore also offers a comprehensive suite of solutions – from digital to full-funnel marketing – to help shippers sell better.

As a springboard for expansion beyond e-commerce, Ninja Van Singapore's e-commerce express network lays the groundwork for venturing into other express verticals, including business-to-business inventory restocking and cold chain. For more information, visit https://www.ninjavan.co/en-sg.

CASE STUDY 1: ACCOR GROUP

- By 2025, Accor had a mandate to go plastic-free and partnered with Green Lab for Singapore and 12 other countries to offer green solutions in hospitality space to these hotels.
- The Ninjavan collaboration will support the last mile delivery, a groundbreaking solution for their hotels in Singapore.
- Accor will use plastic-free products from procuring through Green Lab, and will decarbonise the supply chain with just-in-time delivery.

CASE STUDY 2: CHIPOTLE

- Chipotle provided Green Lab with the opportunity to break into the US market, which has stringent environmental regulations. With Green Lab's facility in Tuas being ISO14001 certified, Chipotle has become a key client for Green Lab especially in trying to break into North American territories.
- The local transport from the Tuas Plant to the Singapore Port will be partnered with Ninjavan.
- This has become a revolutionary export business for Green Lab.

CASE STUDY 3: SHAKE SHACK

- Shake Shack is one of the world's most recognised fast-food brands. It procures sustainable packaging solutions from Green Lab, such as Kraft Paper Bags.
- Previously, they used to make bulk purchases for packaging from competing regional packaging companies, and their supply chains suffered when there were unexpected and unplanned shortages.
- Currently, Shake Shack is enjoying local support with just-in-time delivery
- For example, they realised they were running out of their special edition Christmas bags during the recent Christmas holiday. But thanks to Green Lab's production capability and fast turnaround, they were swiftly replenished.
- The restocking was completed within a few weeks locally without any supply chain bottleneck from overseas.

Majority of companies in Singapore yet to fully measure supply chain emissions: Schneider Electric survey

- 78% of business leaders from small companies claim they have lost current or potential business opportunities
- Vast majority welcome stronger support announced by Deputy Prime Minister Lawrence Wong in Budget 2024 to accelerate sustainability goals and green supply chains
- 91% are positive about the new S\$5billion Future Energy Fund

A new study by Schneider Electric, the global leader in the digital transformation of energy management and automation finds that most Singapore businesses are falling short in engaging their supply chain partners to calculate total greenhouse gas emissions (GHG), with nearly two thirds (63%) of business leaders indicating they have not fully measured or analysed these.

Lack of appropriate technology is highlighted as a key barrier, with less than half (44%) of business leaders indicating their companies have all the tools, technologies, and infrastructure needed to easily measure and analyse the carbon footprint of their organisation's supply chain.

This perception varies across sectors, roles, and seniority levels, with 58% and 56% of board members and C-suite executives indicating this, compared with 25% of senior managers – pointing to a stark gap between those developing supply chain emissions strategies and those implementing them. Similarly, those in general management roles at 55% are far more likely to indicate this than those focused on supply chain at 27%. By industry, those in Singapore's real estate sector are the most prepared, with 81% achieving full implementation of the technology, tools and infrastructure they need, with engineering and education the least prepared sectors, both at 13%.

The findings come from a March 2024 survey of more than 500 senior business leaders in Singapore, involved in leading the sustainability strategies for their organisations. They include board members, C-suite executives, directors, and senior managers, from small, medium, and large multi-national corporations (MNCs) across a range of industries.

Despite gaps in supply chain emissions data, the study finds that Singapore businesses are pressing forward with taking a range of measures to green their supply chains, with 63% switching transportation and/or distribution routes, 55% placing increased requirements on their suppliers, and 47% switching suppliers.

Other steps employed by organisations in Singapore to reduce emissions levels include switching transportation and/or distribution vehicles or modes of transport (36%) and seeking third-party support on sustainability consultation and certification (9%).

SMEs under increasing pressure

The growing momentum of greening supply chains is resulting in challenges particularly for SMEs. 95% of respondents believe it is becoming harder for smaller companies to supply larger companies due to increasing environmental and GHG emissions requirements. Half (50%) say this situation is already occurring — a sentiment shared by 60% of small companies compared with only 48% of large companies.

Specifically, 62% have reported losing existing or prospective new business owing to stringent GHG compliance – with small companies again disproportionately disadvantaged at 78%, compared with 52% of large companies being affected.

Almost half (47%) of overall business leaders surveyed and 57% of small business leaders surveyed agree that it will become significantly more expensive to do business due to increased emissions reduction requirements in supply chains.

To assist suppliers with lowering supply chain emissions, 81% of business leaders said they are providing financial incentives, while 74% are providing access to expertise and 28% are providing training.

Businesses welcome stronger support announced by Deputy Prime Minister Lawrence Wong in Budget 2024 to accelerate sustainability goals and green supply chains

The survey also reveals that businesses in Singapore welcome the stronger support announced by Deputy Prime Minister Lawrence Wong in the Budget 2024 to accelerate sustainability goals and green supply chains.

92% of organisations are positive about the enhanced Partnership for Capability Transformation (PACT) scheme, which will support more collaborations between larger companies and SMEs. 90% believe the scheme will play an instrumental role in incentivising businesses to adopt more energy efficient practices, and a whopping 94% of those whose businesses are eligible intend to apply for it.

90% also agree that the expanded Enterprise Financing Scheme – Green (EFS-Green) scheme will provide the much-needed support to adopt the relevant green solutions required to keep pace with the requirements of MNCs. Almost all (97%) business leaders surveyed note their organisations are likely to apply for this scheme.

The support for this policy comes at a time when access to working capital is presently a major challenge (89%) for Singapore organisations to adopt green solutions. A similar proportion (87%) agree that the scheme will make a sizable difference in supporting Singapore companies with green supply chain participation in the future.

In the same vein, support for other government programmes is promising with 91% of businesses reacting positively to the support outlined in the Energy Efficiency Grant, with 74% of all organisations and all (100%) small companies highly likely to apply for the grant. 93% believe it will be effective in incentivising businesses to adopt more energy efficient practices.

Finally, 91% are positive about the establishment of the S\$5billion Future Energy Fund, with 86% believing it will accelerate Singapore's energy transition.

Yoon Young KIM, Cluster President, Schneider Electric, Singapore and Brunei said, "The gap in technology and infrastructure to sufficiently measure and manage supply chain emissions must be addressed as part of Singapore's green journey. In particular, more data and training are required to ensure the impact of supply chain adjustments on small businesses can be better managed and wider economic consequences avoided. This will require increasing cooperation between public and private sector stakeholders to manage and it is pleasing to see the positive reaction to the Singapore government's recently enhanced measures in this area."

About Schneider Electric

Schneider's purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all. We call this Life Is On. Our mission is to be your digital partner for Sustainability and Efficiency.

We drive digital transformation by integrating world-leading process and energy technologies, endpoint to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centers, infrastructure and industries.

We are the most local of global companies. We are advocates of open standards and partnership ecosystems that are passionate about our shared Meaningful Purpose, Inclusive and Empowered values.

Kering And National University of Singapore Business School partner to develop measurable benchmarks for Corporate Climate and Nature-Related Strategies in Asia-Pacific

Kering announced today a three-year research collaboration with the Centre of Governance and Sustainability (CGS) at the National University of Singapore (NUS) Business School that is poised to establish a first-of-its-kind baseline for measuring the impact of climate and nature-related transition strategies adopted by corporations across Asia-Pacific.

Kering's partnership with CGS at NUS Business School comes on the back of a shared commitment to advance sustainability and contribute to the global fight against climate change. Acknowledging the complexity of climate science and sustainability, the leading global university seeks high quality research and extensive collaboration across disciplines to develop actionable policies and solutions that can contribute to the global agenda of sustainability and climate action.

Focused on nature-related reporting and climate transition plans, three research studies are set to unfold in three phases. The first and third studies will focus on nature-related issues, while the second study will concentrate on climate transition. These studies will examine strategies adopted by the top 50 listed companies in each of the 14 Asia-Pacific jurisdictions based on market capitalization, including Australia, China (mainland), Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The primary audience for the nature- and climate-related studies include business leaders, investors, regulators, public sector leaders and non-profit sector leaders. The studies aim to provide insights to the current state of nature and climate practices, establish a baseline for strategies and reporting, highlight industry trends, and identify areas for improvements.

The first of three planned studies, titled 'Nature-Related Practices and Strategies in Asia-Pacific' analyzed nature-related strategies from 700 listed companies across 11 industries. It finds that 35% of companies that mention nature in their reports, consider nature and biodiversity to be material issues. Among the 375 companies with a materiality matrix, 31% prioritize nature and biodiversity as mid to high priority issues. In contrast, 82% view climate change as a mid to high priority. Additionally, 9% of all companies have tapped into capital flows and financing opportunities related to nature. The results indicated that compared to nature-related disclosures, climate related disclosures are at a more mature stage. To close the gap, companies need to enhance their disclosure of nature-related issues by tapping on nature-reporting frameworks and encourage greater investment.

On the back of these future insights, Kering and CGS at NUS Business School also plan to host a series of strategy workshops to facilitate knowledge sharing and collaboration amongst sectors and industries.

Announcing the partnership at the 'Nature in the City' forum jointly organized by the French National Museum of Natural History in collaboration with the Embassy of France to Singapore with support from Kering, Chief Sustainability and Institutional Affairs Officer of Kering, Marie-Claire Daveu, said "At Kering, we believe in the power of collective action as seen through our robust network of partners in several regions around the world. Today, I am proud to announce our partnership with CGS at NUS Business School, which combines academic rigor, research expertise, and real-world experience – key levers for a successful impact. The sustainability challenges we face today are complex, and by partnering with an outstanding university renowned for its expertise in sustainability topics, we are exemplifying the Group's commitment to collaborate with partners on the Asia-Pacific region's sustainability journey."

Professor Lawrence Loh, Director of the Centre for Governance and Sustainability at NUS Business School, said, "Nature underpins all economic activities and human well-being. Therefore, the disclosure of nature-related practices and strategies is crucial to provide transparency and accountability for a company's environmental impact and sustainability practices. Through the partnership with Kering, we are poised to drive meaningful change by developing a baseline for measuring biodiversity tracking and examining climate transition strategies across diverse industries. This is a significant step in encouraging the integration of nature-centric approaches into corporate strategies, fostering a more sustainable and resilient future for all."

For more information on the research initiative, please visit https://bschool.nus.edu.sg/cgs/.

About Kering

A global Luxury group, Kering manages the development of a series of renowned Houses in Fashion, Leather Goods and Jewelry: Gucci, Saint Laurent, Bottega Veneta, Balenciaga, Alexander McQueen, Brioni, Boucheron, Pomellato, DoDo, Qeelin and Ginori 1735, as well as Kering Eyewear and Kering Beauté. By placing creativity at the heart of its strategy, Kering enables its Houses to set new limits in terms of their creative expression while crafting tomorrow's Luxury in a sustainable and responsible way. We capture these beliefs in our signature: "Empowering Imagination".

About Centre for Governance and Sustainability (CGS), National University of Singapore

The Centre for Governance and Sustainability (CGS) was established by the National University of Singapore (NUS) Business School in 2010. It aims to spearhead relevant and high-impact research on corporate governance and corporate sustainability issues that are pertinent to institutions, government bodies and businesses in Singapore and the Asia-Pacific. CGS is the national assessor for the corporate sustainability and corporate governance performance of listed companies in Singapore. In tandem with growing demands from consumers and investors that financial returns are achieved with integrity, backed with environmental and social considerations, CGS has a slew of research focusing on sustainability reporting in Asia Pacific, sustainable banking, nature reporting, and climate reporting in ASEAN. More information about CGS can be accessed at https://bschool.nus.edu.sg/cgs/

NUS Business School, ranked 1st in Asia in the 2024 QS World University Rankings, is renowned for providing management thought leadership from an Asian perspective, enabling its students and corporate partners to leverage global knowledge and Asian insights. The School is one of the 16 faculties and schools at NUS. A leading global university centred in Asia, NUS is Singapore's flagship university which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. Its transformative education includes a broad-based curriculum underscored by multi-disciplinary courses and cross-faculty enrichment. Over 40,000 students from 100 countries enrich the community with their diverse social and cultural perspectives. For more information, please visit the website, or go to the BIZBeat portal which showcases the School's research.

Data and Innovation Shape and Anchor PropertyGuru's Commitment to Sustainability

Launches 'Gurus For Good' Sustainability Strategy and its inaugural sustainability report

PropertyGuru Group Limited (NYSE: PGRU) ("PropertyGuru" or the "Company"), Southeast Asia's leading property technology ("PropTech") company, today announced the launch of *Gurus for Good*, PropertyGuru's sustainability strategy and the release of its inaugural Sustainability Report for 2023. The report highlights PropertyGuru's commitment to sustainability, which is reflected in its *Gurus For Good* strategy. The strategy leverages PropertyGuru's proprietary data and analytics to enable right decisions for a sustainable future and to bring meaningful solutions for communities, addressing environmental and social challenges through innovative solutions and responsible business practices.

The strategy encompasses a holistic view of the challenges and opportunities that matter most to PropertyGuru's internal and external stakeholders, as identified through an assessment of the Group's material sustainability topics conducted in 2023.

This assessment laid the foundation for the three key pillars of the strategy – Sustainable Living, Thriving Communities and Responsible Business. These pillars guide PropertyGuru's objectives in making informed choices and taking actions that look to benefit both the business and its communities.

Sustainable Living harnesses PropertyGuru's deep expertise of the real estate business coupled with proprietary data and analytics to foster a sustainable future for its communities. Through Thriving Communities, the Group focuses its efforts on creating inclusive products through accessible design systems and a zero-tolerance policy on discrimination. With Responsible Business, the Group navigates diverse privacy, security, ethics and compliance regulatory frameworks.

Highlighting the launch of *Gurus For Good* strategy, Disha Goenka, Chief Marketing Officer, PropertyGuru Group, said, "When we first started focusing on sustainability many years ago, it was because we knew it was the right thing to do, not just for our industry, but for the communities where we operate too. Now, we're formalising our approach by doubling down on our three strategic pillars that make up 'Gurus For Good'. The strategy unifies our past and present sustainability initiatives into one holistic framework, which we will use to guide our journey."



Key Highlights from the Gurus For Good Strategy and Sustainability Report

Climate Action Responsibilities

- The real estate sector, responsible for approximately 40% of global carbon dioxide emissions, plays a crucial role in climate action. As a regional market leader, PropertyGuru is dedicated to contributing to this collective effort by actively working to reduce its GHG footprint.
- In 2023, PropertyGuru assessed their greenhouse gas (GHG) emissions to better understand their environmental impact. The key areas evaluated included business travel, cloud services, and the commuting and telecommuting practices of employees.
- Identifying the largest emission sources, such as business travel and cloud services, allows for prioritising reduction efforts, paving the way for a more sustainable future for the entire community.

Building Inclusive Communities

- At PropertyGuru, DEI is not just a strategic imperative but the natural outcome of a fair and transparent recruitment process. The goal is to build platforms where everyone can thrive, reflecting a commitment to creating a diverse and inclusive workplace.
- PropertyGuru is proud of their diverse workforce distributed across five countries and representing more than 35 nationalities. In terms of gender diversity, the Group has 63% female representation at the Group Level, 43% at the executive level and 33% at the board level.
- PropertyGuru is committed to combating discrimination in all forms. A multi-pronged approach includes strict advertisement guidelines, a language moderation engine, and a 'report listing' feature, significantly reducing discriminatory practices and fostering a more inclusive property market.

Data-Driven Solutions for a Sustainable Future

- The Liveability Index by PropertyGuru Group, piloted in Malaysia, provides insights into the quality of life in neighbourhoods by considering factors such as housing affordability, amenities, environmental conditions, transport accessibility, and job opportunities. This helps residents make informed decisions and supports urban planners and developers.
- PropertyGuru provides climate risk analysis by combining satellite imagery with complex modelling, their assessments identify the risks of flooding, storms, extreme heat, and other extreme weather events for any location under various climate scenarios and time horizons. This is particularly important in Malaysia, where recurrent flooding poses a significant risk.
- With the accessibility to these climate risk insights, PropertyGuru's customers can better understand the impact of climate change on their projects and assets. This enables them to make informed decisions to reduce risks, future-proof their developments, and enhance their investment strategies.

About PropertyGuru Group

PropertyGuru is Southeast Asia's leading PropTech company, and the preferred destination for over 28 million property seekers to connect with over 46,000 agents monthly to find their dream home. PropertyGuru empowers property seekers with more than 2.1 million real estate listings, in-depth insights, and solutions that enable them to make confident property decisions across Singapore, Malaysia, Thailand and Vietnam.

PropertyGuru.com.sg was launched in Singapore in 2007 and since then, PropertyGuru Group has made the property journey a transparent one for property seekers in Southeast Asia. In the last 16 years, PropertyGuru has grown into a high-growth PropTech company with a robust portfolio including leading property marketplaces and award-winning mobile apps across its core markets; mortgage marketplace, PropertyGuru Finance; home services platform, Sendhelper; a host of proprietary enterprise solutions under PropertyGuru For Business, including DataSense, ValueNet, Awards, events and publications across Asia.

For more information, please visit: PropertyGuruGroup.com

COFFEE FOR YOUR PLANTS? STARBUCKS OFFERS FREE COFFEE GROUNDS FOR GARDENERS

Starbucks serves freshly brewed coffee to millions of customers each day. But many may not know they can also pick up a free bag of used coffee grounds to enrich their gardens and compost. Starbucks started its Grounds for Your Garden program in 1995, which is offered on a first-come, first-served basis in participating stores where local codes permit. Even the packaging has been reused – baristas scoop spent coffee grounds into the empty bags originally used to ship espresso beans to stores.

"Grounds for Your Garden is a win-win for both Starbucks and our customers," said Jim Hanna, director on Starbucks Global Responsibility team. "We can keep valuable material out of landfills and put it to good use."

The program is available across select Starbucks stores in Asia Pacific, including Singapore, India, Thailand, Vietnam, the Philippines and more. Customers can simply head in-store and check if recycled coffee grounds are available for pick-up. After requesting grounds in-store, Starbucks partners (employees) will scoop recycled coffee grounds into a bag that was formerly used to ship espresso beans to the store.

Starbucks launched Grounds for Your Garden to honor its promise to give back more to the planet than it takes. The program also supports the company's commitment to halve its carbon, water and waste footprint by 2030. For 29 years, Grounds for our Garden has created an opportunity for Starbucks stores to give second life to recycled coffee grounds and espresso bean packaging. In fact, coffee grounds represent one of Starbucks largest waste contributors (by volume and weight) – this program helps divert this waste from landfills.

Much of coffee's acidity is removed in the brewing process, leaving behind a green material that promotes plant growth, repels ants and slugs, and entices earthworms. In addition to gardening, coffee grounds can be used as a natural cleaning scrub, fabric dye, exfoliant, insect repellent and more.

With the World Plant a Vegetable Garden Day just celebrated on May 19, 2024, anyone interested to start their own home garden can gain support and guidance from Starbucks. By giving used coffee grounds a new life, the program keeps valuable material out of landfills and channels it towards enriching plants and compost.

World Cities Summit 2024 focuses on building cities of the future and call for collective action for resilient and regenerative cities

The 9th World Cities Summit (WCS) took place from 2nd to 4th June 2024 at the Suntec Singapore Convention & Exhibition Centre. The Summit brings together leaders from government administration, industry players and academia from across the globe, to discuss urban challenges, share innovative solutions, and deepen collaborative partnerships. The Summit is co-organised by the Centre for Liveable Cities (CLC) and the Urban Redevelopment Authority (URA), Singapore.

With the theme 'Striving for Liveable and Sustainable Cities: Rejuvenate, Reinvent, Reimagine', the summit covered five tracks of discussion: (i) Cities for People; (ii) Resilient & Regenerative Cities: (iii) Smart Cities, Sustainable Financing of Cities; and (iv) Future Cities. This year, WCS comprised of the main conference and other key events such as the WCS Mayors Forum, WCS Young Leaders Symposium, the WCS Opening Plenary, the Lee Kuan Yew World City Prize Award Ceremony and Banquet, and an Exhibition, among others. To facilitate comprehensive and diverse dialogue, plenaries, in-depth discussion sessions, special convenings, and roundtables meticulously curated in collaboration with strategic partners for each track were organised.

Mr Desmond Lee, Minister for National Development and Minister in-charge of Social Services Integration, Singapore, called upon cities to seize opportunities to build a more liveable and sustainable environment for their residents, highlighting four key areas of focus: (i) To continue to practise stewardship and foresight; (ii) foster a collaborative ecosystem through multi-stakeholder engagement and collaboration; (iii) remain open to trying out new ideas and approaches; and (iv) continue to collaborate and learn from cities around the world.

Several recurring themes have emerged during various sessions in the Summit:

- Innovation enables cities to address complex urban challenges. Cities must invest in research capabilities to drive innovation, which will in turn translate into new and effective solutions to address common challenges.
- Embracing international collaboration is vital in shaping the urban landscapes of tomorrow. Cities
 must remain open to adapting and incorporating insights and best practices from around the
 world. Benefits from international collaborations can be leveraged upon to address common
 challenges and build a collective future of greater liveability and sustainability.
- Partnerships and collaborative ecosystems are key in addressing urban challenges. Cities must
 actively involve its citizens and stakeholders in the planning of its living environment and urban
 policies. A more engaged citizenry lays the groundwork for a strong partnership between
 Government and citizens, translating into better policy outcomes and stewardship of resources.

WCS serves as a catalyst for collaborative engagement and knowledge sharing and continues to be an important convening for cities around the world.

Minister Lee also announced the launch of a new future-focused edition of the Singapore Liveability Framework. Developed and introduced in 2014 by the CLC, the Framework presents Singapore's urban transformation journey, distilling general principles and desired outcomes undergirding our approach to sustainable development. The Singapore Liveability Framework 2.0 puts forth an updated understanding of liveability outcomes for cities, as well as the planning, governance and collaborative systems that enable them. It incorporates views from both within and outside government, spotlights the tensions and synergies that arise from delivering liveability and sustainability for cities. It also features case studies from around the world that illustrate the global applicability of the framework.

The Centre for Liveable Cities (CLC) and the Urban Redevelopment Authority (URA) have also launched the City Network for the Lee Kuan Yew World City Prize (LKYWCP Network) to facilitate global

knowledge exchange on building liveable and sustainable cities, and to contribute towards improving the lives of citizens globally. Mr Desmond Lee, Minister for National Development, announced the new initiative at the Opening Plenary of the World Cities Summit 2024.

Envisioned as a community of practice for urban leaders and practitioners to collaborate on projects and provide a platform for global dialogue on urban issues, the Network aims to bring cities together to collectively address urban challenges through partnerships between government officials, planning departments and knowledge organisations. Founding Members of the Network comprise representatives from the seven Laureate cities of the LKYWCP since its inauguration in 2010 as well as nominated knowledge organisations from each city.

Members will participate in various forms of knowledge sharing on best practices and capability building initiatives to identify solutions for urban challenges. Collaboration efforts may take the form of multilateral projects such as joint research and pilots on sustainable urban rejuvenation as well as joint publications featuring case studies on models and approaches to quality affordable housing. The outcomes of such projects will be shared at future editions of the World Cities Summit for global benefit.





Dignitary speakers of WCS 2024 Opening Plenary

Lee Kuan Yew World City Prize Award Ceremony

The Centre for Liveable Cities (CLC) announced the second iteration of the World Cities Summit Knowledge Council. The Council, comprising eminent urban thought leaders, will discuss future-oriented solutions to shape liveable, sustainable, and resilient cities in the face of complex global challenges. Council members bring a wealth of experience and expertise, making them ideally suited to contribute to global thought leadership to address the challenges cities face. with a focus on two key themes – the future of urban liveability and the future of resilient and low-carbon cities, aligned with the Summit's theme "Liveable and Sustainable Cities: Rejuvenate, Reinvent, Reimagine".

The objectives of the Council are to:

- Provide thought leadership on global trends in relation to urban challenges and opportunities,
- Advise on the Centre for Liveable Cities' research agenda, and
- Guide the content of the WCS agenda and strategic initiatives and participate as speakers.

About the World Cities Summit

The biennial World Cities Summit (WCS) is an exclusive platform for government leaders and industry experts to address liveable and sustainable city challenges, share integrated urban solutions and forge new partnerships. Jointly organised by Singapore's Centre for Liveable Cities (CLC) and the Urban Redevelopment Authority (URA), key highlights of the Summit include the WCS Mayors Forum, the Lee Kuan Yew World City Prize and the WCS Young Leaders Symposium. For more information, visit www.worldcitiesummit.com.sg.

About Centre for Liveable Cities

Set up in 2008 by the Ministry of National Development and the then-Ministry of the Environment and Water Resources, the Centre for Liveable Cities (CLC) aims to distil, create and share knowledge on liveable and sustainable cities. The CLC's work spans four main areas: Research, Capability Development, Knowledge Platforms, and Advisory. Through these activities, it hopes to provide urban leaders and practitioners with the knowledge and support needed to make our cities better. For more information, please visit www.clc.gov.sg

About Urban Redevelopment Authority

The Urban Redevelopment Authority (URA) is Singapore's land use planning and conservation agency. Our mission is 'to make Singapore a great city to live, work and play'. We strive to create an endearing home and a vibrant and sustainable city through long-term planning and innovation, in partnership with the community. URA's multi-faceted role includes being the main government land sales agent. We attract and channel private capital investments to develop sites that support planning, economic and social objectives. We also partner the community to enliven our public spaces to create a car-lite, people-friendly and liveable city for all to enjoy. In shaping a distinctive city, URA also promotes architecture and urban design excellence. Visit www.ura.gov.sg for more information.

Climate Adaptation is the new key pillar of SIWW 2024 that concluded on a high note with transformative insights and alliances

The biennial Singapore International Water Week (SIWW) is one of the premier global platforms that gathers thought leaders, experts and practitioners from governments, cities, utilities, and industry to share knowledge and best practices on innovative water, coastal and flood solutions, and foster partnerships to tackle urban water and associated climate challenges. The event this year aims to galvanise climate action amongst municipal and industrial stakeholders.

Launched in 2008, SIWW 2024 is the 10th edition with a three-fold key themes as follows:

- o Climate Mitigation and Water Sustainability, including net zero & decarbonization, nexus & circularity, advanced treatment technologies, used water management & reuse, low-energy desalination, water quality & one health, climate financing.
- o *Climate Adaptation*, including coastal protection & flood resilience, nature-based solutions, bluegreen infrastructure, adaptive multi-functional land use, adaptation financing.
- o *Digitalisation*, including smart networks and systems, sensors, digital twins, AI & machine learning, and autonomous robots.

Happening in conjunction with the CleanEnviro Summit Singapore (CESG), both events brought together stakeholders from governments, academia, industry and international organisations to share best practices, co-create innovative environmental and urban water solutions, and generate new business opportunities. Hosted over 20,000 attendees globally from 18 – 22 June, SIWW 2024 saw the announcements of strategic partnerships, calls for tender and for research grants, and facilitated numerous Memorandum of Understanding (MoU) signings towards building a greener, more climateresilient and sustainable future amidst resource scarcity globally.



Ms Grace Fu delivering the keynote at the joint opening for SIWW 2024 and CESG 2024



The 2024 Laureate receiving the Lee Kuan Yew Water Prize from President Tharman Shanmugaratnam

Several initiatives, collaborations and dialogue rallied the industries to take ownership to tackle environmental and water challenges. These include:

- Launch of the Singapore Water Centre by the World Bank Group in partnership with the Singapore Government, to leverage Singapore's expertise and knowledge in urban water management to support the water sector in countries in the region and beyond.
- Signings of more than 10 Memorandum of Understanding (MoUs) at SIWW2024. Among them is a MOU between PUB and Aarhus Vand, a Danish water utility, to advance knowledge exchange and

knowledge transfer, especially in the areas of innovation, energy-efficient used water treatment, resource circularity and climate resiliency.

- Announcement of a tender for the development of a 55 megawatt-peak (MWp) floating solar photovoltaic (FPV) system at Pandan Reservoir. This project will see the installation of floating solar panels on the reservoir's surface, adding to Singapore's renewable energy capacity, while ensuring there continues to be adequate space for recreational water activities in the Pandan Reservoir.
- Announcement of a tender to expand Changi Water Reclamation Plant. In line with PUB's efforts to invest in used water infrastructure, the expansion, estimated to cost about \$\$2 billion, will raise Changi WRP's used water treatment capacity by up to 96 million gallons per day (mgd).
- Announcement of the second tranche of research projects under the Coastal Protection and Flood Resilience Institute (CFI) Singapore and the launch of an open Request-for-Proposal (RFP) by PUB to seek innovative solutions to support Singapore's coastal protection and flood management efforts.

Climate adaptation is a new key pillar of SIWW2024, specifically the issue of addressing coastal and flood resilience. Ms Grace Fu, Minister for Sustainability and the Environment and Minister-in-charge of Trade Relations, made the call for closer partnerships between the public and private sectors in addressing coastal and flood risks at the inaugural Coastal and Flood Resilience Leaders Summit on 20 June. Serving as a three-way intermediary between the industry, institutes of higher learning, and government agencies, the Singapore Water Association will be launching a new Coastal Protection Chapter to foster collaboration among companies and support the implementation of coastal protection infrastructure.

Another key event at SIWW has always been the Lee Kuan Yew Water Prize, a prestigious, internationally recognised award conferred on an individual or organisation for outstanding contributions towards solving the world's water problems by developing or applying innovative technologies, policies or programmes which benefit humanity. The 2024 Laureate, Professor Gertjan Medema, received the Prize Medallion at an award ceremony from Mr Tharman Shanmugaratnam, President of the Republic of Singapore on 18 June, and delivered a keynote lecture on 19 June 2024.

In a world increasingly defined by pressing environmental challenges, the managing directors of both events echoed the pivotal role of collaborative platforms such as CESG and SIWW, to continue to move the dial for global sustainability and water management. "As a unique global platform that brings together governments, cities, utilities, and industry from the region and the world, the 10th edition of SIWW marked a significant milestone as one of the most successful editions yet. We are confident that the knowledge sharing, thought leadership, and strategic collaborations that came forth from the event will continue to drive actionable solutions towards solving the world's most pressing urban water and associated climate challenges," said Mr. Ryan Yuen, Managing Director of SIWW.

The next edition of SIWW and CESG will return in 2026.

About Singapore International Water Week

As one of the premier global platforms, the biennial SIWW gathers thought leaders, experts and practitioners from governments, cities, utilities, and industry to share knowledge and best practices on innovative water, coastal and flood solutions, and foster partnerships to tackle urban water and associated climate challenges. Organised by PUB, Singapore's National Water Agency and Singapore's Ministry of Sustainability and the Environment, SIWW flagship programmes include the Lee Kuan Yew Water Prize, Leaders Roundtable and Summit, Water Convention, Water Expo, Thematic and Business Forums and Technical Site Visits. The 10th edition of SIWW will be held from 18 to 22 June 2024 at the Sands Expo and Convention Centre in Singapore, alongside CleanEnviro Summit Singapore organised by Singapore's National Environment Agency.

To find out more:

Follow us on www.linkedin.com/company/siww and twitter.com/WaterWeekSG Like us at www.facebook.com/siww.com.sg

NEA announces \$90 Million Productivity Solutions Grant for the Environmental Services Industry at CESG 2024

Themed 'Action for a Sustainable and Clean Environment', the sixth biennial CleanEnviro Summit Singapore (CESG), organised by Singapore's National Environment Agency (NEA), took place from 19 to 21 June 2024, in conjunction with the Singapore International Water Week (SIWW) 2024. The summit is a global platform for thought leaders, industry captains and policy makers to convene, connect as well as to consider solutions for enabling a sustainable and clean environment.

Through high-level plenaries, conferences, and an exhibition of cutting-edge environmental solutions, CESG 2024 deep dived into three pillars:

<u>Climate Action</u>: clean energy, climate defence, decarbonisation, and pollution management <u>Resource Circularity</u>: management of waste as resource and circular economy solution management <u>Public Hygiene</u>: cleaning and pest management



Lauch of Enviro Tech Innovation Hub at CESG 2024



Dr.Amy Khor delivering the opening address at CESG 2024

Over the course of CESG 2024 saw the announcements of strategic partnerships, calls for tender and for research grants, and facilitated numerous Memorandum of Understanding (MoU) signings towards building a greener, more climate-resilient and sustainable future amidst resource scarcity globally. To this end, CESG 2024 has paved the way for several significant initiatives, rallying the industries to take ownership to tackle environmental and water challenges. These include:

- S\$90 million boost for the environmental services industry through the Productivity Solutions Grant to accelerate the adoption of technological solutions and equipment to strengthen innovation, improve productivity and create quality jobs.
- Signings of seven Memorandum of Understanding (MoU) at CESG2024 to advance opportunities in technology, innovation and co-creation of solutions for the clean environment and sustainability space.
- Launch of Enviro Tech Innovation Hub, a "living laboratory" dedicated to advancing sustainable environmental cleaning and integrated facilities management by co-creating and test-bedding innovative solutions, planning and carrying out initiatives for workforce upskilling and talent development.
- Launch of new Closed-Loop Partners Network by SembWaste, a first-of-its-kind platform in Singapore aimed at fostering industry partnerships to advance a circular economy.
- Modern Asia Environmental Holding's (MAEH) (a subsidiary of DOWA Eco-System Co., Ltd.) plans to extend material worth through re-use, re-processing and re-manufacturing, to support the broader goal of sustainable urban development.

- Exploration of new technologies for waste management via a Request for Information (RFI) to gather insights into the industry's interest and commercial viability of alternative disposal technologies to treat mixed municipal solid waste.
- Strengthening efforts to nurture young talents in the environmental services industry with nine Polytechnic and ITE students awarded scholarships under the NEA-Industry Scholarship Programme and recognising the pioneer batch of 26 Youth for Environmental Sustainability (YES) leaders who spearheaded 12 impactful projects and reached out to over 18,000 people to raise greater awareness on sustainability concerns.

The Sustainability Summit on 19 June at CESG 2024, themed "Towards a Net Zero City" convened industry leaders to discuss strategic policies, innovations, and international collaborations for advancing low carbon transitions and addressing environmental challenges. Plenaries focused on accelerating climate action and decarbonisation ahead of COP29, highlighting resource resilience and key sustainability issues across the Asia Pacific region. In her opening address, Dr Amy Khor, Senior Minister of State for Sustainability and the Environment, reiterated Singapore's commitment to sustainability and the importance of sustainable practices to secure a vibrant and healthy future for generations to come.

The convention also saw many exhibitors in the expo who showcased cutting-edge environmental technologies and services that enable our drive towards a cleaner and greener economy. And the Experiential Zone built with elements inspired by outdoor and indoor settings, offered participants multi-sensory experiences. Attendees got first-hand experience with the innovative solutions such as toilet cleaning and outdoor pavement sweeping robots demonstrated. Through such interactive experience, attendees could visualise how such solutions may be deployed in live environment, beyond conceptual thinking and theories.

In a world increasingly defined by pressing environmental challenges, the managing directors of both events echoed the pivotal role of collaborative platforms such as CESG and SIWW, to continue to move the dial for global sustainability and water management. "As we progress towards our national and global sustainability goals, we continue to navigate the complexities of climate change and sustainability. This is why platforms such as CESG are crucial in forging pathways for collaboration and innovation. Together with our global partners, we will be able to innovate new solutions and technologies that not only mitigate environmental impacts but also set new benchmarks for global sustainability practices," said Mr. Kwok Wai Choong, Managing Director of CESG.

About CleanEnviro Summit Singapore 2024

Organised by Singapore's National Environment Agency, the biennial CleanEnviro Summit Singapore (CESG) is a global platform for thought leaders, industry captains and policy makers to convene, connect as well as to consider solutions for enabling a sustainable and clean environment. Held from 19 to 21 June 2024, the sixth edition of the Summit will deep-dive into the three pillars: Climate Action, Resource Circularity, and Public Hygiene. The Summit, built on the theme 'Action for a Sustainable and Clean Environment', will feature high-level plenaries, conferences, business forums and an exhibition of cutting-edge environmental technologies and services. For more information, visit: https://www.cleanenvirosummit.gov.sg/

About the National Environment Agency

The National Environment Agency (NEA) is the leading public organisation responsible for ensuring a clean and sustainable environment for Singapore. Its key roles are to improve and sustain a clean environment, promote sustainability and resource efficiency, maintain high public health standards, provide timely and reliable meteorological information, and encourage a vibrant hawker culture. NEA works closely with its partners and the community to develop and spearhead environmental and public health initiatives and programmes. It is committed to motivating every individual to care for the environment as a way of life, in order to build a liveable and sustainable Singapore for present and future generations. For more information, visit www.nea.gov.sg

Asia Infrastructure Forum 2024 showcased over 30 New Regional Investment Opportunities

Themed 'Sustainable Infrastructure: Transforming Asia's Journey', the biennial event brings government leaders, industry experts, policymakers, and thought leaders from across the region to discuss opportunities and fresh approaches to drive the change we need towards sustainable infrastructure development in Asia today.

Asia Infrastructure Forum (AIF) 2024 centred on the urgent need to transform our approach to accelerate Asia's green transition and sustainable infrastructure development. Fresh strategies are required to address a complex interplay of environmental, economic and social factors.

Infrastructure Asia announced at the AIF 2024, that was held between 4th-5th June 2024, a pipeline of regional investment opportunities with a total estimated value exceeding US\$20 billion from Southeast Asia and South Asia. These projects, spanning across key sectors such as Renewable Energy, Waste and Water Management, and Transport and Logistics, aim to generate new business opportunities for infrastructure/infrastructure services companies in Singapore and the region. To further strengthen such collaborations with the region, Infrastructure Asia inked four agreements to advance the development of sustainable infrastructure and develop further pipeline projects.

AIF 2024 is coorganised by Infrastructure Asia, together with Ministry of Finance, Enterprise Singapore, and the Monetary Authority of Singapore, featuring the World Bank as the strategic partner. Over 1,000 participants attended the two-day event from 4 to 5 June 2024.



Ms Indranee Rajah, Minister in the Prime Minister's Office, Singapore delivering the keynote address at AIF2024

Ms Indranee Rajah, Minister in the Prime Minister's Office, Second Minister for Finance and National Development of Singapore delivered the keynote address on the first day, where she highlighted

Southeast Asia's US\$300 billion green economic opportunity and called for increased partnership between the private and public sector to help realise the benefits of the green economy. Minister Indranee also emphasised the importance of embracing new innovations to improve the viability of sustainable infrastructure projects in the region.

Since its inception, Infrastructure Asia has facilitated more than US\$4 billion of infrastructure projects in the region. This includes three market sounding exercises in 2023 for renewable energy and transport projects based in the Philippines. These projects have since been successfully awarded or will be awarded in the next few months. To further drive such collaborations, Infrastructure Asia announced that it will deepen relations with regional government agencies through four Memorandums of Understanding (MoUs). The MoUs signify the strong partnership between Infrastructure Asia and the Department of Transportation and Public-Private Partnership Center of the Philippines, as well as the Indonesia Infrastructure Guarantee Fund (IIGF) and PT Sarana Multi Infrastruktur (Persero) in Indonesia. The MoUs focus on project structuring and development in sectors of mutual interest such as energy, water and wastewater management, transportation, and climate financing. They also aim to increase collaboration in capacity building initiatives, project advisory and facilitation.

"The private sector wants to invest in financially viable infrastructure projects with the right risk-return profile. However, they may not have visibility into the scope and scale of such projects in Asia. Infrastructure Asia bridges this gap by spotlighting these projects through platforms such as AIF. We will also continue to engage in discussions regionally and in Singapore with our partners to develop and materialise more bankable sustainable infrastructure projects," said Lavan Thiru, Executive Director, Infrastructure Asia.

About Infrastructure Asia

Infrastructure Asia aims to support Asia's social and economic growth through infrastructure development. Infrastructure Asia was established by Enterprise Singapore and Monetary Authority of Singapore to support infrastructure financing and development in the region. It does so through early project scoping, best practice sharing and brokering, harnessing Singapore's best-in-class infrastructure ecosystem (international developers, engineering and professional services, along with financial institutions and multilateral development entities). It also works with global players in the infrastructure ecosystem and leverages the collective capabilities and networks of various partners to catalyse more trade and investments into infrastructure in the region.

Visit www.infrastructureasia.org for more information.

InnovFest x Elevating Founders Asia 2024 saw a surge in partnerships dedicated to nurturing partnership that further sustainable innovation

NUS Enterprise, the entrepreneurial arm of the National University of Singapore (NUS), held Asia's largest university start-up showcase, InnovFest x Elevating Founders 2024, in partnership with Informa Tech.

Themed "Driving Innovation, Nurturing Talents: Creating Impact for Asia", InnovFest is the official start-up event of Asia Tech x Singapore (ATxSG). This year's edition is the biggest and most global edition to date, that attracted over 6,000 attendees and nearly 200 start-ups from across Asia, including participants from 10 countries and 17 Institutes of Higher Learning. It again united diverse ecosystem from across region and worldwide while showcasing new technologies and groundbreaking ideas. The event was graced by Guest-of-Honour, Mr Tan Kiat How, Senior Minister of State, Ministry of Communications and Information.

In his welcome address, the NUS President, Professor Tan Eng Chye remarked, "InnovFest is an occasion to celebrate ideas and innovation, and the courage to invent and to bring ideas to industry. Through this gathering of a large and vibrant community involved in the startup space, I hope InnovFest also serves as a valuable platform for our entrepreneurs here to forge new partnerships, connections, inroads and inspiration that will help you to advance in your entrepreneurship pursuits."

The speaker line-up was the most inclusive ever, featuring around 65 local and international speakers, with a remarkable 50 per cent representation of female visionaries. The experts explored the latest in technology and innovation advancements across three key themes:

- Al and Digitalisation on Wednesday, 29 May 2024
- Sustainability and Environment on Thursday, 30 May 2024
- Future of Healthcare, Work and Education on Friday, 31 May 2024

Other highlights during the three-day event included the launch of the Smart Port Challenge 2024, an annual flagship programme connecting maritime companies with tech start-ups and enabling them to address key issues within the maritime sector. This was graced by Guest-of-Honour, Dr Amy Khor, Senior Minister of State, Ministry of Transport and Ministry of Sustainability and the Environment.

In collaboration with industry leader Microsoft, NUS Enterprise also hosted the NUS-Microsoft Generative AI Accelerate Programme Demo Day, organised through its flagship global start-up development platform BLOCK71. It helped to champion the advancement of early-stage Generative AI start-ups in Asia, through curated curriculum, events, and collaborative spaces to explore the potential of generative AI applications.

Several MOUs were also signed over the three-day event and these partnerships are dedicated to nurturing future leaders for societal impact and entrepreneurial talent to interested students who aspire to address some of the most pressing global issues and hope to begin their start-up journey.

About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 16 colleges, faculties and schools across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. They have also established more than 20 NUS Overseas Colleges entrepreneurial hubs around the world.

The multidisciplinary and real-world approach to education, research and entrepreneurship enables them to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in the faculties, research centres of excellence, corporate

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labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

For more information on NUS, please visit nus.edu.sg.

About NUS Enterprise

NUS Enterprise, the entrepreneurial arm of the National University of Singapore (NUS), plays a pivotal role in advancing innovation and entrepreneurship at NUS and beyond. They actively promote entrepreneurship and cultivate global mind-sets and talents through the synergies of experiential learning, active industry partnerships, holistic entrepreneurship support and catalytic entrepreneurship outreach. Their initiatives and global connections support a range of entrepreneurial journeys and foster ecosystem building in new markets. They provide expertise and connections to create successful spin-offs and translate innovations into the marketplace through industry collaboration. These initiatives augment and complement the University's academic programmes and act as a unique bridge to industries well beyond Singapore's shores.

For more information on NUS Enterprise, please visit https://enterprise.nus.edu.sg.

Mapletree empowers aspiring innovators with fifth year of support for The Mapletree Challenge

Five innovative solutions for a better world

The fifth edition of The Mapletree Challenge Grand Final, supported by Mapletree Investments ("Mapletree" or "the Group") and organised by the Singapore Institute of Technology ("SIT"), culminated in a successful Grand Final on 3 May 2024. Team Aqua Gold, a group of Year 4 SIT students from the Food Technology degree programme, emerged victorious among the five finalist teams, walking away with the grand cash prize of \$\$8,000.

Team Aqua Gold aims to leverage Singapore's limited farming space by collaborating with local aquafarms to craft Furikake sustainably. Their innovative offering, O.NILO Fish Furikake, is a nutritious topping crafted from tilapia fish fingerlings and okara (soybean pulp). By incorporating tilapia fish bones into the recipe, Team Aqua Gold minimises waste derived from traditional Furikake production. Available in three flavours, the product utilises locally sourced and upcycled ingredients, coupled with sustainable production methods, to reduce both carbon footprint and food waste.

First launched in October 2018, The Mapletree Challenge has nurtured sustainability guardians who are passionate about preserving a sustainable world with innovative solutions. More than 1,600 SIT students from various fields of study have benefitted from the annual challenges and mentorship centred on 'Sustainability and Innovation'.

This year's Challenge, held from February to May 2024, saw participants attending masterclasses on entrepreneurship, investor engagement and sales pitching; participating in a forum discussion on entrepreneurship and innovation by leading entrepreneurs; and sharpening their business proposals with advice from industry mentors.



The five finalist teams of The Mapletree Challenge 2024 with senior management of SIT and Mapletree.

Image credit - Keng Photography/Tan Eng Keng

11 teams competed in the semi-finals stage, with five teams progressing to the Grand Final to vie for the Mapletree Gold, Mapletree Silver and Mapletree Bronze awards. The top three teams from the Grand Final were presented cash prizes of \$\$8,000, \$\$5,000 and \$\$3,000.

Mr Bernard Nee, Deputy President (Industry & Community), SIT, said, "The Mapletree Challenge was a unique initiative that availed learning opportunities through industry and community sustainability challenges. The Challenge has trained hundreds of students to think creatively and offer innovative solutions for sustainable practices, products and services."

"Our continued support for The Mapletree Challenge 2024 aligns with our Corporate Social Responsibility pillar of education. We are committed to nurturing the next generation of innovators who will positively impact our society. We hope the Challenge serves as a stepping stone for students to continue developing entrepreneurial ideas to make a difference," said Mr Edmund Cheng, Chairman, Mapletree.

The finalist teams explored various sustainability aspects in products and services – from a smart vending machine that dispenses reusable food containers, a substitute material for styrofoam packaging that is environmentally friendly, a condiment that is produced locally using upcycled ingredients, a mobile app to trade underutilised everyday items which would otherwise be discarded, to a novel 3D printer that automates processes for sustainable operations.

About Singapore Institute of Technology

The Singapore Institute of Technology (SIT) is Singapore's first University of Applied Learning, offering industry-relevant degree programmes that prepare its graduates to be work- and future-ready professionals. Its mission is to maximise the potential of its learners and to innovate with industry, through an integrated applied learning and research approach, so as to contribute to the economy and society.

The University's unique pedagogy integrates work and study, embracing authentic learning in a real-world environment through collaborations with key strategic partners. Its focus on applied research with business impact is aimed at helping industry innovate and grow. Ready in 2024, SIT's centralised campus within the larger Punggol Digital District will feature a vibrant learning environment where academia and industry will be tightly integrated with the community.

For more information, visit www.SingaporeTech.edu.sg

About Mapletree

Headquartered in Singapore, Mapletree is a global real estate development, investment, capital and property management company committed to sustainability. Its strategic focus is to invest in markets and real estate sectors with good growth potential. By combining its key strengths, the Group has established a track record of award-winning projects, and delivers consistent and high returns across real estate asset classes.

The Group manages three Singapore-listed real estate investment trusts ("REITs") and eight private equity real estate funds, which hold a diverse portfolio of assets in Asia Pacific, Europe, the United Kingdom ("UK") and the United States ("US"). As at 31 March 2023, Mapletree owns and manages S\$77.4 billion of office, retail, logistics, industrial, data centre, residential and student accommodation properties.

The Group's assets are located across 13 markets globally, namely Singapore, Australia, Canada, China, Europe, Hong Kong SAR, India, Japan, Malaysia, South Korea, the UK, the US and Vietnam. To support its global operations, Mapletree has established an extensive network of offices in these countries.

For more information, please visit www.mapletree.com.sg.

Eco packaging to rival Styrofoam inspires this students' project at Mapletree Challenge

The fifth edition of The Mapletree Challenge Grand Final, supported by Mapletree Investments ("Mapletree" or "the Group") and organised by the Singapore Institute of Technology ("SIT"), held the Grand Final on 3 May 2024. First launched in October 2018, The Mapletree Challenge has nurtured sustainability guardians who are passionate about preserving a sustainable world with innovative solutions. More than 1,600 SIT students from various fields of study have benefitted from the annual challenges and mentorship centred on 'Sustainability and Innovation'.

One such entry for this year is the team Nigel's Fantastic Four comprising of five students from the Bachelor of Food Technology degree programme. Headed by Nigel Ang from Year 4, the rest of the team comprise of Nicole Tan Hsing Yi, Tan Yee Lin, Daphne Ng Jing Ni and Lim Zhi Xin from Year 3. They won the Mapletree Silver award of S\$5000 in this edition.



Nigel's Fantastic Four securing the second place at the Mapletree Challenge 2024.

Image credit – Keng Photography/Tan Eng Keng

Starting off with the desire to find a solution to the widely available but unsustainable Styrofoam packaging, they have come up with an alternative, environment-friendly packing solution. Styrofoam packaging has a huge environmental impact. From polluting oceans, contributing to global climate change, and causing danger to human health, the consequences are far-reaching.

The team proposes packaging made from mycelium, the mass of branched fibres that make up fungus. During brainstorming sessions, they came across a US startup that is also dealing with mycelium packaging. In the Asian context, rice is a staple, but its cultivation produces a lot of waste. Specifically, rice straw is a big issue as the majority is burnt because it is a natural fertiliser, and also because it is convenient. This convenience is deadly as it also produces 1.7 trillion kg of carbon dioxide equivalent

to greenhouse gases. Proposing a common solution to replace Styrofoam packaging and to reduce waste, they decided to make use of the existing waste for something that is not only better for the environment, but also value-adding.

Mycelium is a safe, strong, and biodegradable material, and mycelium-based products naturally degrade after their intended product cycle. It is not only cheap and very fast to produce but is also easily compostable. Aside from being a sustainable material, it is extremely lightweight and has insulation properties that make it suitable for temperature sensitive products. Furthermore, the chitin that is typically found in mycelium gives this packaging the durability to handle heavier products like electronics. It can also be custom-moulded due to its natural fibrous texture to suit any shape or form. These unique qualities made mycelium the easier choice for making packaging materials.





Sustainable packaging is becoming an increasingly high priority for both consumers and brands. With the product's rustic appearance and premium feel, the team position their product as an alternative to Styrofoam for brands, offering a more sustainable and attractive packaging experience to their customers. Industries such as the fashion, tech, food & beverage (F&B), and furniture sector can greatly benefit from its unique selling point.

But since mycelium packaging is still a fairly new concept, not a lot of information is readily available to use, especially with regards to its formulation and techniques. The main issues that face the team with regard to the introduction of this product into the market is to optimise the processing of this product to deliver a product with ideal properties. Currently in the market, similar products have already been implemented for use as packaging material in a wide variety of industries, ranging from perfumery & cosmetics, technology, F&B, and even furniture.

However, the Nigel's Fantastic Four team is confident with their innovation since sustainability has become a necessity, and there is an increasing demand for this product as it has the potential for use to replace unsustainable Styrofoam-based packaging materials. They hope to collaborate with NUS to scale up research and hope to test out various varieties of mushroom and molds. Thailand seems to be at the top of their list to set up manufacturing, as production costs are relatively low.

The low-energy consumption of growing mushroom fungus to cultivate mycelium, the ability to be custom-moulded, and the compostable quality of this packaging would help organisations meet their sustainability goals and promote a greener earth.



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