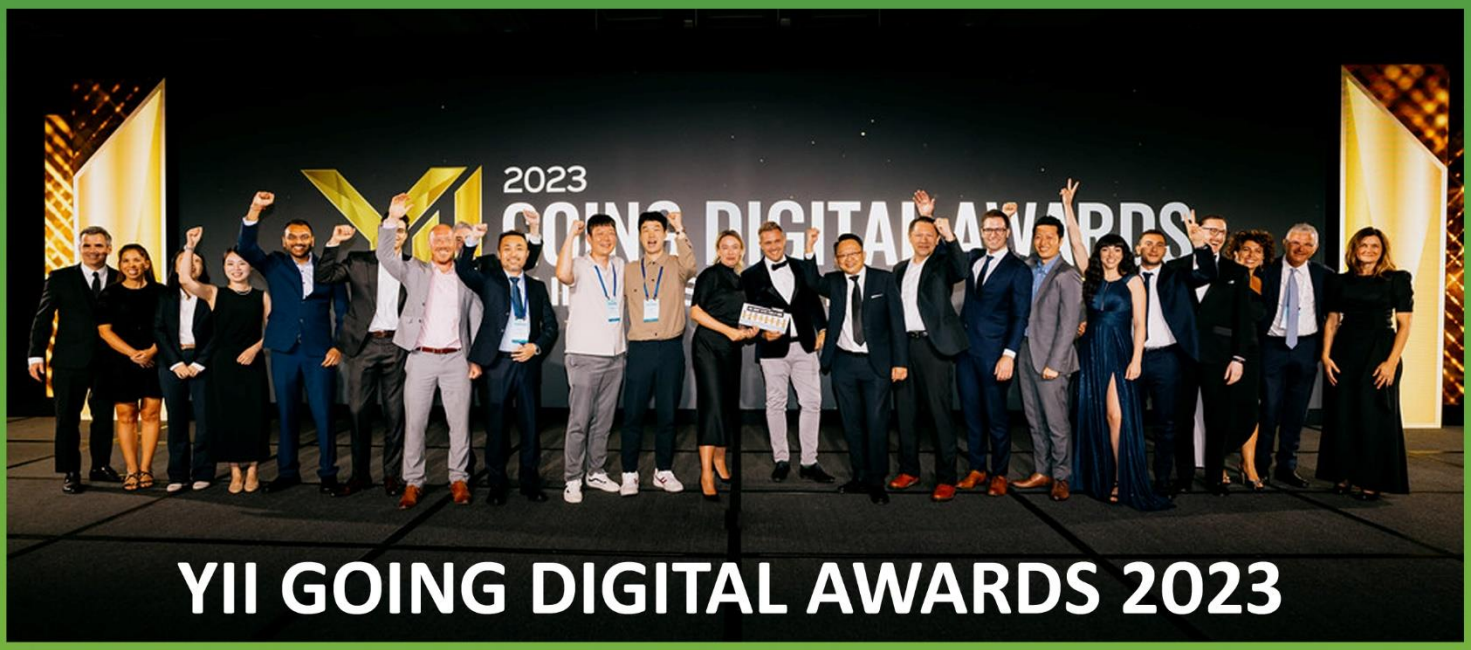
Green Pulse

A Publication from **Green In Future Pte Ltd**, Singapore

Volume 7 Issue 28 • 2023 • www.greeninfuture.com



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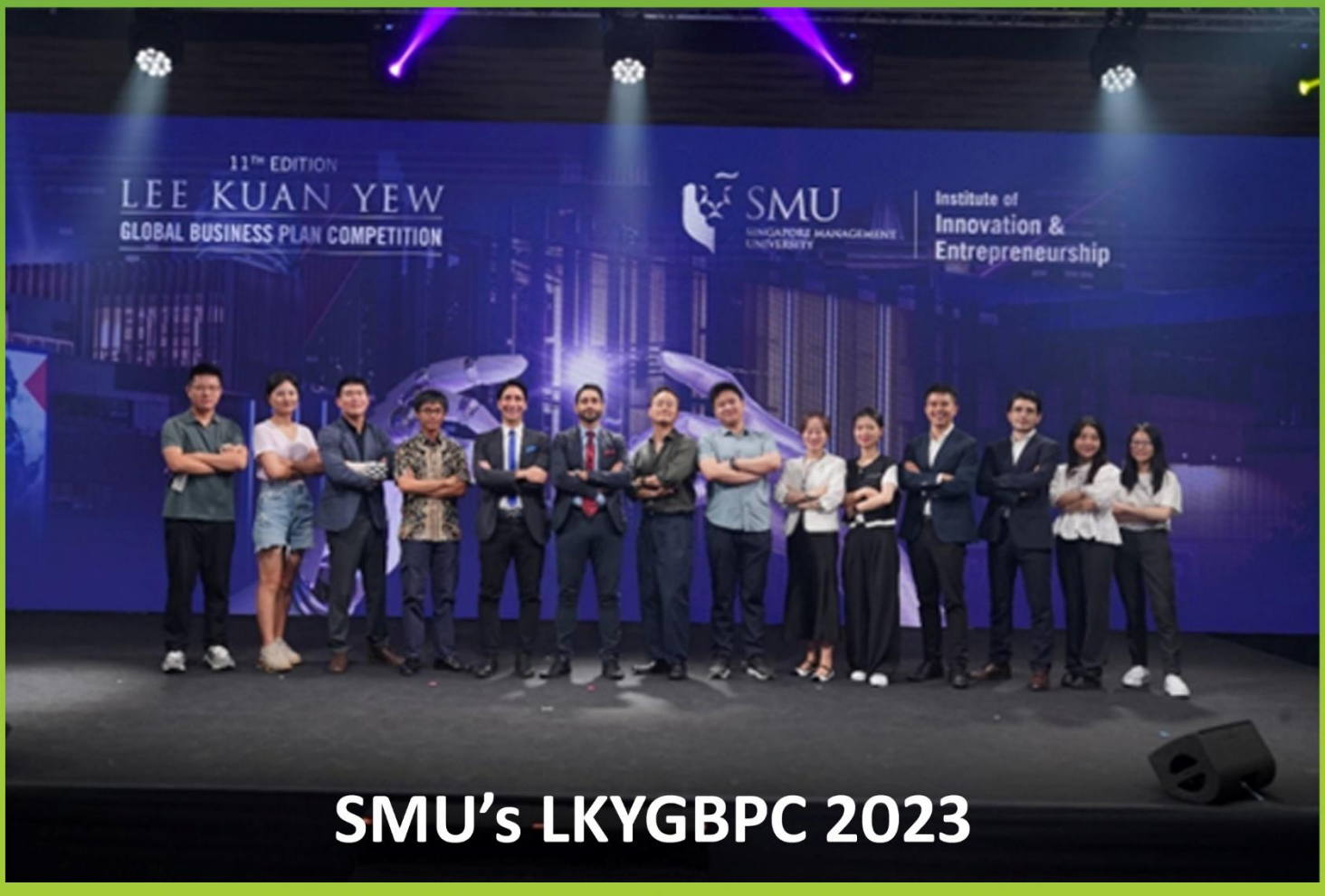

SMU's LKYGBPC 2023

INSIDE

GreenPulse
VOLUME: 7
ISSUE: 28

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INTRODUCTION

Our founder and managing director, Dr. Parvathy Sathish, presented on the topic 'Carbon Footprint and Net ZERO journey in the Built Environment', at the recent seminar held by Singapore Institute of Building (SIBL). The seminar focused on 'Sustainability in the Built Environment' and was held on the 16th of September 2023. It was an interactive session where the audience were asked about their thoughts on carbon footprint and how to manage it and very interesting answers were presented.

Dr. Parvathy also gave suggestions for the same with standards and examples. Other topics covered were embodied carbon, net zero, climate change and sustainable actions. We thank SIBL and its president Sussie Ketit for giving us the platform to introduce Green in Future to esteemed participants from the built industry and showcase Dr. Parvathy's expertise and experiences in sustainability.

The Green Pursuit through Arkema's Perspective

By Danny Foong, General Manager of Arkema, High Performance Polymers

Consumers today are spoilt for choice in their selection of everyday items. A simple search for sports shoes on any e-commerce platform yields hundreds, if not thousands, of results. Yet, in this sea of options, what truly drives their purchasing decisions is the alignment of the products and brands with their core values.

In a 2022 study by Google Cloud, a staggering 82% of shoppers prefer brands whose values align with their own, with 52% saying that they are especially interested in supporting sustainable brands[1]. These statistics underscore a profound shift in consumer sentiment, one that has far-reaching implications for businesses worldwide.

Against this backdrop of evolving consumer preferences, companies around the world are pivoting towards more sustainable practices as a strategic imperative to bolster their top line. Simultaneously, the global sustainability movement is exerting increasing pressure on businesses in terms of cost and compliance.

Singapore serves as a case in point. The country's carbon tax is set to increase by five times to S$25 per tonne of CO2 equivalent emissions from 2024. Moreover, a proposal by Singapore's business reporting, accounting and corporate services and markets regulators suggests that listed and large non-listed companies may soon be mandated to report their climate-related disclosures in line with new standards launched by the International Sustainability Standards Board.

For businesses worldwide, the journey towards a more sustainable future is no longer optional; it is an imperative for growth, profitability, and societal responsibility.

Catalysing change across the supply chain

Many businesses have indeed embarked on a journey of transformation, beginning with the integration of more sustainable practices within their own operation. Manufacturers, in particular, have shown increasing interest in upgrading their equipment and processes to enhance water and energy efficiency, which in turn allows them to lower their carbon footprint.

However, to truly catalyse a sustainable transition across the supply chain, businesses must look beyond their immediate operations. This entails probing the ecosystem in which they operate, asking key 'Life Cycle Assessment (LCA)' questions: Are the materials used sustainable? Do the processes that go into production have a negative impact on the environment? What will happen to the product at the end of its lifecycle? A comprehensive LCA serves as a compass, guiding efforts to reduce environmental footprint while ensuring that resultant undesirable impacts (if any) from these efforts are kept in consideration.

One way Arkema has done so is through our flagship Rilsan® Polyamide 11 polymer. Following the LCA approach, we ensure this material is sustainable throughout – from how the raw materials are grown or procured to the creation of the final product.

[1] Google Cloud (28 April 2022): New research shows consumers more interested in brands' values than ever.

To begin, the Rilsan® Polyamide 11 polymer is made from the castor bean, a renewable crop which does not cause deforestation. As one of the founding members of the Pragati project, we drive sustainable farming through this initiative by educating farmers on good agricultural practices and waste management practices. To date, we have successfully trained more than 6,200 farmers and intend to keep this number growing. The final Rilsan® polymer is created through a process using low carbon energy from a sustainable plant-based raw material (organic agricultural waste). Finally, we get an advanced bio-circular material that is recyclable and can be used in a wide range of applications, opening up new possibilities for businesses to create products that have a lower impact on the environment.

We're also active in our Virtucycle® Recycling Program, matching customers who want to recycle their polymers, with those who wish to purchase partially recycled grades with a more favourable LCA profile. This creates a circular economy that reduces waste and makes it easier for customers across the supply chain to green their products and operations.

Embedding sustainability into product portfolio strategy

In today's intricate global economic landscape, businesses are interwoven in complex supply chains and ecosystems. What one company manufactures today can be an essential component for another tomorrow. This interconnectedness not only highlights the responsibility each business bears in driving sustainability, but also the far-reaching consequences of decisions made in this regard.

At Arkema, we recognise the importance of steering our solutions portfolio towards sustainability. To this end, we launched the Archimedes programme in 2018 – a systematic process that evaluates our solutions portfolio from the perspective of sustainability.

For every solution within our portfolio, we would first identify potential risks, whether stemming from evolving regulatory trends or shifting market demands. If a risk is identified for a solution, we define the best actions such as alternative development or substitution.

Conversely, for solutions that present no risk, we conduct a comprehensive assessment of their impact on the UN's Sustainable Development Goals (SDG). The assessment takes into account, to the fullest extent of our knowledge, the entire value chain – from the sourcing of raw materials to the end of product life including manufacturing processes.

At the end of 2022, 86% of our sales had undergone this rigorous assessment. The outcome of this analysis has led to a real impact on the policies of our business lines, which are encouraged to focus on innovation and sales of virtuous solutions.

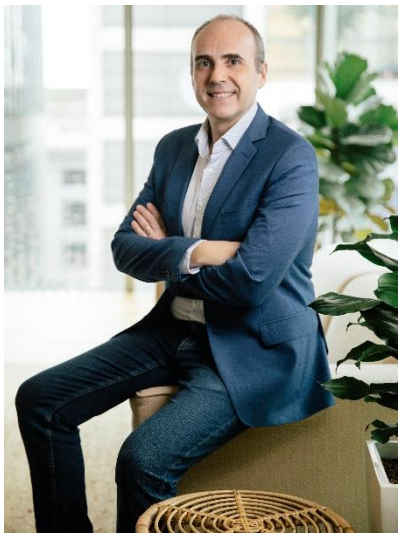
With global temperatures projected to pass the 1.5°C global warming threshold between now and 2027[2], there is no time to waste. The survival of businesses and, more critically, our planet, hinges on much more aggressive, reflective, and holistic sustainability efforts. That's how we have been operating at Arkema and it is how we hope that businesses in our industry and beyond can work towards a successful green transition.

About Arkema

Building on its unique set of expertise in materials science, Arkema offers a portfolio of first-class technologies to address ever-growing demand for new and sustainable materials. With the ambition to become a pure player in Specialty Materials in 2024, the Group is structured into 3 complementary, resilient, and highly innovative segments dedicated to Specialty Materials – Adhesive Solutions, Advanced Materials, and Coating Solutions – accounting for some 91% of Group sales in 2022, and a well-positioned and competitive Intermediates segment. Arkema offers cutting-edge technological solutions to meet the challenges of, among other things, new energies, access to water, recycling, urbanization and mobility, and fosters a permanent dialogue with all its stakeholders. The Group reported sales of around €11.5 billion in 2022 and operates in some 55 countries with 21,100 employees worldwide.

[2] BBC (17 May 2023): Global warming set to break key 1.5C limit for first time

Francisco Codoñer



ScaleUp Bio, a new, Singapore-homegrown precision fermentation solutions provider – a joint venture company of ADM and Temasek's Nurasa – is positioning itself to emerge as a key enabler towards unlocking innovation for global food tech start-ups needing dedicated food-grade precision fermentation laboratory facilities and more.

Francisco Codoñer, CEO of ScaleUp Bio, Singapore, talks to Green In Future and answers questions on the company and its significance today.

Tell us more about precision fermentation.

Fermentation is an ancient process that has been used for centuries to create products from beer and wine to bread. At its core, fermentation is a transformative process that uses micro-organisms like bacteria and yeast to convert sugar sources into new and exciting forms.

Nowadays, we have more control over these processes and can guide micro-organisms to transform sugar sources into more precise end-products, now known as precision fermentation. By targeting the exact transformation we want the organisms to bring about, we are able to produce a whole universe of new alternative proteins, to new meats, flavours, ingredients and even fragrances.

What are the challenges facing the precision fermentation industry, especially those in the start-up space?

Our industry faces three key challenges: funding, facilities, and expertise. While 2021 was a great year for investment, 2022 was less favourable and we see this continuing into 2023. Most companies who want to enter this space are focused on facilitating their ideas without any significant investment in infrastructure, which creates a hurdle already out of the gate.

Access to the right kinds of facilities can also be quite limited, as most cater to the pharma industry. Start-ups really need dedicated food-grade capabilities to test their ideas. Finally, a multi-disciplinary menu of expertise – from business advisory to marketing and financing – is essential to bring a product to market and ultimately reach the consumer's plate.

How can ScaleUp Bio help overcome these challenges?

We are a joint venture of two global giants, ADM and Temasek's wholly owned Nurasa. ADM is a renowned global leader in both agriculture and nutrition and has decided to make a strategic investment in precision fermentation. Nurasa, formerly known as Asia Sustainable Foods Platform, was established by Singapore's own globally respected investment holding company Temasek, as part of a comprehensive strategy to develop new food solutions for its domestic market, as well as for Asia and the broader world. We could not be prouder to have such venerated, blue-chip corporate DNA backing!

ScaleUp Bio's value proposition is very simple: we are your answer to overcoming scale-up challenges, whether they be operational, geographical, technical or even financial.

With the opening of our two, new, food-grade precision fermentation facilities here in Singapore, plus our combination of professional lab and business assistance, Asian market entry, and access to our investor

and business ecosystems, we hope to be in a pole position for food tech start-ups seeking to accelerate their commercial success.

You've mentioned that there'll be two precision fermentation facilities that you're building. Why two?

The facilities will cater to different targets and objectives depending at which stage of development the food tech start-up is in. If they are at a very early stage where they needed to make an optimisation of their strain, process or media, we can support them in what we call the shared lab—this is a joint initiative between A*STAR's Singapore Institute of Food and Biotechnology Innovation (SIFBI) and us — which will be located in Nurasa's Food Tech Innovation Centre (FTIC).

This food-grade facility is operated by Nurasa, and our joint R&D lab with SIFBI is where research and development capabilities are carried out, aiming at selecting the strain, optimising the process and increasing the yield and quality of the product before making a jump to the facility located in Tuas in the west of Singapore. At our R&D facility, in simple terms, we help optimise customer's recipes and ensure they are in compliance with the Singapore Food Agency (SFA).

At our main facility in Tuas, we will have a capacity of 10,000 litres, 100 times more than the fermentation capacity at the R&D facility. Our new Tuas headquarters will have the production lines and the full array of necessary services to allow companies to pilot the products they want to develop and introduce to the market.

Besides your parent companies, what other support do you have?

We have a valuable network of partners. For example, Nurasa's Food Tech Innovation Centre or FTIC, is being operated in partnership with A*STAR's Singapore Institute for Food and Biotechnology Innovation (SIFBI). This ecosystem forms something of the neurological core of newer start-ups within the food industry that can help connect the dots on how we can produce food in an alternative way.

Over time, we see ourselves emerging as a uniting factor between technology, regulatory entities, and experts and ultimately, the consumers.

Much has been said about Singapore's National 2030 Green Plan. How do you see ScaleUp Bio playing a role in this?

Precision fermentation can become a viable method for sustainable food production as the food industry steps up to Singapore's Green Plan 2030. While the government aims to produce 30% of its food requirements internally by 2030, ScaleUp Bio's mission will extend beyond Singapore – we are looking at the entire Asia region.

Setting up our base in Singapore provides a strategic advantage, as its regulatory framework is open to new ways of producing food, more so than any other country in the world. This enables innovative ideas from the food industry to be tried out thoroughly and become a reality.

It looks like you are not only focusing on the Singapore market.

We are looking to help any emerging food start-up companies from anywhere around the world reach their ambitions to go anywhere in the world! We believe we are offering a potentially magic combination to global food tech start-ups by providing two dedicated food-grade precision fermentation facilities and our collective broad industry expertise and business ecosystem.

We want to take process development and manufacturing off their hands, while they focus purely on the R&D of their food innovations and getting them ready for the Asia market.

You've mentioned Asia is where the growth of alternative foods will be. Does

that mean Asian consumers are more receptive of future foods?

While plant-based proteins are gaining acceptance, other alternative protein sources like those derived from precision fermentation should also be considered. It is important to explore different food technologies to create a sustainable and healthy food system that appeals to everyone. Compared to ten years ago, consumers today are more accepting of alternative methods of producing food. Singapore, for instance, already has plant-based meat and animal-free dairy products readily available in the market and as we have seen, these advances are supported and encouraged by Singapore's forward-thinking government and regulatory environment.

What's the major pull in setting up shop in Singapore as compared to other countries?

Singapore has a small land area, and if we want to produce enough food for everyone, we need to get creative. With the 2030 Green Plan and a government that is open to new ideas, Singapore is already ahead of the game. By focusing on local food production, we can even export our delicious creations to other countries while reducing our reliance on imports. Plus, the regulatory framework here is supportive of innovation, so researchers and food tech people can go wild with their ideas.

What are the jobs that will be generated by this industry that can help students from local ITEs, Polytechnics and universities?

Let's not forget that the talent pool in Singapore is limited, but that does not mean we are unable to do something about it. Singapore is a place where innovation drives both job demand and creation.

We can partner up with local universities and research organisations like A*STAR to provide internships and programmes to build up our local talent pipeline. The universities here are always eager to give their students real-world experience, which is a great starting point. This is not a one-man job, and we need people from all backgrounds - biology, engineering, mathematics, IT - to come together and contribute to this exciting new field. We need to be creative to develop talent in this area and build a thriving ecosystem.

What new courses/degrees do you think should be developed in Singapore to meet this talent pipeline?

Fermentation expertise is scarce worldwide, but that is where training comes in. At ScaleUp Bio, we are all about developing our people to create new opportunities in this exciting field. Traditional fermentation courses tend to focus on wine and cheese, but we are talking about a whole new world of possibilities. That is why we need to roll up our sleeves and get our hands dirty, trying new things and learning from our mistakes. And that is exactly what you can do at our facility. Who knows, maybe someday we will even offer our own courses or degrees. But for now, let's focus on making progress through practice.

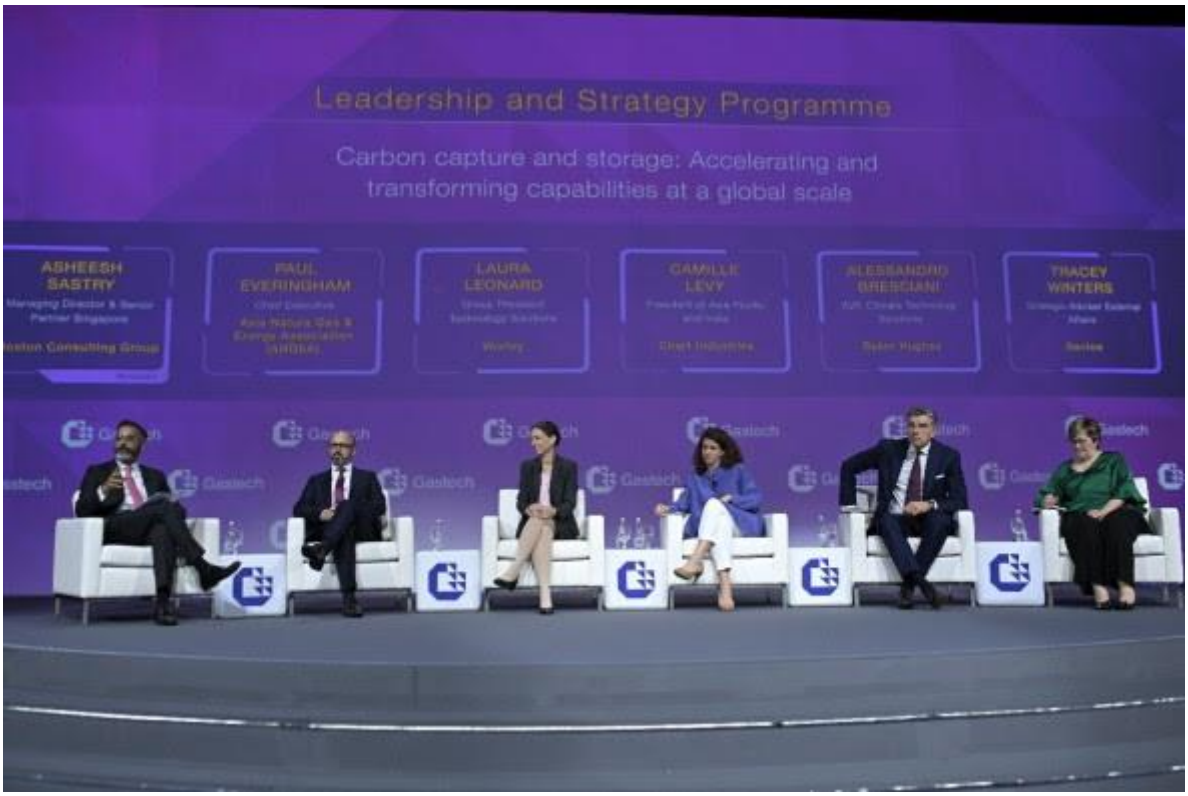
ScaleUp Bio aims to fast-track the introduction of alternative food products in Asia using precision fermentation as the core technology, from concept to market entry. www.scaleupbio.com

Gastech 2023 fostered many new business connections with Climatetech becoming the focus of the event

Gastech 2023, the world's largest meeting place for natural gas, LNG, hydrogen, low-carbon solutions, and climate technologies, took place between 5th-7th September 2023, welcoming record-breaking numbers to Singapore EXPO. The first day featured a range of insightful contributions from policymakers, CEOs, and business leaders on the multiple, interconnected challenges facing the global energy sector. Delegates discussed the critical role of natural gas, LNG, and hydrogen as key enablers of future energy security and accelerators of the energy transition, in Asia and beyond.

The Strategic Conference began with a high-level discussion between international energy ministers on how natural gas and LNG will enable the global energy industry to meet near-term demand for low-carbon energy. Speaking at the Gastech 2023 Ministerial Session, Hon. Joseph McMonigle, the Secretary General of the International Energy Forum (IEF) emphasised the need for inclusive dialogue on decarbonisation ahead of the COP28 Summit: "*What we have learned is that this linear approach to net zero is an outdated approach that is not workable in many areas around the world. We need everyone at the table, and I hope that at this COP, we will focus on progress and not perfection. There are so many things we can do to make progress on climate change, and natural gas is going to help the world to decarbonise.*"

A CEO panel was attended by industry heads from JERA Co., Inc, Baker Hugues, Woodside Energy, ADNOC, Mitsubishi Corporation and Pavilion Energy, focused on transforming global energy through collaborative business models and constructive partnerships. Another high-level session saw business leaders from ExxonMobil, Eni, Chevron, Shell, and Vitol delve into the dynamic global LNG market, as a resilient industry with the potential to meet the demands of the future energy system.



The last day began with a set of in-depth discussions on carbon capture and storage and its potential to accelerate and transform capabilities at a global scale. Throughout the panel, speakers discussed the scale of momentum behind the technology, and the impact that a more favourable regulatory environment would have on the development of the technology.

Speaking on the panel, Paul Everingham, Chief Executive Officer Asia Natural Gas & Energy Association (ANGEA), said: "*There will not be an orderly transition in Asia without natural gas and carbon capture. The big challenge, especially for heavy emitting North Asian heavy countries, is storage. We are going to invest significant funds in doing a detailed study on a framework for the Asia-Pacific region that looks at carbon capture, carbon storage, carbon transport, and carbon pricing. Using that, we can give certainty to financiers and engineers to implement the scheme*."

Climatetech was also the focus of a major Global Business Panel later in the morning between innovators and investors, encouraging the development, deployment and diffusion of critically important solutions to tackle the critical issue of emissions reduction. Concerns were raised around how one third of methane emissions comes from the energy sector. Yet, methane, which is just one piece of the puzzle, is considered more than 25 times as potent at trapping heat in the atmosphere compared with CO2. Across the panel, it was recognised that the successful adoption of emissions abatement solutions will require supportive policy frameworks and cross-industry collaboration to enable Climatetech breakthroughs.

During an official signing ceremony, the Global Centre for Maritime Decarbonisation (GCMD) and the Society for Gas as a Marine Fuel (SGMF) signed a two-year Coalition Partnership agreement towards developing global guidelines on the use of ammonia as a marine fuel. Further, Allied Green Ammonia Pty. Ltd. Australia and Tecnicas Reunidas signed a Project Development agreement to develop a landmark 100% green ammonia plant in Australia.

The Gastech 2024 Handover Ceremony took place, where the location for next year's conference was announced as Houston, in Texas, USA. Simon Ford, Vice President Gastech, dmg events, commented: "*We are hugely excited to look ahead to next year, to another continent. I am delighted to officially announce that the next host city for Gastech 2024 will be Houston, Texas. We couldn't think of a better location to be taking Gastech, to the energy capital of the world*."

Other panels on Gastech 2023's third day included spotlight sessions on decarbonising shipping and increasing LNG supply resilience. The event, which has 40,000 registered visitors, featured a line-up of more than 600 speakers during the four-day show, including Rt. Hon. Boris Johnson, former Prime Minister of the UK, H.E. Dr Tan See Leng, Singapore's Minister for Manpower and Second Minister for Trade and Industry, and H.E. Tarek El Molla, Egypt's Minister of Petroleum and Mineral Resources.

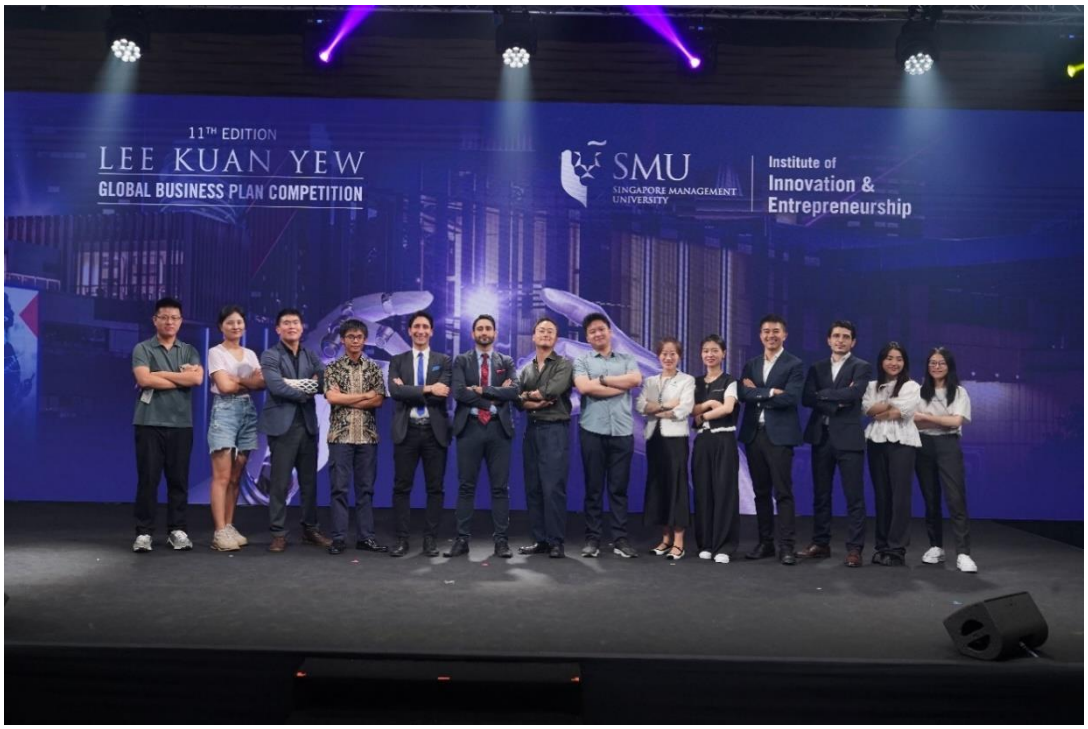
About Gastech

Gastech, which takes place annually, is the world's largest natural gas, LNG, hydrogen, low carbon solutions and climate technologies event, attracting upwards of 40,000 international attendees, and providing heads of state, government officials, ministers and global business leaders, disruptors, innovators, and students with a platform to engage in conversation.

SMU hosted the 11th Lee Kuan Yew Global Business Plan Competition, one of Asia's largest university-led start-up challenges

Organised by the Singapore Management University Institute of Innovation and Entrepreneurship (SMU IIE) from 11th-15th September 2023, the Lee Kuan Yew Global Business Plan Competition (LKYGBPC) is one of Asia's largest university-led start-up challenges. A total of 53 university start-ups, including 10 from Singapore, gathered at SMU to compete for S$2.5 million worth of prizes over the week. With the theme 'Innovations Beyond Boundaries - Reimagining a Smart, Sustainable & Resilient Future' and focusing on five key areas: Urban Solutions and Sustainability; Manufacturing, Trade & Connectivity; Human Health & Potential; Smart Nation & Digital Economy; and Media & Entertainment, the biennial LKYGBPC saw over 1,000 entries, from 1,100 universities from 77 countries, including Argentina, China, Germany, the United States, Ukraine, Japan and Indonesia.

In its 11th edition this year, LKYGBPC has evolved into a platform that attracts disruptive and transformative youth-driven innovations with the potential to shape industries, address complex urban challenges, and generate positive societal impact on a significant scale.



MEDEA Biopharma from Technical University of Munich (Germany) and PlasticFri from Karlsruhe Institute of Technology (Germany) were declared Grand Final winners of the 11th LKYGBPC. MEDEA Biopharma won the Lee Kuan Yew BETA Prize while PlasticFri clinched the Lee Kuan Yew INFINITY Prize. The BETA category covers pre-revenue start-ups while the INFINITY covers revenue-generating start-ups in the early- to Series A-stages.

MEDEA Biopharma is a start-up developing a new generation of sustainable and eco-friendly antibacterial solutions as alternatives to chemical and harmful antibiotics, copper and pesticides, to effectively combat harmful bacteria in humans, animals and plants. Founded by Rudiger Trojok, Dr.

Elene Kakabadze, Giorgi Khubua and Alexander Shripnik, the firm entered the competition in the 'Urban Solutions and Sustainability' Category.

PlasticFri is a greentech company with a breakthrough technology that turns agricultural waste into eco-friendly products, such as cups, straws, packaging to replace plastics. To date, the company has sold more than 10 million products, saved more than 52,000 litres of water and eliminated 5,000 kg of plastic waste. The start-up was named "Impact company of the year in Nordics and Baltics" and awarded as the "World's Most Innovative Sustainability Startup" among 1,400 companies worldwide. Founded by Dr. Allen Mohammadi and Max Mohammadi, the firm entered the competition in the 'Urban Solutions and Sustainability' Category.

Protégé Ventures:
Protégé Ventures (PV), a student-run venture fund programme set up by the Singapore Management University Institute of Innovation & Entrepreneurship (SMU IIE), has launched the Marina & David Su Protégé Ventures Fund II. This $500,000 sector-agnostic fund marks a milestone in fostering innovation and entrepreneurship in tertiary institutions in Singapore, and will permit more investment in early-stage technology start-ups founded by students or recent graduates of Singapore's polytechnics and universities which are seeking their pre-seed to seed funding.This fund is made possible by the generosity of Mr David Su, founding managing partner of Matrix Partners China and a member of the SMU Enterprise Board.

Launch of book featuring Inspiring Stories of the 10th LKYGBPC Finalists
The success of the 10th LKYGBPC held in 2021 spurred three faculty members from SMU's Lee Kong Chian School of Business —Chiraphol N Chiyachantana, David K. Ding and Tamas Makany — to write a practitioner's book in collaboration with SMU IIE. The book captures the inspiring founder stories of nine finalists as well as their entrepreneurial business models. Titled '*Pioneering A Smart, Sustainable, and Resilient Future: Founder Stories and Business Models*', the book offers new business strategies for the digital age, shares real-life case studies from innovative digital start-ups, and outlines applicable technologies for sustainable urban innovations.

Fireside Chat with DPM Heng Swee Keat and Mr. David Su
The opening ceremony was followed by a dialogue featuring DPM Heng and Mr Su. Moderated by Professor Lim Sun Sun, SMU's Vice President of Partnerships and Engagement, the session delved into the shaping of the next wave of the Southeast Asian tech start-up ecosystem in the post-COVID decade.

About LKYGBPC
Organised by Singapore Management University's Institute of Innovation and Entrepreneurship, the Lee Kuan Yew Global Business Plan Competition (LKYGBPC) is a biennial university-led start-up challenge. One of the largest of such competitions in Asia, it derives its name from Singapore's founding Prime Minister Lee Kuan Yew, who developed the country's defining business plan that propelled Singapore onto the global stage. It is this spirit of entrepreneurship, innovation and ambition that the competition enshrines. LKYGBPC invites the brightest minds from the world's most entrepreneurial universities to come together to address the challenges of the 21st century and reimagine the future.

The 11th edition of LKYGBPC had over 3,600 participants from over 1,000 universities across 77 countries. The 53 finalist teams were selected based on their innovativeness, commercial feasibility, the impact of their ideas, and the capability to execute.

Bentley Systems Announces Winners of the 2023 *Going Digital Awards in Infrastructure*

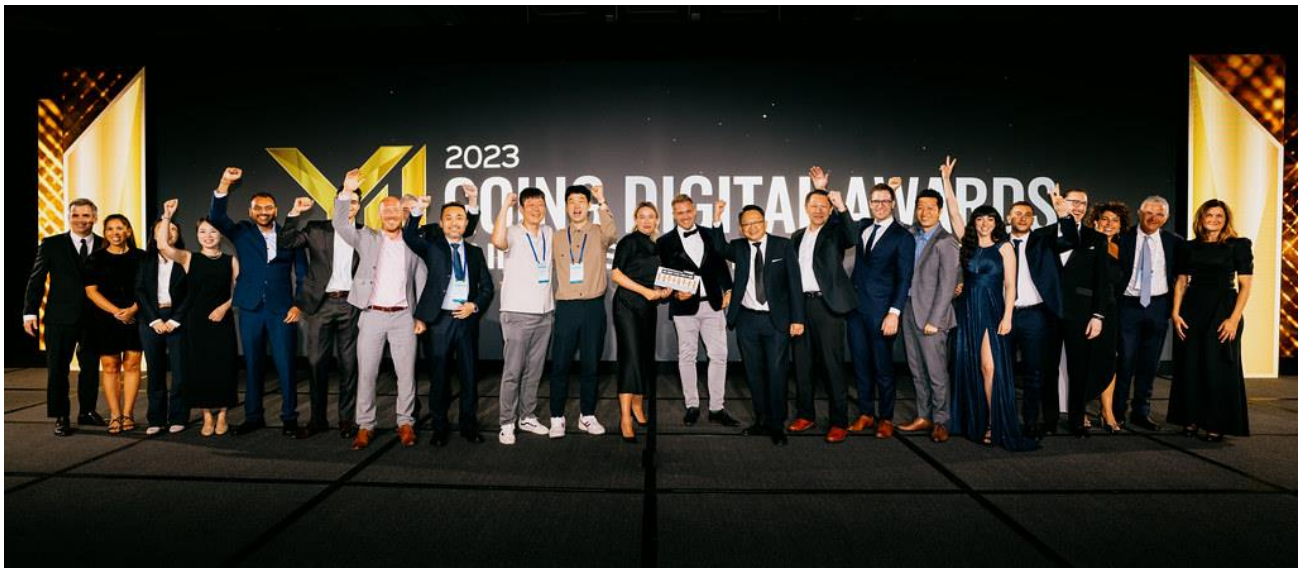
Winners Announced at the 2023 Year in Infrastructure *and* Going Digital Awards *Event in Singapore*

Bentley Systems, Incorporated (Nasdaq: BSY), the *infrastructure engineering software* company, announced on Oct 12th, 2023, the winners of the 2023 *Going Digital Awards in Infrastructure*. The annual awards program honors the extraordinary work of Bentley software users advancing infrastructure design, construction, and operations throughout the world.

Finalists presented their projects at the 2023 *Year in Infrastructure* and *Going Digital Awards* event in Singapore over two days – the 11th and 12th of October 2023, before global press and 12 independent jury panels. The jurors determined the winners of the 12 award categories from 36 finalists that were shortlisted from over 300 nominations submitted by 235 organizations from 51 countries.

At the annual conference, Bentley Systems, described 2023 as a "groundbreaking year" for infrastructure intelligence. Citing users' projects, CEO Greg Bentley highlighted how infrastructure organizations are overcoming the engineering resource capacity gap through infrastructure intelligence strategies. When asked to quantify the engineering hours saved through digital advancements, the *Going Digital* Awards finalists reported significant median savings of 18%.

Engineering data serves as the foundation and digital twins as the building blocks of infrastructure intelligence. As an indication that digital twins are becoming mainstream, the proportion of *Going Digital* Awards finalists crediting iTwin has risen to 64% in 2023.Greg Bentley highlighted multiple infrastructure intelligence strategies that organizations are using to further compound the value of their data, including reusing digital components, integrating subsurface modeling, and incorporating, into evergreen digital twins, operational data from IoT sensors, drones, and even crowdsourcing. He also explained how *Going Digital* Awards finalists and organizations in Singapore are accelerating their infrastructure intelligence through the use of AI.



The winners of the 2023 *Going Digital Awards in Infrastructure* are:

Bridges and Tunnels
WSP Australia Pty Ltd.
Southern Program Alliance
Melbourne, Victoria, Australia

Construction
Laing O'Rourke
SEPA Surrey Hills Level Crossing Removal Project
Melbourne, Victoria, Australia

Enterprise Engineering
Mott MacDonald
Standardising Delivery of Phosphorus Removal Schemes for the UK Water Industry
United Kingdom

Facilities, Campuses, and Cities
vrame Consult GmbH
Siemensstadt Square - Digital Campus Twin in Berlin
Berlin, Germany

Process and Power Generation
Shenyang Aluminum & Magnesium Engineering & Research Institute Co., Ltd. (SAMI)
Digital Twin Application Project of Electrolytic Aluminum Engineering of Chinalco China Resources
Lvliang, Shanxi, China

Rail and Transit
AECOM Perunding Sdn Bhd
Johor Bahru–Singapore Rapid Transit System
Malaysia and Singapore

Roads and Highways
I-70 Floyd Hill to Veterans Memorial Tunnels Project
AtkinsRéalis
Idaho Springs, Colorado, United States

Structural Engineering
Hyundai Engineering
Automated Design of Civil and Architectural Structures with STAAD API
Seoul, South Korea

Subsurface Modeling and Analysis
Arcadis
South Dock Bridge
London, England, United Kingdom

Surveying and Monitoring
Italferr S.p.A.
The Digital Twin for Structural Monitoring of St. Peter's Basilica
Vatican City

Transmission and Distribution
POWERCHINA Hubei Electric Engineering Co., Ltd.
Full Lifecycle Digital Application on Xianning Chibi 500kV Substation Project
Xianning, Hubei, China

Water and Wastewater
Project Controls Cubed LLC
EchoWater Project
Sacramento, California, United States

About Bentley Systems
Bentley Systems (Nasdaq: BSY) is the *infrastructure engineering software* company. We provide innovative software to advance the world's infrastructure – sustaining both the global economy and environment. Our industry-leading software solutions are used by professionals, and organizations of every size, for the design, construction, and operations of roads and bridges, rail and transit, water and wastewater, public works and utilities, buildings and campuses, mining, and industrial facilities. Our offerings, powered by the *iTwin* Platform for infrastructure digital twins, include *MicroStation* and *Bentley Open* applications for modeling and simulation, *Seequent*'s software for geoprofessionals, and *Bentley Infrastructure Cloud* encompassing *ProjectWise* for project delivery, *SYNCHRO* for construction management, and *AssetWise* for asset operations. Bentley Systems' 5,000 colleagues generate annual revenues of more than $1 billion in 194 countries.

Barrat London launches new homes to the Asian market to meet increasing demand

Barrat London's latest developments provide Asian investors with unique investment opportunities

Following an increasing demand see for UK investment opportunities, the UK's leading property developer, Barrat London, will be launching new homes to the Asian market in the fourth quarter of 2023. Eash of the developments offer unique investment criteria, from proximity to top quality education to transport links or even future-proofing with energy efficiency ratings.

Launched in Asia in October, Barratt London's new Sterling Place development in New Malden will bring 456 one-, two- and three-bedroom apartments to the area, with phase one offering panoramic views over South-West London and towards the city. With Wimbledon and its famous All England Tennis Club nearby local high streets offering world-class dining and outdoor activities, and the capital just a 23-minute train away, new research from JLL shows New Malden is an area in high demand.

Replacing a derelict former print works who pioneered polymer banknotes and created postage stamps and currency for numerous countries around the world, nods to the original site's history have been incorporated throughout the design. Striking brickwork, landscaping, pitched roofs and crittall-style windows have been inspired by the muted green tones and patterns printed on banknotes in the early 1900s, while the new residential village has also been designed with the environment in mind. The addition of podium gardens, play area and additional tree and shrub planting will bring biodiversity net gain to the area; each energy efficient home is predicted an EPC rating of a B or above and there are 44 electric charging points, as well as over 900 cycle storage spaces.

A key attraction for Asian investors is the proximity to top quality education – South0west London is considered one of the most sought-after areas for parents and parent-to-be. Merton is home to over 85 schools and the Borough is in the top 10 in London for Ofsted rated 'Outstanding' schools.

A second new and exciting collection of homes just launched earlier in September is The Skyline Collection at Bermondsey Heights, 42 one-, two- and three-bedroom apartments that occupy the top six floors at this 26-storey 163-storey development, all boasting panoramic views over the London cityscape with a private balcony or winter garden. These exclusive homes will also offer an

enhanced specification, including individually German-designed kitchens with silestone worktops and contemporary bathrooms, with beautifully tiled walls and floors.

Bermondsey Heights is an exciting new development just moments away from London Bridge, which offers city living in an area of London that represents an excellent investment opportunity – zone 2 living at a zone 3 price tag. All new homes in the development will benefit from energy saving and sustainability measures, such as efficient kitchen appliances and water taps, low energy lighting, highly insulated building fabric, a carbon efficient centralised heating system, green and blue roofs, solar panels, and air source heat pumps, which provide 70% of the development's energy.

Ambitious regeneration plans for the wider area include a 30-acre development project seeking to create up to 3,500 homes, 13 new public spaces, a thriving business district with office space, workshops, cafes and restaurants, a creative and digital hub and local retail, as well as a state-of-the-art sports complex an arena.

Gary Ennis, Regional Managing Director of Barrat Developments (London and Southern) states: 'Dynamic, good-value and brilliantly connected areas in and beyond London are increasingly resonating with in-the-know investors across Asia. We have seen considerable early interest in our new apartment launches. Our biggest overseas market for the last year came from Asia particularly from buyers in Hong Kong and Singapore."

About Barratt London:
Barratt London is a market-leading residential developer, with over 40 years' experience in the Capital, delivering up to 2,000 units each year. It is committed to providing an unbeatable customer experience and developing exceptional homes for all Londoners.

About One Global Group:
An award-winning boutique real estate agency, One Global offers an end-to-end service, making property transactions in the UK, Singapore, and other vibrant international markets simple. They are a member of the Leading Real Estate Companies of the World® (LeadingRE), a by-invite-only network platform, and achieved its '2020 Rising Star Award' that vets members based on performance, expertise & quality experience.

GCNS Summit 2023 focus on raising the Sustainability Ambition Bar

The 15th United Nations Global Compact Network Singapore (GCNS) Summit 2023 will be held on 2nd November 2023 at the Orchard Hotel in Singapore. Themed "The Decade to Deliver: Raising the Bar on Sustainability Ambition", the event will host Deputy Prime Minister Heng Swee Keat as the Guest of Honour, alongside numerous distinguished industry leaders and sustainability experts.

Key topics that will be addressed are:

- Decarbonisation in Uncertain Times: Challenges and Opportunities
- Transition pathways and their critical contribution to delivering the net zero ambition
- Future-Proofing Sustainability: Business Transformation for Resilience
- Empowering SMEs: Shaping the Future of Sustainability
- Catalysing SDG Ambition: Sustainable Impact Investments by Family Offices in Singapore

AI for Environmental Sustainability: Opportunities, Challenges, and Collaborative Solutions

Green in Future is proud to be announced as an Outreach Partners for the event.

Tickets available here: https://gcns.register.acad360.com/gcns-summit-2023

For more information about the agenda: **https://summit.unglobalcompact.sg/summit-2023/**

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Day & Date
Wednesday, 15 November 2023 – Friday, 17 November 2023

Time
15 – 16 November | 10 am to 6 pm
17 November | 10 am to 5 pm

Venue
Halls B & C, Level 1
Sands Expo & Convention Centre,
Marina Bay Sands, Singapore
10 Bayfront Ave, Singapore 018971

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