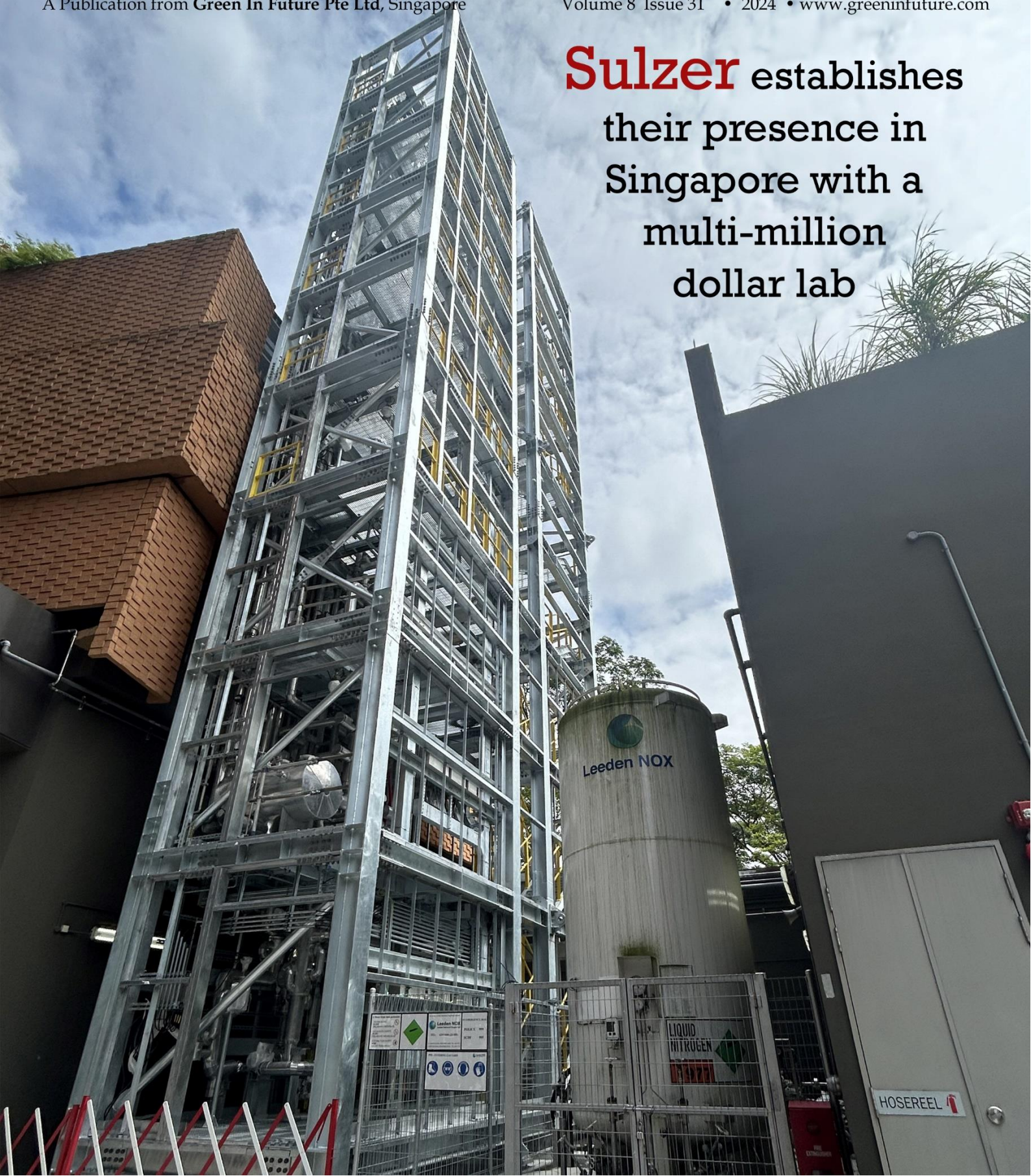


Green Pulse

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INTRODUCTION

March and April are two important months for Green in Future since we believe in empowering women to impact in preserving our home, the Earth. With International Women's Day and Earth Day just past us but definitely not forgotten, we aim to take those small but consistent daily efforts to include Mother Earth, our planet and protect her, especially from plastics to adhere to both the themes of Inclusion and Planet vs. Plastics.

We once again wish everyone for **International Women's Day** and **Earth Day 2024!**

The past two months involved attending different award functions, ventures and conferences which aim at sustainability, circular economy, energy efficiency and promoting green environment and meeting dignitaries and entrepreneurs who in their own ways contribute to achieving the green goals.

We are based in Singapore and our newsletter has a reach extending to South East Asia and up to Europe, with a total readership of about 6K subscriptions. We can be reached at

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Sulzer, the Swiss Chemical Engineering Giant, establishes their presence in Singapore with a multi-million dollar lab

The InTech lab is the 190-year-old Swiss multinational corporation's first R&D facility in Asia. It is dedicated to developing better chemical engineering processes that are more precise, efficient and use less energy. Sulzer has invested over S\$10 million into the facility and aims to grow its local team of 150 by 20 to 30 staff over the next 3 years.

Dignitaries from the Swiss fluid and chemical engineering giant Sulzer visited Singapore in March when they opened their latest Innovation Technology Hub (InTech) in Singapore. The hub is located within the advanced manufacturing Jurong Innovation District JTC CleanTech Three and is the first R&D facility in Asia and the second outside of Switzerland. The facility, an investment of S\$10 million by Sulzer, features state-of-the-art R&D equipment, including a 9-storey fractional distillation tower — the tallest for a research facility in Asia — that will boost Singapore's efforts to be a regional green manufacturing hub under the SG Green Plan.



Sulzer, a multinational corporation with a 190-year history, is a pioneer in developing more precise, efficient, and energy-saving chemical engineering processes. These processes include recycling and producing plastics, EV batteries, and lubricant oils. They believe in being the dedicated to engineering excellence and the technology revolves around advanced processes that serve as linchpins for transitioning to more eco-conscious operations.



The Innovation and Technology Hub (InTech) – an access to the global network

Sulzer focuses on positive change through sustainability, on circularity and wanting to enable their clients in food and packaging, oil gas, chemical, petrochemical, refinery respond in a competitive but sustainable way to their challenges. They support energy security, resource efficiency, better and cleaner performance and a reliable transition to a more sustainable society. They find natural resources an important market and look out to make the processing of the energy consumption of these resources to be sustainable.

Their platform called InTech (Innovation and Technology Hub) is open to customers to connect and collaborate to find the best solutions for the biggest impact in their transition process. It provides equipment and technology packages to access, use, transport and recycle natural resources efficiently and sustainably and provide required purity levels in an economically viable way. It also helps to enable the process industries to meet increasing demand as well as performance and sustainability goals efficiently. They are a champion in the Separation Component business as they have the in-depth application know-how for packings, mixers and carbon capture technologies. They are also a leader in the Separation/Purification Solution where they offer complete separation process solutions from designing, licensing, equipment and components, on-site assistance and other supporting services to create more impact for the customer.

<p>Bio-Polymers</p> <ul style="list-style-type: none"> ▪ Packaging ▪ Films ▪ Coating foods 	<p>Bio-Fuels / Bio-Chemicals</p> <ul style="list-style-type: none"> ▪ Renewable chemicals ▪ Renewable diesel ▪ Sustainable aviation fuel ▪ Oleochemicals for cosmetics 	<p>Carbon Capture & Utilization</p> <ul style="list-style-type: none"> ▪ Capture & storage of CO₂ ▪ Inorganic carbonates from CO₂ ▪ Methanol from CO₂ 	<p>Polymer Recycling</p> <ul style="list-style-type: none"> ▪ Textile recycling ▪ Polymer recycling 
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Renewable solutions for crucial sustainability challenges

At the heart of every facility lies the state-of-the-art chemical engineering R&D test center, where process technologies are meticulously developed, refined, and implemented. These processes play a pivotal role in applications such as carbon capture, plastic recycling, and the production of bio-based chemicals. Their decision to establish a new clean technology R&D center in Singapore underscores an unwavering commitment to innovation and sustainability. Additionally, their vision for eco-conscious, circular operations very well aligns with Singapore's Green Vision to robust support clean and sustainable manufacturing.

The inauguration of the InTech lab in Singapore marks a momentous milestone in their endeavors to promote sustainable manufacturing practices. This facility is a testament to their dedication to environmental stewardship apart from establishing a global network of advanced R&D, manufacturing, and service facilities. It gives both Singapore and Sulzer an opportunity to contribute to the local community through green manufacturing. The Singapore facility is poised to focus on chemical separation processes crucial for polymer recycling, bio-based fuel and chemicals, addressing the pressing need for sustainable solutions in the Asia Pacific region. This cements Sulzer as a leader for chemical engineering within the region, supplementing its long 39-year history in Singapore of supplying engineering components, polymer production equipment and distillation equipment for industries like oil & gas and power generation. The R&D facility will also boost Singapore's efforts to

become a leading regional centre for developing new sustainability solutions under the SG Green Plan 2030.



Dr. Suzanne Thoma and her colleagues at the inauguration of the InTech lab at Singapore



Speaking at the inauguration ceremony held on March 5th, 2024, Dr Suzanne Thoma, Chief Executive Officer of Sulzer, said: “InTech Chemical Processes Singapore is poised to revolutionise the Green Tech landscape in Southeast Asia. Our state-of-the-art R&D facility provides unparalleled access to cutting-edge technologies, empowering manufacturers and processors to innovate and produce eco-efficient, high-quality products. This opening marks a significant step in shaping the future of sustainable technology in the region.”

The 9-storey fractional distillation tower at JTC CleanTech Three was opened on March 5th, 2024

The facility itself was built over 10 months and will help drive the growth of companies looking to make headway in economically non-viable recycling and higher-yield, bio-based production. The infrastructure is equipped with a comprehensive suite of fluid separation facilities and analytical equipment. It features Sulzer's proprietary technologies for thermal separation of chemical components, including liquid-liquid extraction and falling-film crystallisation, integrated with advanced chemical analysis techniques to identify and measure compounds in products after processing.

The journey to establishing Sulzer's presence in Singapore was not without its challenges. Like any foreign investment endeavor, Sulzer faced hurdles such as navigating complex regulatory requirements, adapting to local business practices, and sourcing qualified personnel. Nevertheless, through meticulous planning, strategic partnerships with local entities, and a steadfast commitment to our vision, Sulzer successfully overcame these obstacles one by one. And now with these capabilities, Sulzer can offer end-to-end services to a broader client base in Asia, including those in the pharmaceutical and biofuel sectors. Their offerings include the development and stress-testing of new cutting-edge solutions, chemical analysis and feasibility studies, as well as the consultancy for engineering, and construction of a new processing plant.

About Sulzer Chemtech

Sulzer has been headquartered in Winterthur, Switzerland, since 1834. In 2023, our 13'130 employees delivered revenues of CHF 3.3 billion. Our shares are traded on the SIX Swiss Exchange (SIX: SUN). www.sulzer.com

The Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for chemicals, petrochemicals, refining and LNG. We are steering the way in ecological solutions such as bio-based chemicals, polymers and fuels, recycling technologies for textiles and plastic as well as carbon capture and utilization/storage, contributing to a circular and sustainable economy. Our product offering ranges from process components to complete process plants and technology licensing.

Creating state-of-the-art processing solutions is at the core of Sulzer Chemtech's projects. With decades of expertise in this field, Sulzer Chemtech provides proven, value-adding technologies that maximise the quality and throughput of end-products while optimising resource, energy and equipment utilisation.

Climate Change Risks Exposed: International SOS Data Highlights Urgent Need for Preparedness, Sharing Key Advice for Businesses

International SOS, the world's leading health and security services company, today highlights insight from the International SOS Risk Outlook 2024 report, shedding light on the profound impact of climate change on businesses worldwide. The report reveals important statistics, indicating a growing awareness among respondents regarding the significant ramifications of climate-related phenomena on various aspects of operations and employee wellbeing. This is not a surprise for many, as 72% of respondents believe that extreme weather events will have a significant impact on their business or people in 2024, underscoring the tangible impact of environmental shifts expected on business operations.

The International SOS Risk Outlook 2024 report also outlines the diverse consequences for the workforce, including increased health risks such as heat-related illnesses and associated decreased productivity. Extreme weather events also have the potential to lead to disruptions in global supply chains. Beyond the physical implications, mental health and absenteeism are also key factors, as climate anxiety grips people across the world.

Looking ahead, what will the impact be in 2024:

- 48% of respondents reported that climate change anxiety is an issue that they have encountered among their workforces.
- 42% of respondents think that their organisation is not necessarily fully prepared to respond to / mitigate disruptions caused by climate activism.
- 41% of respondents think that their organisation is not necessarily fully prepared to respond to / mitigate environmental threats.
- 26% of respondents have already reported operational disruption attributed to climate change.

Commenting on the medical outlook, Dr Chan Yanjun, Medical Director at International SOS, comments, "We are witnessing storms, wildfires and monsoons increasing in severity in the past years. Extreme weather events, such as the first ever named heatwave "Cerberus" hitting Europe, may become commonplace. From worsening air quality and the spread of emerging diseases to the mental health toll of natural disasters and climate anxiety, we are seeing a concerning trend. In fact, air pollution is the leading environmental cause of illness and premature death. The changing climate patterns are also leading to the emergence and spread of vector-borne diseases in previously unaffected areas. Furthermore, climate change events are also negatively affecting individuals' mental health. This could be an immediate consequence from experiencing post-traumatic stress disorder due to a natural disaster, or from the constant exposure to the global catastrophic events, causing a longer-term climate anxiety and depression amongst individuals.

"At International SOS, we saw a significant increase in the number of climate-related alerts we issued last year. Throughout January - November 2023, we saw a fourfold increase in climate related alerts issued to our clients, with 80% more medical climate-related alerts compared to the previous year. This surge underscores the critical need for organisations to understand the complex interplay between climate change and health risks."

Noriko Takasaki, Security Director, Assistance - Asia, at International SOS, thinks that organisations should take heed from the losses that can be incurred by extreme weather events, investing in climate preparedness can help ensure a business weathers a storm. "Climate change is of course a key environmental concern, but importantly, also a critical factor intensifying risks for individuals and companies. Although until recently, climate change has rarely been seen as the singular driver of

conflict or security issues, the impacts of climate change considerably exacerbate existing tensions, vulnerabilities and operational challenges. The cascading impacts of climate change can be the spark that ignites civil unrest, violence and security issues at high level, as well as amplifies existing political and socio-economic insecurities.

“It is more important than ever for organisations monitor these events, prioritise climate resilience and incorporate proactive measures into their operational frameworks. This year, the International SOS Risk Map 2024 includes a layer which outlines climate change risks, an important tool for strategic planning. This provides quantified estimates of the impacts of climate change on the future risk of humanitarian crises and disasters. This risk index is intended to inform policy choices across climate mitigation and adaptation, disaster risk reduction, sustainable development and humanitarian assistance for greater resilience to the adverse impacts of climate change.”

Top Five Practical Measures for Organisations to Mitigate Climate Change Risks and Safeguard their Workforce in 2024:

1. Develop a comprehensive climate risk management plan: strategically map climate change impacts on operations to inform mitigation strategies and investments effectively.
2. Engage employees across the organisation: foster collaboration among HR, risk managers, and the C-suite to harness diverse expertise in combating climate-related risks.
3. Enhance security protocols and prioritise medical preparedness: establish a system to identify, assess, and control health and security risks related to climate change. Understand the capacity of local healthcare facilities and ensure access to medical care during disruptions.
4. Provide workforce with adequate emotional support solutions: implement programmes to address the mental health impacts of climate change on employees, such as anxiety, stress and post-traumatic stress disorder (PTSD).
5. Leverage external expertise and data: harness the insights and support of third-party experts to conduct a climate vulnerability risk assessment and learn best practice to navigate the complexities of climate risk management effectively.

As businesses navigate the evolving landscape shaped by climate change, International SOS remains committed to providing essential guidance and support to ensure the safety and wellbeing of employees worldwide.

About the International SOS Group of Companies

International SOS specialises in safeguarding lives and protecting your global workforce from health and security risks. Wherever you are, we deliver personalised health, security risk management, and well-being solutions to drive your growth and productivity. In the face of extreme weather, an epidemic, or a security incident, we provide an immediate response, offering peace of mind. Our cutting-edge technology and expertise in medical and security matters focus on prevention, providing real-time, actionable insights and ensuring quality delivery on the ground. We play a crucial role in protecting your people, your organisation's reputation, and supporting your compliance reporting needs. Collaborating with us allows organisations to fulfill their Duty of Care responsibilities while enhancing business resilience, continuity, and sustainability.

Established in 1985, International SOS, with headquarters in London and Singapore, is the trusted partner of over 9,000 organisations, including a majority of the Fortune 500, as well as mid-size enterprises, governments, educational institutions, and NGOs. A team of 13,000 multicultural medical, security, and logistics experts is ready to provide support and assistance from over 1,200 locations in 90 countries, ensuring round-the-clock service, 365 days a year.

To protect your workforce, we are at your fingertips: www.internationalsos.com

Oritain and Ramatex Announce Partnership to Bring Product Verification Technology to Asian Apparel Industry

Oritain is proud to announce a multi-year partnership with textile and apparel manufacturer Ramatex Group. The partnership will see Oritain provide forensic scientific testing of Ramatex's yarn and fabric products across their mills in Malaysia and Vietnam. Ramatex is a major global provider of textile and apparel manufacturing for many leading international apparel brands. Headquartered in Singapore, the company employs over 30,000 people across facilities in Malaysia, China, Vietnam, Cambodia, Thailand, and Jordan.

“This is an exciting opportunity for both Oritain and Ramatex,” believes Oritain CEO, Grant Cochrane. “Ramatex have built a reputation for innovative manufacturing in their spinning and fabric mills, and we see tremendous potential to support their continued growth. Both companies share a commitment to innovation and integrity that I'm sure will foster a rewarding partnership.”

An extensive program of forensic isotopic testing will be undertaken by Oritain, providing 360° verification across yarn and finished fabric. The result of this testing program will see Ramatex products awarded 'Verified Yarn' or 'Verified Fabric' status, providing assurance to clients and end consumers of product authenticity and integrity.

“Ramatex has established a strong partnership with our customers through our vertically integrated value chain, and we are committed to leading the industry in responsible and sustainable manufacturing,” said Ramatex Executive Chairman, Mr Ma. “Becoming a fully Verified Partner with Oritain is instrumental for Ramatex to achieve this.”

Proving the authenticity of their products and integrity of their supply chains reflects the emphasis Ramatex has placed on establishing strategies and processes which reduce risks and negative impact on society and the environment. “At Ramatex we pride ourselves on our dedication to the highest standards of product development and manufacturing,” said Ramatex Strategy Director, Keith Ma.

“The partnership with Oritain will help us take this to the next level by providing essential testing and validation of the integrity of our products. We can then pass this assurance on to our clients and the broader fashion and apparel market.”

In addition to sample testing, Oritain will provide regulatory advice to Ramatex in support of its discussions with US Customs and Border Protection and other regulators.

About Ramatex

Ramatex is an industry leading textiles and apparel manufacturer with almost 50 years of history. Vertically integrated with end-to-end processes, it operates more than 20 locations across 6 countries with over 30,000 employees exporting worldwide to global consumer brands. Driven by an end-to-end digitally connected supply chain, Ramatex fosters a positive impact on society and communities through a responsible supply Chain and sustainable manufacturing processes.

About Oritain

Oritain is a global leader in forensic traceability of product origin. The company's cutting-edge forensic science is trusted by organizations worldwide across industries as diverse as fashion and cotton, coffee, horticulture, meat, dairy, and more. Oritain works with some of the world's leading brands to help them achieve regulatory compliance, reduce reputational risk, and meet market demand through proving the provenance of their products. The company employs over 200 people, working from offices around the world, serving clients in more than 20 countries.

Grundfos marks 40 years of pioneering innovative water solutions in Singapore

Grundfos, a global leader in advanced pump solutions and water technologies, today celebrates 40 years of operations in Singapore. Led by a steadfast commitment to drive sustainability through innovation, Grundfos remains resolute in fostering the green transition of Singapore and beyond by investing in research and development, strategic partnerships, and talent.

Established in 1984, Grundfos Singapore has grown to become a key driver in the organisation's global operations. With advanced and integrated manufacturing, assembly, testing capabilities, Grundfos Singapore also plays an integral role as the global headquarters of the Commercial Building Services (CBS) division.

Poul Due Jensen, Group President & CEO, Grundfos, said, "As Grundfos commemorates four decades of success in Singapore, we are grateful for the opportunity to celebrate this milestone alongside our talented team, dedicated partners, and valued customers who have trusted us every step of the way. Sustainability, innovation, and collaboration have been the cornerstones of our journey in Singapore, and they will continue to guide us as we leverage our experience and expertise to solve global water and climate challenges."

Pioneering sustainable water innovation for 40 years

Grundfos Singapore has been at the forefront of water innovation over the last four decades, offering industry-leading solutions for customers across diverse segments, including domestic and commercial buildings, industries, and water utilities.

Notably, the company's energy efficient and smart pumps and pumping solutions have contributed to Singapore's sustainable development journey, enabling key landmarks such as Gardens by the Bay and the Marina Bay Sands and Resorts World Sentosa integrated resorts to optimise water and energy use. Moreover, Grundfos' solutions have empowered over 300 buildings, ranging from hotels and shopping centres to hospitals and educational institutions, to achieve Gold rating and above under the Building and Construction Authority (BCA) Green Mark certification scheme.

Singapore's thriving innovation ecosystem has been a springboard for Grundfos' advanced water solutions, impacting Southeast Asia and beyond. In 2019, Grundfos launched its revolutionary Distributed Pumping System in Asia, marking a first-of-its-kind approach to sustainable cooling. The first two pilots utilising the system were conducted in Grundfos' Singapore facility and Ngee Ann Polytechnic's Environmental & Water Technology Centre of Innovation, and the solution has since been rolled out in neighbouring countries such as Thailand.

Recognising Singapore's potential as a global hub for sustainability innovation, Grundfos' CBS division also unveiled its new Singapore Innovation Hub in November 2023 to pioneer future solutions for energy efficient commercial buildings. The facility brings Grundfos' R&D capabilities closer to customers and the market, while serving as a platform for collaboration with industry partners, customers, and researchers to co-develop energy and water efficient smart solutions, particularly in cooling applications.

Amplifying impact through local partnerships

Grundfos recognises the power of collaboration in accelerating sustainability efforts and scaling impact. The company actively cultivates strategic partnerships with like-minded organisations and communities across Singapore's public and private sectors, leveraging shared expertise and experiences to propel the industry forward.

Grundfos also works closely with Institutes of Higher Learning in Singapore to co-create water and energy efficient smart solutions. As an industry partner to Singapore Polytechnic, Grundfos provides counsel on achieving a green campus, and works with the polytechnic's staff and students to co-

develop smart solutions that support industries in their sustainability drive through collaboration, talent development, and sustainability education. Similarly, Grundfos' partnership with Ngee Ann Polytechnic also taps on complementary expertise and knowledge to support sustainable urbanisation in Southeast Asia.



Grundfos celebrates its 40th anniversary in Singapore

Championing sustainability in operations and communities

In the face of growing environmental challenges, Grundfos is determined not only to keep pace, but set the standard for sustainability and resource efficiency. This commitment reached a groundbreaking milestone in November 2022, with Grundfos becoming the world's first water solutions company with approved net-zero Science-Based targets.

At its Jalan Tukang facility, Grundfos Singapore is walking the talk with steps to further green its BCA Green Mark Gold rating infrastructure and building operations. A key initiative was the installation of a Photovoltaics (PV) power plant, which is projected to achieve a 120% energy gain and reduce its carbon footprint reduction by 493 tons CO₂ per year.

Grundfos Singapore's commitment to sustainability extends beyond its own operations. The team actively engages in community and volunteering initiatives that make a positive impact in Singapore and regionally. Most recently, employees participated in a coastal and waterway clean up at Jurong Lake Gardens in 2023 to promote conservation of Singapore's environment and resources, in line with Grundfos' promise to respect, protect and advance the flow of water. Over the years, Grundfos has fostered a strong spirit of volunteerism among its employees, who have contributed to social causes including organising a blood donation drive as well as supporting local orphanages in Singapore and Indonesia by repairing piping work and arranging visits, activities and donations.

Eric Lai, Regional Managing Director, Industry – APAC & Country Director for Singapore, Grundfos, said, "Singapore's journey to sustainability has been a remarkable one, and we are honoured to have been a part of it for the past 40 years. This shared vision has pushed us to constantly innovate and develop solutions that make a difference, and we are proud to grow our talent pool by more than 6% in the past year and launch our new Sustainability Lab within our iSOLUTIONS Digital Lab in Singapore as part of our commitment. We look forward to continuing working alongside our partners and customers to accelerate innovation in water and energy efficiency, shaping a greener future for all."

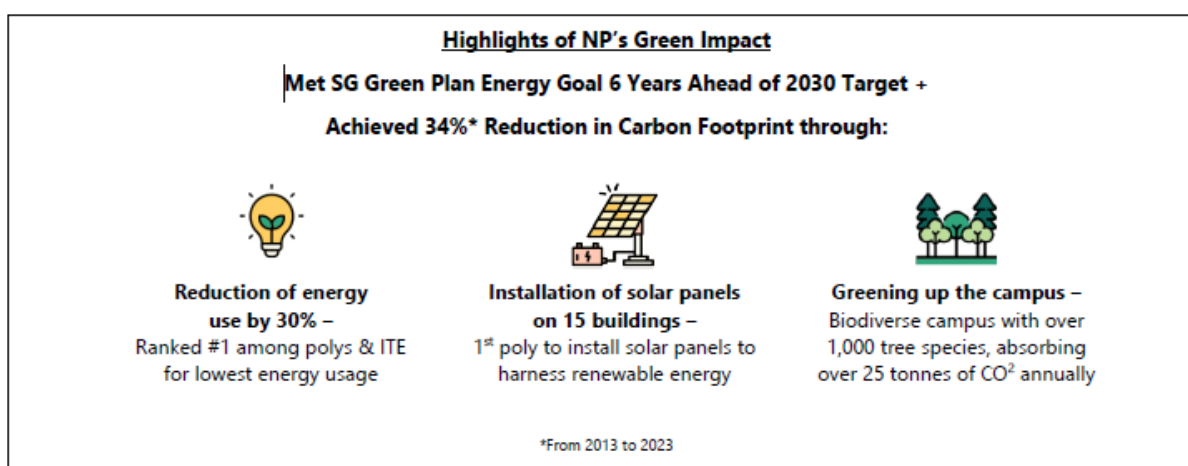
About Grundfos

Grundfos pioneers solutions to the world's water and climate challenges and improves the quality of life for people. As a leading global pump and water solutions company, we promise to respect, protect, and advance the flow of water by providing energy and water efficient solutions and systems for a wide range of applications for water utilities, industries and buildings. Find out more: grundfos.com

Ngee Ann Polytechnic launches SEED initiative to create springboard for green careers and partnerships in next wave of green efforts

- *Polytechnic forges alliances with industry leaders to form the NP Built Environment Ecosystem with plans to upskill industry professionals to meet sustainability goals*
- *NP partners Keppel to transform brown buildings into green assets and grow capabilities in this emerging area*

Building on key advancements made over the last decade (2013-2023), Ngee Ann Polytechnic (NP) today announced plans to integrate sustainability across its curriculum, operations, and partnerships at the launch of its Sustainability Education & Ecosystem Development (SEED) initiative. Graced by the Minister for National Development, Mr Desmond Lee, the event marked NP's concerted pursuit to accelerate its sustainability efforts.



Under the SEED initiative, NP will drive environmental sustainability in these three focus areas to contribute towards Singapore's green goals:

1. Developing sustainability-intelligent graduates to meet emerging needs of the green economy;
2. Spearheading sustainability-focused industry partnerships through the Centre for Environmental Sustainability; and
3. Greening a brown campus for learning.

Developing Sustainability-Intelligent Graduates

As organisations all over the world review their business processes to align with environmental, social and governance (ESG) goals, there is growing demand for talents with the knowledge and skills to navigate sustainability-related business challenges across industries. A 2023 report noted that there could be as many as 30 million sustainability-related jobs in South-east Asia by 2030, offering up to US\$1 trillion in annual economic opportunities. Locally, the Ministry of Sustainability and the Environment estimated that 55,000 new jobs would be created in the sustainability sector by 2031.

Recognising that sustainability has emerged as a critical driver of competitive advantage, NP will equip its students with sustainability literacy and competencies to enable them to add value to businesses and communities through sustainability-focused solutioning.

From April 2024, every first-year NP student will undergo sustainability education as part of an interdisciplinary programme and develop a set of sustainability lens as they engage in community-

based solutioning. By cultivating the sustainability perspective in them, it will give them a firm foundation and the confidence to tackle sustainability-centred industry projects in their final-year.

NP will also progressively incorporate industry-specific ESG skills and knowledge into the curricula of its 36 diploma courses, where relevant. For example, every year, about 350 students from NP's School of Design & Environment will build their competency in Built Environment sustainability that leads to the Green Mark Associate accreditation. The industry certification will open doors to a growing pool of green career opportunities in the sector.

NP has also curated a Minor in Sustainability programme for NP students with an interest in deepening their sustainability knowledge and skills, allowing them to hone transferable green skills that are applicable across sectors and job functions. Additionally, through a longstanding partnership with Lien Foundation, NP will introduce the new Environmental Impact Scholarship to nurture green talents who are passionate about championing sustainability. The scholarship will provide opportunities for students to embark on exclusive internships at organisations that are leading the way in sustainable development.

Ecosystems for Sustainability Innovation & Talent Development

On the industry front, NP is forging strategic alliances and creating new ecosystems to drive sustainability innovation and talent development. The Polytechnic's Environmental & Water Technology Centre of Innovation, with close to 20 years of applied research & development and consultancy experience, will be renamed the Centre for Environmental Sustainability. The Centre will serve as a platform for spearheading collaborations between industry partners and its academic schools to develop solutions that address sustainability challenges. The platform will also provide valuable opportunities for students to gain sustainability skills as they work on industry projects.

Having inked partnerships with 15 organisations including Johnson Controls, Meinhardt, Sodexo and Surbana Jurong (refer to Annex A for full list of partners) to establish the NP Built Environment Ecosystem (BEE), the polytechnic will offer leading-edge smart facilities management training. Bolstered by a partnership with JTC Corporation, the BEE combines tech know-how from infrastructure solutions providers and NP's expertise to offer training that is set to transform the local built environment industry.

Specifically, NP seeks to upskill up to 1,000 professionals in this industry over three years, providing solutions pioneered by its Integrated Operations Centre (IOC). Set up in 2019 as an operational nerve centre, the IOC has contributed to propelling NP ahead of its pack in tech-enabled energy and water management. In 2022, NP made the notable achievement of lowering its energy use by 30%. Based on BCA's Benchmarking Report released in July 2023, NP's energy use intensity is the lowest among institutions such as polytechnics and ITE colleges.

Leveraging the IOC's capabilities, which includes the latest cloud-based technologies powered by artificial intelligence (AI) and Internet of Things (IoT) applications, as well as digital twin models, NP will customise training programmes to meet organisational needs. Specifically, businesses ranging from real estate management, facilities management, to environmental services can look forward to leveling up skills in deploying these leading-edge technologies to meet sustainability goals.

JTC, Singapore's master planner, developer and operator of industrial land and estates, is a pioneer member of the BEE. Mr Derrick Ong, JTC's Facilities and Estates Management Director said, "This collaboration with Ngee Ann Polytechnic is an extension of JTC's role as a Centre of Excellence for infrastructure and building facilities management. Leveraging JTC's experience in managing industrial estates in Singapore, we are supporting industry-wide learning to develop the capabilities in facilities management. By embracing digitalisation, green building technologies and new innovations, we aim to drive efficiencies and enable smart facilities management practices that elevate standards across the industry."

Greening a Brown Campus for Learning

NP is also turning the campus grounds into a sandbox for piloting sustainability innovations with industry players and will begin with brownfield development. A term used to describe developments on existing older building sites, brownfield development is widely recognised as more challenging.

To this end, NP will partner Keppel to retrofit NP's Smart34 building located at Blk 34 to become more sustainable, with a view to extend this initiative to other buildings on the campus. For a start, the Smart34 building, which was built in 1987 and refurbished in 2013, will serve as a testbed for NP to work with Keppel's Sustainable Urban Renewal (SUR) team to explore ways to enhance and green the built environment. Through this platform, students and staff will develop in-demand skills in this area as they experiment with sustainability solutions. Supported by Keppel's engineering and operating capabilities, these include the harnessing of renewable energy, upcycling of rainwater, as well as refurbishment and retrofitting works to use more energy-efficient lighting, increase ventilation, or adopt smart energy control systems. By utilising active spaces for learning, students will benefit from access to real-time data and learn about managing such projects.

Mr Samuel Ng, President (Singapore), Real Estate Division, Keppel Ltd., said, "With Keppel's innovative SUR solutions approach, we bring people, AI-driven technology and processes to bolster the sustainability performance of buildings, including rejuvenating older buildings to achieve greener outcomes. We look forward to building on our ongoing collaboration with Ngee Ann Polytechnic as we leverage our strong capabilities and experience to develop the next generation of sustainability leaders who are passionate about creating a cleaner and greener built environment."

"Climate change is the single biggest challenge of our lifetime. Yet it presents the greatest opportunity for us to make a lasting impact on our world for generations to come. Collectively, we have made strides through adoption of technology; but it will take more than existing technology to achieve the quantum leap in climate action. The answer lies in people – people who are skilled in navigating the intersection between profits and the planet, connecting the dots to dream up and deliver new sustainable solutions. We want NP to be a key driver in this space," said Mr Lim Kok Kiang, Principal and CEO of Ngee Ann Polytechnic.

About Ngee Ann Polytechnic

Ngee Ann Polytechnic started in 1963 and is today one of Singapore's leading institutions of higher learning with over 13,000 enrolled students in close to 40 disciplines. It seeks to develop students with a passion for learning, values for life, and competencies to thrive in a global workplace. The polytechnic also supports Continuing Education and Training (CET) through its CET Academy, which offers a wide range of part-time programmes and short courses. It works closely with industry partners to curate programmes for emerging skills, develop talent pipeline for the industries and help adult learners stay agile in today's rapidly changing global economy.

For more information, please visit www.np.edu.sg

Signify retrofits Punggol West neighborhood with radiant Philips LED lights to reduce energy consumption for residents

- *Signify donated more than 1,300 Philips LED light bulbs for 300 underprivileged and vulnerable households and assisted with some of the installations*
- *Ms Sun Xueling, Minister of State and Member of Parliament of Punggol West SMC joined Signify on installation day on March 28*
- *The switch from conventional to energy-efficient LED lights will save up to 90% in energy consumption for residents*
- *In addition to the regular Philips LED light bulbs, all bedrooms will be furnished with the Philips Ultra Efficient LED light bulbs*

Signify (Euronext: LIGHT, formerly Philips Lighting), the world leader in lighting, has illuminated the homes of 600 residents at Block 206A at Punggol Place by donating a total of 1,344 Philips LED light bulbs to 300 underprivileged and vulnerable households.

The lighting installation, which took place on March 28, 2024, was attended by Ms Sun Xueling, Member of Parliament of Punggol West Single Member Constituency (SMC) and Minister of State, Ministry of Social and Family Development & Ministry of Home Affairs. Ms Sun joined Mr Fabian Choh, Public and Government Affairs Leader (ASEAN) at Signify and the volunteers in the installation process to visit and hear feedback from residents. In efforts to minimize the environmental impact of e-waste and promote a zero-waste lifestyle, the old bulbs will be collected and recycled.



People from Signify at the retrofitting of lights in Punggol West along with Ms. Sun Xueling



Signify hopes that the installation will help residents lower their utility bills. LED bulbs save up to 90% of energy compared to a traditional bulb with the same light output and produce much less heat to minimize energy loss. In addition, the installation of Philips's Ultra Efficient LED bulbs (highest four-tick energy rating) in all the bedrooms – lasts up to 50 years with a lifespan of more than 3.5 times longer than standard Philips LED bulbs, providing high-quality lighting that is comfortable for the eyes. This will alleviate residents' financial burden from rising energy costs.

This initiative is also in support of the National Environmental Agency's (NEA) goals in transitioning Singapore to an energy-efficient nation. One of NEA's latest measures is a revised energy rating system from three ticks to four ticks on energy labels, effective from April 1, 2024, to help consumers make

better-informed decisions when purchasing lamps. In addition, the effort is also aligned with the NEA and Public Utilities Board (PUB)'s Enhanced Climate Friendly Households Program. Under the program, households can claim S\$300 Climate Vouchers from April 15 onwards to buy climate-friendly appliances, including LED lights to make their homes more energy-efficient and lower their utility bills.

This proactive initiative not only underscores Signify's 'Brighter Lives, Better World 2025' commitment to driving positive change within the community, but also resonates with Punggol West's vision of being a green town that supports an eco-friendly lifestyle.

"We thank Signify for this collaboration with Punggol West to light up homes and save electricity costs for our residents. In particular, the initiative benefits elderly and lower-income families. We believe in working with partners to co-create better living spaces and also doing our part to conserve energy and reduce costs of living," said Ms Sun Xueling.

"Signify believes in the power of light to positively impact lives and uplift communities. We hope that our humble effort will give the residents of Punggol West well-lit homes, immediate returns on a lower energy bill and a cool, energizing ambience for daily living. We would like to thank Punggol West for giving us the privilege to be part of this meaningful gesture for their residents," said Mr Fabian Choh.

About Signify

Signify (Euronext: LIGHT) is the world leader in lighting for professionals, consumers and the Internet of Things. Our Philips products, Interact systems and data-enabled services, deliver business value and transform life in homes, buildings and public spaces. In 2023, we had sales of EUR 6.7 billion, approximately 32,000 employees and a presence in over 70 countries. We unlock the extraordinary potential of light for brighter lives and a better world. We have been in the Dow Jones Sustainability World Index since our IPO for seven consecutive years and have achieved the EcoVadis Platinum rating for four consecutive years, placing Signify in the top one percent of companies assessed.

Johnson Controls Opens New Office and Innovation Center in Singapore, CEO Visit Underscores Commitment to Regional Growth and Sustainability

- *George Oliver, chairman and CEO, unveiled Johnson Controls' new office at one-north in Singapore.*
- *The office will house an OpenBlue Innovation Center for local partners, institutions and industry experts to collaborate and drive technological advancements and deliver cutting-edge solutions.*

Johnson Controls (NYSE: JCI), the global leader for smart, healthy, and sustainable buildings, today announced the opening of its new office in Singapore. Strategically located at one-north, the office serves as a living lab for collaboration, research, and development, further strengthening Johnson Controls' commitment to its partners and community across Southeast Asia.

“Singapore’s vibrant and innovative ecosystem aligns with our vision for a more sustainable future, where economic progress goes hand in hand with environmental stewardship and social responsibility, ensuring a brighter and more resilient future for all,” said George Oliver, chairman and CEO of Johnson Controls at the new office opening. “Our Singapore office represents an exciting next step in our continued commitment to this dynamic and culturally diverse country.”

Spanning 3,535 square meters, the location will accommodate around 450 employees and host an OpenBlue Innovation Center, which will showcase solutions for building owners, operators, and industry leaders to create smart buildings that are secure, healthy, and sustainable.



George Oliver, chairman and CEO, at Johnson Controls' new office at one-north in Singapore

“Johnson Controls’ OpenBlue Innovation Centre is a good example of how companies are partnering with our ecosystem on innovation and technology development to support this transition. We look forward to the smart and sustainable building solutions that this centre will develop and bring to the

Southeast Asia region.” said Jacqueline Poh, managing director, Singapore Economic Development Board.

One-north’s interconnected ecosystem extends the impact of the new facility, fostering collaboration with local partners, institutions and industry experts to drive technological advancements and solution integration to deliver cutting-edge innovation to the market.

The new office opening also supports The Singapore Green Plan 2030, which will further advance Singapore’s national agenda on sustainable development amid climate change and urbanization challenges, while also reinforcing Johnson Controls’ dedication to driving the smart city transformation in Singapore and throughout Southeast Asia.

Johnson Controls has been at the forefront of Singapore’s smart city transformation, equipping more than 40% of the city-state’s commercial buildings with smart building solutions, directly supporting the nation’s sustainability goals. Recently recognized with the SkillsFuture Employer Awards (Gold) for championing skills development, Johnson Controls continues to contribute to Singapore’s vision for a greener and more efficient future while nurturing expertise within its workforce.

Anu Rathninde, president, Asia Pacific, Johnson Controls said, “We are excited about the opportunities that are ahead of us in the Southeast Asia market. With Singapore as our strategic hub, Johnson Controls is well-positioned to drive sustainable growth, foster innovation, and create lasting partnerships that will shape the future of the built environment here and in the region.”

With Southeast Asian governments striving to meet the needs of their rapidly growing urban populations, Johnson Controls’ expanded presence in the region will play a crucial role in advancing sustainable practices and driving innovation in the built environment.

About Johnson Controls:

At Johnson Controls (NYSE:JCI), we transform the environments where people live, work, learn and play. As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

Building on a proud history of nearly 140 years of innovation, we deliver the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering.

Today, with a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world’s largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry.

Visit www.johnsoncontrols.com for more information and follow @Johnson Controls on social platforms.

MiyaHealth attains B Corp™ Certification for Social Impact in Healthcare

MiyaHealth, a Singapore-headquartered SaaS HealthTech, announced its achievement of the esteemed B Corp™ certification in Singapore. The certification as a B Corporation™ signifies that MiyaHealth meets the high standards of social environment performance, accountability, and transparency. It further underscores the company's unwavering commitment to sustainability, responsible business conduct and fostering positive societal impact on a global scale.

Following a rigorous evaluation of MiyaHealth's business model and operations across five key impact areas of governance, workers, community, customers, and environment, the company has attained a score of 98.2 in the B Impact Assessment™, above the 80-point passing grade. According to the latest data by B Corporation™, MiyaHealth has now joined the global community of 8,481 certified B Corporation™. Additionally, MiyaHealth proudly stands among the 46 companies in Singapore and the 12 in Malaysia to achieve the B Corporation™ certification.

"We are driven by a commitment to enhancing healthcare accessibility for the mass population through our proprietary product suites. Earning the B Corp™ certification serves as a powerful validation of our dedication to social responsibility and community engagement. By scaling up healthcare access and efficiency, and addressing the unmet needs in our targeted markets, we will be able to provide the right healthcare at the right time for everyone, everywhere," said Dr Ramesh Rajentheran, CEO and Co-Founder of MiyaHealth.

Addressing healthcare disparities and supporting the underserved population has always been MiyaHealth's mission. Through the MiyaPatient product suite, MiyaHealth empowers patients with access to quality care, exemplified by the success of the GensuApp clinical trials, its Chronic Disease Management Platform created in partnership with Bioton S.A., a Poland-based biotech company. This application, poised to reach 150,000 patients in Poland, showcases MiyaHealth's commitment to help diabetic patients.

Bevan Cheong, Chief Product Officer and Co-Founder of MiyaHealth, emphasised, "We are committed to improving society and community health by leveraging technology to address gaps in healthcare access. Our track record of success demonstrates our commitment to enhancing patient care and well-being for all, which aligns with B Corp's™ purpose of fostering an inclusive, equitable, and sustainable economy. We are excited to join the B Corp™ community, and we look forward to making a more positive impact in 2024 and beyond."

There are more success stories to further illustrate MiyaHealth's impact on society and the community, such as the efforts of MiyaPayor to mitigate claims fraud and waste for payors and patients, enabling more affordable and accessible healthcare in Southeast Asia. Meanwhile, MiyaProvider enables interoperability between payors and hospitals which streamlines processes, reduces administrative costs, and ensures faster access to care for patients across markets.

With the goal of reaching 100 million individuals worldwide, MiyaHealth is positioned as a company that brings healthcare access to the masses, leveraging its proprietary product suites to directly impact the populations it serves. Following a successful Pre-Series A fundraising round in August 2023, MiyaHealth plans to raise its Series A funding round in the first half of 2024, marking a significant step forward in its efforts to enhance global healthcare accessibility and affordability.

About MiyaHealth

Founded in 2019, MiyaHealth builds and operates digital infrastructure that powers healthcare. The company offers three product suites, namely MiyaPayor, MiyaPatient, and MiyaProvider, all of which leverage MiyaHealth's AI and ML data capture, processing, and interoperability capabilities across the healthcare ecosystem. For more information, please visit: <http://www.miyahealth.com/>

INDO WASTE & RECYCLING 2024 EXPO & FORUM EXPANDS GLOBAL COOPERATION

Senior Sales Manager of Indo Waste & Recycling 2024 Expo & Forum, Samuel Octaviano has signed MoU at the 2024 Macao International Environmental Co-operation Forum & Exhibition (2024 MIECF), for promoting cooperation in environmental exhibition activities between 2024 MIECF and INDO WASTE & RECYCLING 2024, in order to attract more international participants and trade visitors. The signing ceremony was witnessed by the Representatives of Macao Trade and Investment Promotion Institute, Macao Environmental Protection Bureau, Liaison Office of the Central People's Government in the Hong Kong Special Administrative Region of Macao. 2024 MIECF, also invited one of their supporting associations, Greeneration Foundation at Forum on March 28, 2024. With the theme New Business Opportunities in ESG – Building a Circular Economy Ecosystem, Bijaksana Junerosano, the Founder of Greeneration Group shared his thoughts saying, “Indonesia, the country with the 4th largest population in the world, could represent the epicenter of circular economy change in Southeast Asia”, point of view as one of panelis on that forum.

The esteemed international trade expo, formerly known as Indo Waste 2024 Expo & Forum, is evolving and expanding its horizons to reflect a more comprehensive commitment to environmental stewardship and rebranded the event: INDO WASTE & RECYCLING 2024 EXPO & FORUM!

This strategic transformation underscores their dedication to fostering a sustainable and eco-friendly environment, as well as recognizing the growing potential in the plastic waste recycling industry. The inclusion of "RECYCLING" in the expo's name signifies a heightened focus on the crucial aspect of recycling, aligning with global efforts to create a circular economy and reduce environmental impact.

Once again, the Indo Waste & Recycling 2024 Expo & Forum is carrying out direct promotions to increase exhibition participant participation in 2024 and update technological innovation in solid waste management. After achieving success in 2023 by marking a new milestone with a gross area of 15,888 square meters, it received a very positive response from the participants, with 514 participants from 28 countries, including 6 country pavilions from all over the world.

Indo Waste & Recycling 2024 Expo & Forum is incorporating with Indo Water, Indo Renergy & Electric, Indo Security, Indo Firex, and Indonesia International Smart City 2024 Expo & Forum, collectively referred to as INTEGRATED TECHNOLOGY EVENT (ITE) 2024

Ecosperity Week 2024 marks a decade of convening global leaders to catalyse action for sustainable growth

- Themed 'Renewing Our Vibrant Spring', topics in focus this year include the climate-nature nexus; policies and innovations for a just transition; and levers to crowd in capital for sustainable growth
- 10th edition welcomes fresh partners and a new Ecosperity Action Hub to showcase impactful initiatives and solutions
- Ecosperity Week 2024 will be held in Singapore from 15 to 17 April 2024, and includes 20 partner events

This year marked 10 years since the launch of the first Ecosperity conference in 2014. Themed "**Renewing Our Vibrant Spring**", this year's event put a spotlight on nature-based solutions to address the urgent and interconnected imperatives of climate change and nature loss, in addition to the global decarbonisation agenda and corresponding policy and finance enablers needed for a green and just transition. Ecosperity Week was held from 15 to 17 April 2024 at the Sands Expo & Convention Centre, Singapore.

Opening this year's Ecosperity Week is Ms Grace Fu, Singapore's Minister for Sustainability and the Environment & Minister-in-charge of Trade Relations, delivered the conference's keynote address around enabling policies across carbon, energy, and economy on 15 April. Mr Tharman Shanmugaratnam, President of the Republic of Singapore, delivered the keynote address at the conference's Welcome Dinner in the evening on the same day. Ms Razan Al Mubarak, President of the International Union for Conservation of Nature (IUCN) and the UN Climate Change High-Level Champion for COP28, started the second day's discussions around the scientific and business case for nature-positivity on 16 April.

Ms. Grace Fu remarked in her keynote address, "As COP28 outcomes have shown, there is growing global recognition that the future of energy lies in clean energy sources, representing a strategic shift towards a more secure, resilient, and low-emission energy landscape. While it is uncertain what our energy mix will be in the future, it is clear that significant effort and resources will be needed to transition from Singapore's current energy system, which is powered almost entirely by natural gas, towards cleaner energy."

Mr Tharman Shanmugaratnam in his keynote address noted that, "The trillions of dollars we talk about as being necessary for us to achieve net zero - first to get to 2030 targets and then to achieve net zero - those trillions of dollars are not a cost. They are an investment for growth, jobs and an inclusive future. The world has not seen for a long time seen the opportunity to boost growth and jobs on this scale, and to spur development for more than half of humanity. We now have this opportunity."



Mr. Tharman Shanmugaratnam and Ms. Grace Fu at Ecosperity 2024, delivering their keynote addresses

The 10th edition of Ecosperity Week also saw the launch of the Ecosperity Action Hub. As a satellite stage, the Action Hub features a series of succinct, impact-oriented sessions showcasing the latest sustainability-led initiatives and solutions with tangible outcomes. The Ecosperity 2024 week's highlights include:

1. To support local businesses generate more accurate emissions inventory reflective of local conditions, Singapore Business Federation (SBF) will be partnering Agency for Science, Technology and Research (A*STAR), PwC and Singtel to establish a Singapore Emission Factors Registry (SEFR). This was announced by Minister for Sustainability and the Environment and Minister-in-charge of Trade Relations, Ms Grace Fu, at Ecosperity Week 2024. The SEFR will consist of a database of emission factors tailored to Singapore's context. These emission factors (EFs) act as conversion factors that translate various business activities into corresponding greenhouse gas emissions. The SEFR supports existing reporting tools and solutions in the ecosystem that help enterprises automate their sustainability reporting process.
2. Breakthrough Energy (BE), the climate organisation founded by Bill Gates; Temasek, a global investment company headquartered in Singapore; and Enterprise Singapore (EnterpriseSG), the government agency championing enterprise growth, have today signed a Memorandum of Understanding to establish Breakthrough Energy Fellows –Southeast Asia ("BE Fellows – SEA") with a joint funding commitment over the next three years. The programme will be helmed out of Singapore and marks the first BE Fellows hub outside of the United States. This will be the first regional hub in BE's existing signature global Fellows programme. It aims to tackle early-stage barriers to climate technology innovation in Southeast Asia and accelerate the development of climate technologies that have the potential to significantly reduce greenhouse gases at scale and contribute towards global net-zero targets.
3. Fullerton Fund Management (Fullerton) has partnered with the United Nations Development Programme (UNDP) to develop a Sustainability Management Framework to guide private equity climate investing in Asia, using UNDP's SDG Impact Standards as a foundation. The framework offers private equity companies a roadmap to adopting practices that can help to accelerate their net zero goals. The Sustainability Management Framework guides private equity investors on how to integrate sustainability considerations and the sustainable development goals (SDGs) into their strategy, management, transparency and governance practices, to achieve their decarbonisation goals. Through the framework, climate investors can conduct a critical evaluation of the various possible investment practices and decide on the unique set of practices which aligns best to their investment mandates and stakeholders' requirements.

About Temasek and Ecosperity

Temasek is a global investment company with a net portfolio value of S\$382 billion (US\$287b) as at 31 March 2023. Our Purpose "So Every Generation Prospers" guides us to make a difference for today's and future generations. As an active investor, forward looking institution and trusted steward, we are committed to deliver sustainable value over the long term. Temasek has overall corporate credit ratings of Aaa/AAA by rating agencies Moody's Investors Service and S&P Global Ratings respectively.

Headquartered in Singapore, we have 13 offices in 9 countries around the world: Beijing, Hanoi, Mumbai, Shanghai, Shenzhen, and Singapore in Asia; and London, Brussels, Paris, New York, San Francisco, Washington DC, and Mexico City outside Asia.

As Temasek's key platform for global engagement and advocacy around sustainability, Ecosperity brings together leaders across the private and public sectors, academia and civil society to exchange views, share best practices and push the agenda on sustainable development. Twinning ecology and prosperity, the word Ecosperity reflects Temasek's belief that doing good and doing well can – and must – go together. For more information on Temasek, visit www.temasek.com.sg.

Sustainability startups Cricket One and GAFT win S\$1 million prize each at The Liveability Challenge 2024

Two winning solutions emerge as top winners at The Liveability Challenge 2024, addressing key challenges in climate change and food & nutrition

Cricket One and GAFT have emerged as the top winners at The Liveability Challenge (TLC) from a record-breaking number of more than 1,000 entries across 100 countries. They each win S\$1 million in catalytic funding at the grand finale of the seventh edition of TLC 2024, held at Ecosperity Week on Wednesday.

Cricket One, from Vietnam, is working on scaling up edible insects as superfood with a carbon footprint 100 times lower than beef. GAFT, from the Netherlands, is developing a carbon-negative sustainable aviation fuel by producing a carbon dioxide-based substitute to used cooking oils.

Presented by Temasek Foundation and organised by Eco-Business, TLC is a global crowdsourcing platform that identifies and helps innovative solutions to scale sustainably. This year, the two solutions clinched the top spots in the Climate Change and Food and Nutrition tracks for their potential in climate change mitigation, forays in underinvested sectors, and credibility of ideas through extensive testing and pilot projects.

Following a rigorous selection process, the seven teams pitched their innovative solutions live to a judging panel of established investors at the grand finale. Beyond the grand prize of S\$2 million (S\$1 million for each winner), other prizes worth a total of S\$500,000 were also awarded to the finalists.



The winning solutions of The Liveability Challenge 2024 – Cricket One and GAFT

Our planet has reached the key halfway point for its climate goals since the Paris Agreement was signed in 2015. Bold action must be taken across society to rapidly decarbonise cities to reach the global target of reducing global emissions by 43 per cent by 2030 as an interim step to net zero by

2050. The Earth's changing climate is threatening ecosystems responsible for much of our food and those that life on land and in water depend on.

In 2018, TLC was launched with the aim of sparking a global hunt for innovative and sustainable solutions to the challenges faced by urban cities. Today, TLC is Asia's largest sustainability solutions platform offering the largest prize money. Since its first edition, TLC has attracted thousands of applications globally, identified 45 finalists, distributed more than S\$10 million in funding to help start-ups who have gone on to raise hundreds of millions more. This year, TLC collaborated with more than 80 partner organisations to crowdsource disruptive climate start-ups and solutions from around the world. Steering committees comprising experts from the relevant fields and industries were convened to select the best start-ups in each track.

The seven shortlisted finalist teams – GAFT, Green COP, Nandina REM, Cricket One, Terra Bioindustries Inc, THEMEatCompany Pte Ltd and bound4blue – represent various countries including Singapore, Canada, The Netherlands, Spain, and Vietnam, and were shortlisted for their innovative solutions on climate change, and food and nutrition. The finalists also underwent a month of incubation and coaching to refine their pitches.

The judging panel was impressed with the teams' remarkable efforts in pushing the boundaries of cutting-edge science, coming up with business models that effectively tap on Singapore's clean-tech ecosystem and beyond, demonstrating great potential for global scalability and impact.

TLC's strategic partners this year include **Aera VC, Enterprise Singapore, OCTAVE Well-being Economy Fund, and TRIREC. Amazon Web Services** was the event's technology partner.

"The judges had a pretty challenging time differentiating between all the pitches. A unifying feature among all finalists was that everyone had worked on verifying market demand and launch products," said Mr Nick Winstone, Founder and Managing Partner, Aera VC, who was part of the judging panel.

"I hope we can explore and unlock the functionality and characteristics of crickets, to go from a niche market to a mainstream market. We want to make cricket protein more acceptable to consumers and increase its number of applications across the industry. We believe that to sell the idea of food sustainability, we need to provide the market with something very tasty, something that they can consume regularly. Thank you for your support and for believing in us," said Ms Bicky Nguyen, Co-founder and Business Development Director, Cricket One.

"As a sustainable aviation fuel startup, the issue that we are trying to tackle is the emissions associated with aviation. We really hope to scale up certain processes that we have, and then connect with some of the excellent companies and technological infrastructure in Singapore to have an impact here as well. Thank you very much for having us here and it's great to receive this recognition. This presents a great opportunity for us," said Mr Martin Spencer, Vice President of Business Development, GAFT.

"GAFT's proposal of a new, low-cost feedstock for conventional production of sustainable aviation fuel addresses the current bottleneck of feedstock availability globally. It will pave the way for greater adoption of sustainable aviation fuel and significantly reduce the carbon footprint of the aviation industry. We are also thrilled by Cricket One's high-quality, low-cost cricket-based protein that will have a carbon footprint 100 times lower than beef. This will help improve the availability of nutritious and sustainable food products for the global market," said Mr Lim Hock Chuan, Deputy CEO of Temasek Foundation.

"Temasek Foundation recognises the importance of catalysing support for deep-tech climate solutions as well as disruptive food solutions. Our catalytic funding underscores our commitment to help innovators produce operational prototypes that are ready for investment by our network of investors. This will help the innovators commercialise their products to benefit our planet and people for generations to come. Our heartiest congratulations to GAFT and Cricket One!" Lim added.

"We congratulate the two winners today and all the finalist teams who pitched their innovative solutions at this year's The Liveability Challenge. The Challenge has gone from strength to strength since it was first launched in 2018 — with this seventh edition having received the highest recorded number of entries so far, it is clear that momentum is accelerating in the climate science and technology fields. These solutions cannot scale without funding, and this is why TLC exists — to match capital to the best solutions and to urgently provide catalytic capital to address our existential sustainability solutions," said Ms Jessica Cheam, Founder and Managing Director of Eco-Business.

"TLC is ground zero for how decisions are made on how capital is allocated, and where the most promising start-ups get this booster shot to make their innovations a reality. We hope initiatives like TLC serve as a beacon of hope and underline the urgency needed to solve our climate crisis," Cheam added.

About Temasek Foundation

Temasek Foundation supports a diverse range of programmes that uplift lives and communities in Singapore and beyond. Temasek Foundation's programmes are made possible through philanthropic endowments gifted by Temasek, as well as gifts and other contributions from other donors. These programmes strive towards achieving positive outcomes for individuals and communities now, and for generations to come. Collectively, Temasek Foundation's programmes strengthen social resilience, foster international exchange and regional capabilities, advance science, and protect the planet. For more information, visit www.temasekfoundation.org.sg.

About Eco-Business

Established in 2009, Eco-Business is Asia Pacific's leading media organisation on sustainable development. Its independent journalism unit publishes high quality, trusted news and views that advance dialogue and enables measurable impact on a wide range of sustainable development and responsible business issues. Eco-Business is headquartered in Singapore, with a presence in Beijing, Hong Kong, Manila, Kuala Lumpur, Jakarta, New York and correspondents across major cities in Asia Pacific. Visit www.eco-business.com.

Uncover the evolution of the revolutionary material of plastic, at a special travelling exhibition premiering in Asia at the National Museum of Singapore

Plastic: Remaking Our World examines the pervasive use of plastic through a global and local lens and aims to encourage conversations around the material's progression and environmental impacts in our society.

A controversial yet revolutionary material, plastic has become ubiquitous in our everyday lives - from aesthetic packaging and commonplace household goods to iconic architecture. Discover the history and future of plastics in a special travelling exhibition titled Plastic: Remaking Our World, which makes its Asian debut at the National Museum of Singapore (NMS) from 9 March to 23 June 2024.

Plastic: Remaking Our World is a travelling exhibition by the Vitra Design Museum, V&A Dundee and maat, Lisbon that charts the material's meteoric rise in the 20th century, its environmental impact, and cutting-edge solutions for a more sustainable way of using plastics in our society. Featuring over 300 objects, posters, films, and photographs, including rarities from the dawn of the plastic age, objects of the pop era as well as contemporary designs and projects, the exhibition also includes a local narrative of Singapore's history with plastics, featuring a blend of physical and digital displays of National Collection items as well as an interactive space.

Chung May Khuen, Director of the National Museum of Singapore, said, "The National Museum is committed and continues to present contemporary issues in our exhibitions and programmes to engage and encourage important conversations among our audiences. We are honoured to partner with the Vitra Design Museum, V&A Dundee and maat, Lisbon, to present Plastic: Remaking Our World in Asia for the first time. Through this exhibition, we hope to highlight a deeper understanding of our relationship with plastic and offer new perspectives on how we can reimagine a more sustainable future with it."

An immersive experience that charts the evolution of this ubiquitous material, both globally and locally

The exhibition is divided into 3 sections that cover the theme of plastic and its prevalence in society over the years.

- **Kalpa:** An immersive film installation created by Asif Khan Studio contrasting the long-term formation of oil with the rapid generation of plastic waste.
- **Synthetica, Petromodernity and Plasticene: Plastics from 1850 until Today:** Featuring global design movements and the increasing pervasiveness of the material, this section describes the development of early natural and synthetic plastics, the evolution of the material and the shifting perceptions of plastics from their beginnings in the mid-19th century to their global omnipresence today.
- **Re-:** The final section explores how we can achieve a circular plastic economy and aims to spark conversations on using plastic in a more sustainable way. The exhibition continues outside the gallery with a sorting zone where visitors can learn about the different types of plastic, and an injection machine that repurposes waste plastic into functional household items.

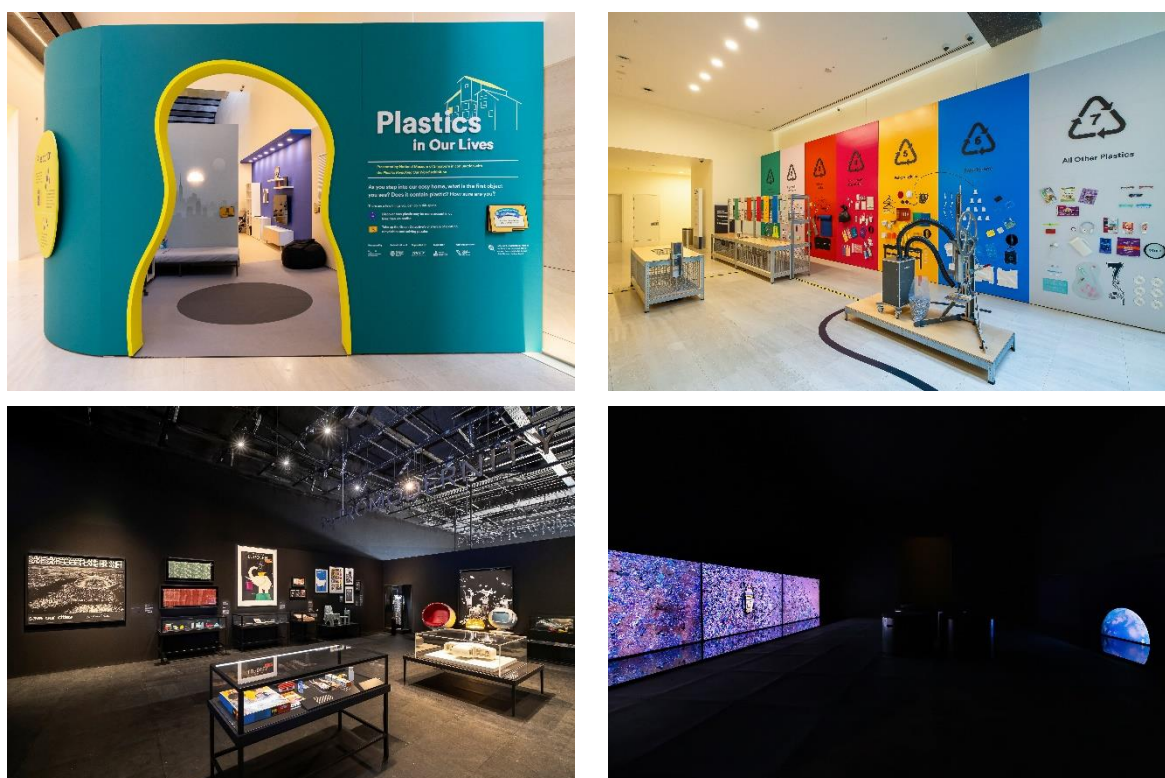
Visitors will see familiar artefacts in the exhibition such as iconic Barbie dolls and Plack picnic ware and discover unique uses of plastics in the home that includes Bakelite, the historic material that

facilitated the creation of household electrical appliances, and furniture design such as the futuristic Space Age Ball Chair.

Complementary educational elements and programmes to engage visitors of all ages

Visitors can also head over to the Plastics in Our Lives interactive space located outside the exhibition that is modelled after a home, to explore the pervasiveness of plastics in their daily lives and learn fun facts about surprising items that may contain plastics. Youth and families are sure to enjoy the Green Detective’s Challenge, an on-site gamified experience testing one’s knowledge on recycling and puzzle-solving skills to locate the elusive Green Detective. Local innovative efforts and research projects that champion greener uses of plastic from local stakeholders will also be featured on the TV in the home’s living area.

The interactive space is enhanced with a new dining room and a participatory installation, the Shore Debris Table. Created by artist Ernest Goh, the 6-metre-long table is covered by debris collected from Singapore’s Punggol beach. Visitors are invited to pick out microplastic fragments from the sand, a mindful activity that aims to bring the issue of massive plastic pollution to the dinner table. The fun doesn’t stop there, as visitors can also enjoy a diverse line-up of programmes throughout the exhibition period that will highlight issues related to plastics as well as broader sustainability issues. These include hands-on workshops, experiential tours and live demonstrations of the exhibition’s injection machine that will share how to create useful household items out of recycled plastic.



*The various exhibits at the **Plastic: Remaking Our World** exhibition at the National Museum of Singapore*

The Museum’s commitment to sustainability for its exhibitions

As part of NMS’ commitment to work towards a greener, more sustainable Singapore, the Museum has taken initiatives to ensure and implement sustainable methods in hosting this exhibition. Sustainable materials are used for the title wall header and label materials, as well as other materials such as display cases. To further reduce the production of exhibition items, NMS also organised an internal collection drive for staff of the National Heritage Board to donate their items. More than 200 items including luggage, skipping ropes and bubble tea bags were contributed by staff and assessed for their suitability before being displayed at the sorting zone and interactive space. After the

exhibition, the donated items will be recycled or reused where possible. Refer to Annex C for the complete list of sustainability initiatives. NMS also engaged various partners in different aspects of programming and content ranging from public institutions including Nanyang Technological University, Singapore University of Technology and Design, and National Environment Agency, to social enterprises like the Ayer Ayer Project and Green Nudge. Public call for contributions to the Collecting Contemporary Singapore: Plastic and Sustainability initiative.

In conjunction with the exhibition, residents in Singapore will also have the chance to contribute their stories and photos of objects relating to the theme of plastic and sustainability. These can include plastic objects that have a uniquely Singaporean origin, design, or use, as well as objects related to saving the environment or sustainable living in Singapore. Selected submissions may be accessioned into the museum's collection and featured in future exhibitions. This public call is part of the National Museum's ongoing Collecting Contemporary Singapore initiative. The public can visit <https://go.gov.sg/nms-ccs-plastic> to learn more about the call, which runs until 31 December 2024.

About the National Museum of Singapore

With a history dating back to 1887, the National Museum of Singapore is the nation's oldest museum with a progressive mind. Its galleries adopt multi-perspective ways of presenting history and culture featuring important artefacts that tell the stories of Singapore and the world to redefine the conventional museum experience. The museum is home to thought-provoking exhibitions and hosts exciting events all year round including the Singapore Night Festival. For more details, please visit www.nationalmuseum.sg.

Date: 9 March 2024 to 23 June 2024

Venue: National Museum of Singapore, Exhibition Gallery 1

Admissions: \$5 for Singaporeans and Permanent Residents (Adults)



Yinson GreenTech and Eastern Pacific Shipping forge alliance on electric vessel trials: Championing a greener future for shipping industry

Yinson GreenTech (YGT), a leading green technology solutions provider, has signed a Letter of Intent (LOI) with Eastern Pacific Shipping (EPS), a global leader in maritime transportation, during Singapore Maritime Week 2024.

This collaboration, spearheaded by YGT's marine electrification business, marinEV, marks a significant step towards cleaner and more sustainable maritime operations in Singapore, with the following key milestones on the horizon:

Pioneering electric vessel deployments

- **First cargo delivery with an electric vessel in the Port of Singapore:** marinEV and EPS aim to be at the forefront of maritime history by jointly facilitating the first cargo delivery using an electric vessel within the Port of Singapore. This aligns with both companies' commitment to environmental responsibility and demonstrates their dedication to creating a net zero world.
- **First crew transfer with an electric vessel in Singapore:** Recognising the critical role of crew transfers in maritime operations, marinEV and EPS will collaborate on the first crew transfer conducted by an electric vessel in Singapore. This trial will provide valuable data on the feasibility, efficiency, and safety of electric vessels for crew transportation, paving the way for wider industry adoption.



Yinson GreenTech's marinEV Managing Director and Eastern Pacific Shipping Chief Executive Officer announcing their collaboration at the Singapore Maritime Week 2024

Collaborating for a greener future

- Building upon their commitment to sustainability, marinEV will enter into a collaborative agreement with EPS. This partnership aims to integrate electric vessels into last-mile delivery operations, significantly reducing Scope 3 emissions and contributing to a cleaner shipping industry. By jointly defining ambitious emission reduction goals, marinEV and EPS will work together to create a more sustainable future for maritime transportation.

“At Yinson GreenTech, we believe that collaboration is key to unlocking a cleaner future for our oceans. Our partnership with Eastern Pacific Shipping on these groundbreaking electric vessel deployments in Singapore signifies a major leap forward,” said Jan-Viggo Johansen, Managing Director of marinEV. “Together, we are not only making history but also paving the way for a future where clean and efficient transportation solutions become the norm. This is an exciting moment for us, and we are committed to working closely with EPS, our existing partners and other industry leaders to achieve a truly sustainable maritime landscape.”

“It is heartening to see like-minded partners in the industry adopt the ‘act now’ approach like us, taking action and exploring innovative solutions on all fronts,” said Cyril Ducau, Chief Executive Officer of EPS. “This collaboration with Yinson GreenTech not only offers a greener transportation alternative, it also builds on the industry’s collective commitment to accelerate the decarbonisation of shipping. We don’t do things because they are easy. We do it because they are difficult so that we leave no stones unturned in our efforts to decarbonise.”

About Yinson GreenTech

“Harnessing technology for a net zero future”

Yinson GreenTech is a green technologies solution provider that aims to electrify the transportation and logistics sectors across land and sea, making tech-based low-carbon products and services affordable and accessible so that businesses and communities can achieve their own net zero ambitions.

We deliver our electrification solutions through our five businesses:

- marinEV: Pioneering the provision of electric vessels for the marine industry.
- rydeEV: Pioneering the adoption of electric bikes with battery as a service.
- drivEV: Pioneering the transition of fleets to electric vehicles.
- chargEV: Providing technology-driven charging infrastructure for electric vehicles and vessels.
- digitalEV: An integrated marketplace for digital solutions offering enhanced services.

We are a business of Yinson Holdings Berhad, a global energy infrastructure and technology company active in offshore energy with Yinson Production, renewable energy with Yinson Renewables, green technologies with Yinson GreenTech, sustainable investment and asset management with Farosson, and offshore marine with Regulus Offshore.

For more information about us, please visit ygt.yinson.com.

About Eastern Pacific Shipping

With a history spanning 60 years, Eastern Pacific Shipping Pte. Ltd. (“EPS”) is a leading shipping company that is committed to the green and technology-driven growth of the industry. Headquartered in Singapore for the past 30 years, EPS is driven by its mission to be the safe and efficient transportation provider of choice to the shipping industry. Empowering that mission is a 6,000 strong and growing workforce across sea and shore. They oversee a versatile fleet of over 250 vessels and 26 million deadweight-tonnes across three core segments of containership, dry bulk, and tanker vessels. EPS’ shore team is fully integrated with in-house commercial, finance, innovation, IT, legal, manning, operations, and technical departments.

For more information, contact EPS Corporate Communications at corpcomms@epshipping.com.sg

6th Edition PowerTech Africa

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Eco Packaging is Infiltrating the Asian Food and Beverage Landscape

A wave of new-age packaging suppliers are set to exhibit at THAIFEX - Anuga Asia 2024. Driven by a confluence of factors: environmentally conscious consumers, stricter regulations, and a burgeoning market opportunity, it is clear that the adoption of eco-friendly packaging is becoming a prevalent choice for the foodservice industry.

Consumers are increasingly vocal about their environmental concerns, particularly food waste and pollution. This shift in consciousness is bringing about tightening regulations on packaging safety, labelling, and sustainability; factors that are pushing the industry to find innovative solutions that prioritise both environmental responsibility and consumer safety. The e-commerce boom and rapid rise of food delivery services during the pandemic has compounded this need. Secure, tamper-evident packaging with a minimal environmental footprint is no longer optional, it's essential.

Why Eco-Friendly Packaging Matters

Eco-friendly packaging solutions are gaining significant traction for several compelling reasons. They are inherently sustainable, made from repurposed resources and boasting a lower environmental footprint. Beyond their eco-friendly nature, these innovative materials are biodegradable and compostable, unlike traditional plastics. This translates to a significant reduction in landfill waste and contributes to a healthier planet. Eco-friendly packaging minimises the environmental impact of the entire packaging process, further reducing carbon footprint.

At THAIFEX - Anuga Asia, an exhibitor, VANDAPAC BIO, offers High-Grade Compostable Plastic Packaging, which is compostable plastic packaging. Made from the highest-grade biodegradable materials, this plastic wrap is sturdy, user-friendly, and world friendly. It is 100% food grade and certified by the BPI Institution, complying with ASTM 6400 testing standards for compostability.



Eco-friendly packaging materials on display at THAIFEX – Anuga Asia

But the benefits of eco-packaging extend beyond environmental responsibility into competitive edge. Positive brand recognition comes with showcasing a commitment to a greener future through the use of eco-friendly materials. Adopting sustainable practices makes your business future-proof because proactive companies are better positioned to navigate upcoming regulations that favour eco-friendly materials, ensuring your long-term success.

It can also demonstrate that you are investing in a sustainable future.

At THAIFEX - Anuga Asia, exhibitor Green Starch Joint Stock Company sells Fuma Rice Drinking Straws to reduce plastic waste. Each sale of these straws contributes to the overall development of Sa Dec

Rice Flour Traditional Village, a flour-making Vietnamese village in the Mekong Delta, that is home to nearly 350 families and 2,000 workers.

Asian consumers are particularly receptive to sustainable packaging. Research shows a strong willingness to pay a premium for eco-friendly options, with preferences varying across countries. This presents a unique opportunity to tailor your packaging strategy to resonate with regional preferences, whether it's focusing on fresh produce packaging in China or beverage solutions in Indonesia.

Sustainable packaging doesn't have to compromise on safety. A variety of sustainable packaging solutions prioritise tamper-evident features and contaminant-resistant materials to ensure the highest safety standards are met, protecting your products and your consumers.

At THAIFEX - Anuga Asia 2024, some more of the vendors that cater to this eco-friendly packaging trend include:

- M Wrap offers a heavy-duty, clear plastic food wrap made from special food-grade bio-based polymers. Manufactured with advanced Japanese technology, this hygienic cling film complies with strict Japanese food wrapping standards and boasts FDA approval for global appeal.
- Beebox Printing offers food-grade paper packaging that's certified for safety by the paper manufacturer itself. This ensures complete peace of mind for you and your customers. Focusing on both online and offline distribution channels, Beebox aims to cater to the needs of the new generation of small and medium-sized enterprises (SMEs).
- Thai Style Packaging: for those seeking packaging with a unique flair, Thai Style Packaging offers a charming option. Their packaging features Thai porcelain prints on various packaging materials, including paper bowls, bakery boxes, wrapping paper, and paper bags, adding value to your food products, with a touch of cultural.

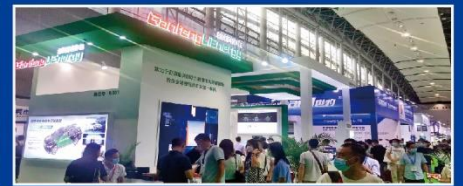
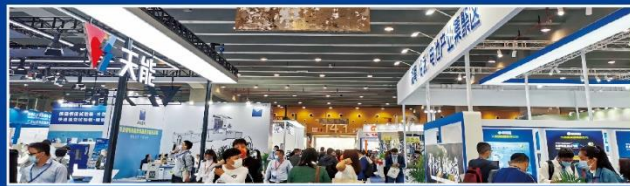
“Sustainability extends beyond the packaging itself. THAIFEX - Anuga Asia 2024 connects you with suppliers committed to sustainable practices throughout the supply chain. This ensures that every step of the process, from sourcing raw materials to production, aligns with your environmental goals,” says Mathias Kuepper, Managing Director & Vice President APAC at Koelnmesse. “By partnering with responsible suppliers, you can be confident that your brand is contributing to a positive impact on the planet.”

Attend THAIFEX - Anuga Asia, 28 May-1 June 2024 at IMPACT Muang Thong Thani, Bangkok, Thailand. Visit <https://thaifex-anuga.com/> to learn more.

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