

ENTERPRISE sparks

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DEPUTY PRESIDENT'S Message

Dear readers,

Over the past few months, our teams have been actively expanding and strengthening the NUS Innovation & Enterprise ecosystem throughout Asia as we approached the end of 2024. We recently expanded our global presence with the launch of BLOCK71 Nagoya, our first incubation node in Japan, which adds to BLOCK71's growing network of innovation hubs worldwide.

Our teams also headed to China for InnovFest Suzhou 2024, an event organised by NUS (Suzhou) Research Institute (NUSRI Suzhou) and supported by NUS Enterprise. This year's two-day event attracted start-ups from around the globe, showcasing transformative innovations in AI, sustainability, and other cutting-edge technologies. With a diverse array of participants, InnovFest Suzhou serves as a vital platform for fostering international collaboration and highlighting groundbreaking advancements in various fields. 40 per cent of the startups featured at InnovFest Suzhou 2024 are led by female founders.

I am particularly pleased to see this positive trend reflected in our highlighted start-ups and student team in this issue. Among them are female founders Nuraizah Shamsul Baharin and Ainaa Rosli, who have established **MADCash** and **Tech Up Advance**, respectively.

Both start-ups are currently incubating at our **BLOCK71 Social Impact Hub**. MADCash is a growing fintech start-up dedicated to empowering women entrepreneurs by providing them with essential resources to achieve greater financial security. By offering zero-interest micro funds and business support, MADCash is paving the way for unbanked and underbanked women to thrive in their ventures. Meanwhile, Tech Up Advance is revolutionising robotics education through gamified simulation learning modules, making STEM subjects more engaging and accessible for all students.

This issue also features the local track winner of the **FoodTech Challenge 2024**, an all-women student team who created Goldies, innovative energy balls that aim to boost brain and gut health. Their commitment to creating nutritious solutions demonstrates the entrepreneurial spirit and creativity of young women in the food technology sector.

To grow our vibrant ecosystem and encourage collaborations nationwide in the coming years, we are pleased to launch the **National Graduate Research Innovation Programme (National GRIP)** together with the National Research Foundation, and Nanyang Technological University, Singapore. Set to launch in January this year, National GRIP is backed by a commitment of S\$50 million in financial and in-kind support over five years, and aims to train up to 300 deep-tech start-ups by 2028 and foster over 150 spin-offs by 2030.

Last October, over 30 NUS start-ups showcased their innovations at the NUS Enterprise booth during the Singapore Week of Innovation & Technology (SWITCH) 2024, connecting with investors, industry partners and international delegates in key areas such as health & biomedical, energy and green technology, manufacturing, and digital technologies. In parallel, NUS Enterprise's Technology Transfer & Innovation (TTI) team presented a diverse array of technologies at TechInnovation 2024, featuring inventions from 10 research teams and NUS spin-offs, while engaging public and private sector stakeholders on go-to-market opportunities.

As we embark on this promising new year, we are filled with excitement and renewed energy for the journey ahead. NUS Enterprise is eager to share more developments in the coming months, and we encourage everyone to reflect on what they hope to achieve this year.

What will your next steps be in 2025?



Prof Chen Tsuhan

Deputy President
(Innovation and Enterprise)

New National GRIP to foster start-ups from Singapore's autonomous universities and research institutes



Deputy Prime Minister Heng Swee Keat speaking at the Research, Innovation and Enterprise Deep Tech Day, on the second day of the Singapore Week of Innovation & Technology on Oct 29. Photo: National Research Foundation, Singapore.

The launch of the National Graduate Research Innovation Programme (National GRIP) is a significant advancement for Singapore's deep tech ecosystem. Set to launch in January 2025, National GRIP aims to train up to 300 start-up teams by 2028 and foster over 150 spin-offs by 2030, backed by a commitment of S\$50 million in financial and in-kind support over five years.

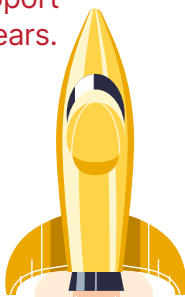
This collaborative effort between the National Research Foundation (NRF), NUS and the Nanyang Technological University (NTU Singapore) was announced by Deputy Prime Minister and Chairman of NRF, Mr Heng Swee Keat at the Research, Innovation and Enterprise Deep Tech Day, on the second day of the Singapore Week of Innovation & Technology (SWITCH) on 29 October 2024.

National GRIP integrates two successful incubator programmes—NUS Graduate Research Innovation Programme 2.0 (NUS GRIP 2.0) and NTU's Lean LaunchPad (LLP 2.0). Together, both programmes have successfully incubated over 400 start-up teams, creating close to 160 spin-offs.

The new programme will be a comprehensive incubator programme designed to bridge the gap between scientific research and market application. It will support start-up teams by helping them refine their initial ideas, validate market needs, and design robust business models through a structured programme framework. Participants will also benefit from personalised mentorship from industry leaders and access to a network of experts.

Associate Professor Benjamin Tee, Vice President (Ecosystem Building) at NUS Enterprise said,

“ We are pleased to partner with NTU in launching the National GRIP initiative with the support of NRF. This initiative integrates the two leading programmes to further mature our deep tech start-up ecosystem in Singapore, equipping teams with essential building blocks from idea validation to market readiness by integrating the best practices and insights from our individual programmes, we are confident that National GRIP will accelerate growth of globally competitive deep tech start-ups by providing a well-structured end-to-end support that closely aligns with our nation's RIE strategic plans.



ACCELERATING START-UPS' GROWTH AND SUCCESS

Designed for founders, innovators, and researchers from Singapore's autonomous universities (AUs) and ASTAR Research Institutes (RIs), the 12-month programme offers access to a dynamic network of resources. They can leverage intellectual property from AUs, and ASTAR RIs have the opportunity to join existing teams in NUS GRIP 2.0 and LLP 2.0.

As a platform that aggregates a critical mass of deep tech start-ups, teams can be effectively matched with suitable investors and vice versa. National GRIP will deepen partnerships with deep tech venture capitalists (VCs) and venture builders, such as current NUS GRIP 2.0 strategic partners, Legend Capital, SOSV Investments LLC and Vertex Holdings, by involving them early in the programme to provide stronger commercial insights to the teams. These partners help to support start-ups by increasing their investment readiness and access to specialised markets and deepening their industry expertise.

Additionally, there are plans to leverage the VCs' networks to attract experienced founders who can team up with the start-up teams as co-founders, advisors or collaborators to



accelerate the start-ups' growth. To help start-ups scale and expand internationally, National GRIP will also act as a springboard for start-ups to go beyond local connections, leveraging the global network of NUS Enterprise's BLOCK71.

Dr Wen Hsieh, Founding Managing Partner, Matter Venture Partners, another strategic partner of NUS GRIP 2.0, said, "National GRIP is very timely in its launch. Deep tech innovations are playing critical roles in the rapid advancement of semiconductors, electronics, robotics, AI, manufacturing, energy infrastructure, space tech, and life sciences. National GRIP streamlines the creation of deep tech start-ups in Singapore, enabling them to hone their business plans, build founding teams, raise seed financing, and formulate collaboration strategies with industry players."

"National GRIP offers venture capital firms opportunities to partner and support these start-ups, thus not only enhancing the success rate of local deep tech start-ups but also attracting deep tech entrepreneurs and talent from beyond Singapore. It's a privilege for my firm and I to be closely associated with the GRIP community," he added.



MANY ASPIRING START-UPS AND FOUNDERS AMONG NUS GRIP 2.0 ALUMNI

NUS GRIP 2.0 has supported researchers and entrepreneurs in transforming university research into market-ready innovations. Since its inception in 2018, NUS GRIP 2.0 has nurtured nearly 170 start-up teams, with around 100 successfully evolving into spin-offs, collectively raising almost S\$65 million in external funding.

Among the start-ups is Kit Yong, Founder of Forte Biotech and former NUS GRIP 2.0 participant, who was also recognised in the 2024

Forbes 30 Under 30 Asia list. Sharing his perspectives on the programme's potential, Kit said that the combined cachet of National GRIP, alongside the 'Made in Singapore' brand, lends significant weight and visibility to start-ups, especially when expanding their venture in overseas markets. He added that it is easier to make an impact together when Singaporean brands band together and venture overseas.

When asked what advice he would offer aspiring start-ups, Kit highlighted the importance of achieving product-market fit. "Developing technology just for the sake of it isn't sufficient. It's crucial to align with market demands and ensure the product has a meaningful purpose."

As National GRIP gears up for its launch next year, Singapore's start-up ecosystem is set for further growth, advancing the nation's role as a leader in deep tech innovation and entrepreneurship.



Apply for National GRIP now

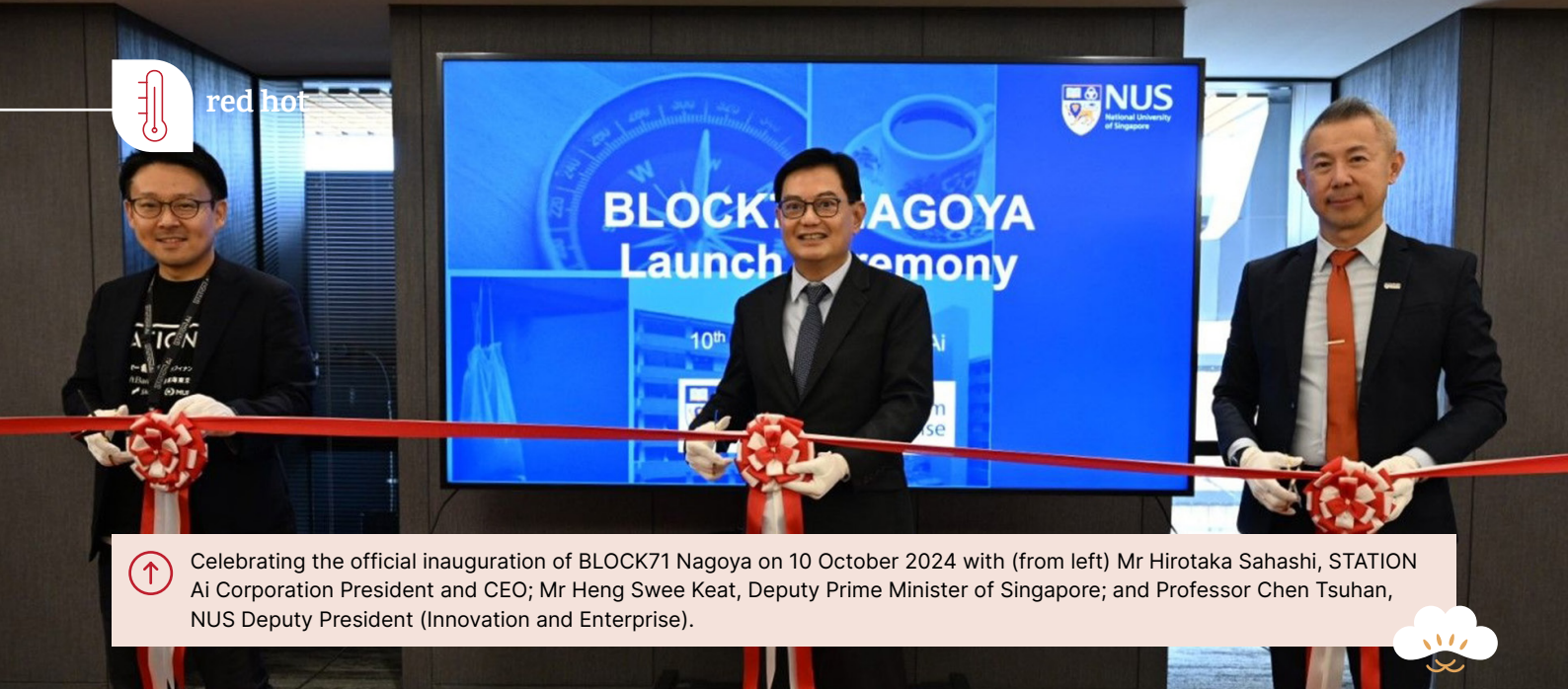
<https://grip.sg>



Co-founders of Forte Biotech, Kit Yong (left) with Michael Nguyen (right).



red hot



Celebrating the official inauguration of BLOCK71 Nagoya on 10 October 2024 with (from left) Mr Hirotaka Sahashi, STATION Ai Corporation President and CEO; Mr Heng Swee Keat, Deputy Prime Minister of Singapore; and Professor Chen Tsuhan, NUS Deputy President (Innovation and Enterprise).



BLOCK71 NAGOYA

A new gateway for Southeast Asian start-ups in Japan



NUS Enterprise has expanded its global presence with the launch of BLOCK71 Nagoya. Officially inaugurated on 10 October 2024 by Mr Heng Swee Keat, Deputy Prime Minister of Singapore, BLOCK71 Nagoya is the first BLOCK71 location in Japan, adding to a global network that spans Southeast Asia, the United States, and China.

The new office aims to create a technology-focused ecosystem connecting Japan and Southeast Asia, providing Southeast Asian start-ups with the support needed to navigate Japan's cultural and business nuances, and helping Japanese start-ups scale and grow across Southeast Asia.

This milestone strengthens the long-standing partnership NUS has with the Aichi government and the city of Nagoya. The collaboration



Opening ceremony of BLOCK71 Nagoya's operational launch on 1 November 2024, where Professor Tan Eng Chye (second from left), and His Excellency Hideaki Omura, the Governor of Aichi Prefecture (third from left), placed the final LEGO blocks, symbolising the creation of an ecosystem highway between Japan, Singapore and Southeast Asia. Also pictured: Professor Naoshi Sugiyama, Nagoya University President and Mr Hirotaka Sahashi, STATION Ai Corporation President and CEO (far left and far right).

between NUS and Aichi dates back to 2018, with joint efforts focusing on driving cross-border innovation and entrepreneurship. Key initiatives include the NUS Summer Programme in Entrepreneurship, Asia's largest university start-up showcase, InnovFest, and the NUS Enterprise Market Immersion Programme in Japan, which was launched in 2023. The opening of BLOCK71 Nagoya is the latest chapter in this collaboration and reflects a shared commitment to nurturing vibrant start-up ecosystems in both countries.



Following its official inauguration, BLOCK71 Nagoya opened its doors to start-ups on 1 November 2024, providing a dedicated space for entrepreneurs to collaborate, innovate, and access essential resources. The operational opening of the centre was graced by His Excellency Hideaki Omura, the Governor of Aichi Prefecture, who was joined by Professor Tan Eng Chye, NUS President; Associate Professor Benjamin Tee, Vice President (Ecosystem Building), NUS Enterprise; Professor Naoshi Sugiyama, Nagoya University





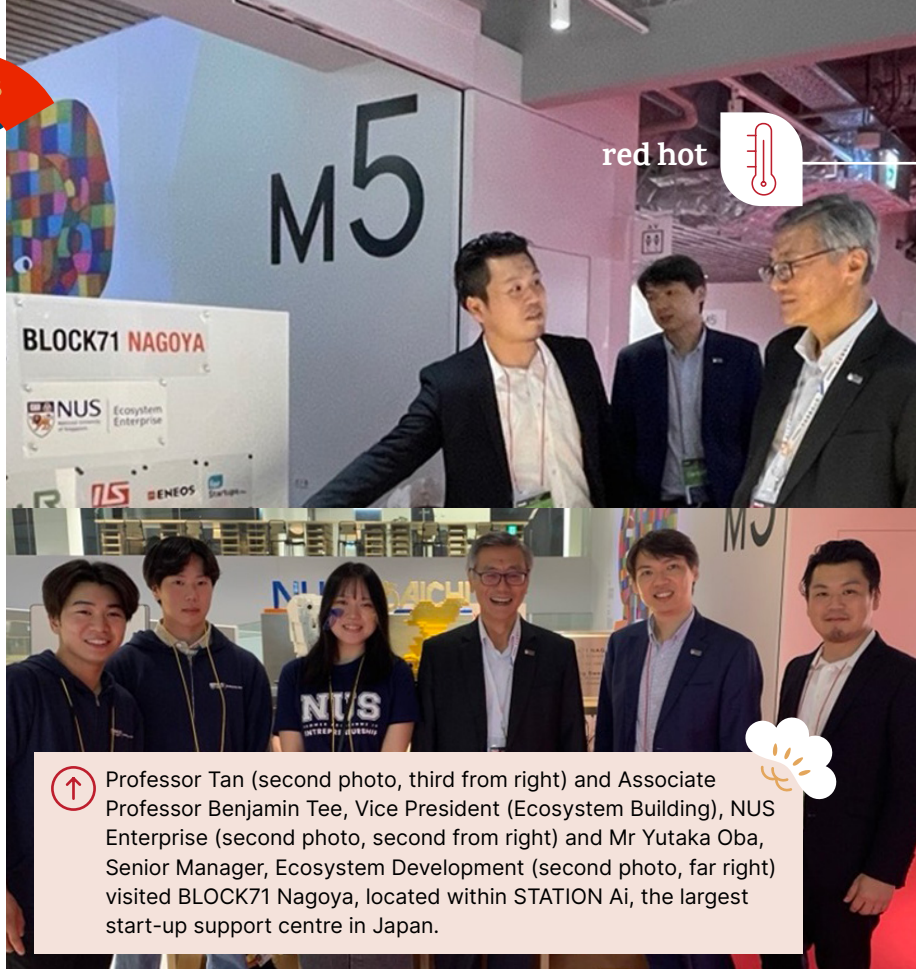
President; and Mr Hirotaka Sahashi, STATION Ai Corporation President and CEO.

Unlike other BLOCK71 global offices that focus on incubation, BLOCK71 in Japan prioritises market launch activities due to the country's mature start-up landscape. BLOCK71 Nagoya and other future Japanese offices will support start-ups in developing Proof of Concept (PoC), securing funding, establishing partnerships, and integrating into the BLOCK71 global network. Beyond providing physical workspaces within partners' co-working facilities, BLOCK71 in Japan will deploy dedicated staff across key cities to identify growth opportunities and help start-ups capitalise on Japan's multifaceted market environment.

“Japan’s business environment is renowned for its rich traditions, strong emphasis on relationships and high standards. Through BLOCK71 in Japan, we aim to empower Southeast Asian entrepreneurs to navigate this unique market, while simultaneously supporting Japanese start-ups in exploring opportunities in Southeast Asia. Located within STATION Ai, the largest start-up support centre in Japan, BLOCK71 Nagoya is well-positioned to cultivate a global ecosystem that fosters cross-border innovation. Our focus is on providing comprehensive business support, facilitating meaningful partnerships, and developing strategic roadmaps for growth that will benefit all involved,

– PROFESSOR TAN

Professor Chen Tsuhan, NUS Deputy President (Innovation and Enterprise), highlighted the valuable resources available at BLOCK71 Nagoya. “By leveraging BLOCK71’s extensive global network and over a decade of experience in catalysing start-up communities, start-ups in Nagoya will have access to crucial resources such as technology, talent, markets and funding opportunities between Singapore and Japan. This new hub will not only support local start-ups but also attract international talent to Aichi, contributing to a vibrant, globally connected start-up environment. Additionally, BLOCK71 Nagoya will support start-ups in refining their go-to-market and fundraising strategies, which are essential for successful international expansion.



↑ Professor Tan (second photo, third from right) and Associate Professor Benjamin Tee, Vice President (Ecosystem Building), NUS Enterprise (second photo, second from right) and Mr Yutaka Oba, Senior Manager, Ecosystem Development (second photo, far right) visited BLOCK71 Nagoya, located within STATION Ai, the largest start-up support centre in Japan.

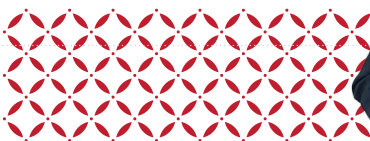
COLLABORATION WITH ENEOS TO ENHANCE INNOVATION

In addition to the launch of BLOCK71 Nagoya, NUS Enterprise has formed a strategic partnership with ENEOS Holdings, Inc. (ENEOS), one of Japan’s largest energy companies, on 31 October 2024. This collaboration aims to enhance venture-building activities for NUS start-ups by exposing them to real-world industry challenges. Together, NUS and ENEOS will work together to identify promising Southeast Asian start-ups and innovative solutions that can tackle critical industry issues relating to mobility, decarbonisation, circular economy, and artificial intelligence.

“Collaborating with NUS Enterprise provides ENEOS with a unique opportunity to harness the dynamic energy of Southeast Asia’s start-up ecosystem,” said Mr Tomohide. “By engaging with innovative start-ups, we can gain fresh insights and co-create solutions that address the pressing challenges in our industry. This partnership will not only enhance our ability to adapt

to market changes but also position us at the forefront of sustainable energy advancements. We are eager to work alongside these visionary entrepreneurs to drive meaningful progress in the energy sector.”

↓ NUS Enterprise has established a strategic partnership with ENEOS through a Memorandum of Understanding (MOU) signed on 31 October 2024 by Professor Tan (left), and Mr Toru Naganuma, General Manager of the Emerging Business Development Department, ENEOS (right).





↑ SLINGSHOT 2024 Top 50 finalists

NUS Enterprise highlights innovation at SWITCH and TechInnovation 2024

CONNECTING START-UPS WITH GLOBAL OPPORTUNITIES

To foster innovation and collaboration, NUS Enterprise participated in the ninth edition of the Singapore Week of Innovation and Technology (SWITCH) held from 28 to 30 October 2024 at the Marina Bay Sands Expo and Convention Centre.

Organised by Enterprise Singapore and supported by the National Research Foundation Singapore, SWITCH is an annual start-up and deep tech festival. This event provides a vital platform for our start-ups to present their innovative solutions and forge connections with partners and investors within the global start-up ecosystem.

<p>FACTOREM</p>	<p>SEADRONIX CORP</p>	<p>QRITIVE</p>	<p>TIDEWISE</p>
<p>Hardik Dobariya Co-Founder, Chief Product Officer</p>	<p>Kyongsoo Noh Chief Operating Officer</p>	<p>Bruno Occhipinti CEO</p>	<p>Rafael Aguirre Head of Product</p>

...are we helping or hindering growth?"

man
llor
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Prof Julia Sutcliffe
Chief Scientific Advisor
Department for Business and
Trade, UK Government

**Prof Trevor
McMillan OBE**
Vice-Chancellor
Keele University

Prof Tsuhan Chen
Deputy President, Innovation
and Enterprise
National University of
Singapore

red hot



↑ Global Perspective Panelists (from left to right): Professor Jane Norman, Interim Vice-Chancellor of the University of Nottingham; Professor Julia Sutcliffe, Chief Scientific Advisor, Department for Business and Trade, UK Government; Professor Trevor McMillan OBE, Vice-Chancellor of Keele University; and Professor Chen Tsuhan, Deputy President, Innovation and Enterprise, NUS Enterprise

SPOTLIGHT ON SLINGSHOT

SLINGSHOT, a key feature of SWITCH, is an international start-up pitch competition that offers a vibrant platform for promising start-ups to present their groundbreaking innovations to a global audience of influential investors and industry partners.

In its eighth edition, this year's SLINGSHOT spotlighted four start-ups from NUS Enterprise, which were selected as top 50 finalists across various cutting-edge domains: Seadronix Corp in Transformative Digital Technologies, Qritive in Health and Biomedical, and both Factorem and TideWise in Manufacturing, Trade, and Connectivity. These start-ups had the chance to pitch live at SWITCH, competing for over S\$1.2 million in grant prizes, emphasising their potential to revolutionise industries and drive impactful change.



↑ Professor Chen Tsuhan (above) shared his perspectives on "how you do need talent and ideas from multiple businesses all coming together to be a successful start-up or entrepreneur."

INSIGHTS FROM INDUSTRY LEADERS

Professor Chen Tsuhan, Deputy President, Innovation and Enterprise, NUS Enterprise was invited by Midlands Innovation UK to join a distinguished panel discussion on the pivotal role of universities in fostering innovation and economic growth across different national systems. The panel featured global experts from universities and government in the UK.

By drawing on diverse perspectives from the UK and Singapore, the panel delved into the vital contribution of universities to the economy and critically examined strategies to optimise conditions for spinout success to enhance their impact on global innovation ecosystems.

DYNAMIC START-UP ENGAGEMENT

Throughout the three-day SWITCH conference, NUS Enterprise's exhibition booth highlighted a wide array of programmes and initiatives from BLOCK71, CyberSG TIG Collaboration Centre, NUS Enterprise@Singapore Science Park, NUS Agritech Centre, NUS Innovation with Societal Impact, The HANGAR, NUS Graduate Research Innovation Programme (GRIP) and PIER71™.

Over 30 NUS affiliated start-ups participated in the event and experienced a steady stream of visitors, attracting attention from potential partners, collaborators, and investors. This vibrant buzz provided invaluable opportunities for these start-ups to showcase their innovative products and technologies, engage in meaningful discussions, and explore potential collaborations.



↑ Tiago Alves (right), CEO of The Librarian demonstrating their AI-powered Personal Assistant

↓ Tina Chopra, CEO (left), Addlly and Ronie Ganguly (second from left), COO, Addlly





↑ The NUS Enterprise team and our NUS affiliated start-ups

DISCOVER, CONNECT AND COLLABORATE AT TECHINNOVATION

NUS Enterprise also participated in TechInnovation 2024, a partner event of SWITCH, organised by Innovation Partner for Impact (IPI) Singapore. This event brought together innovators, industry leaders, and key collaborators to address challenges in sustainability, innovation, and digital challenges, providing a platform to facilitate the transfer of cutting-edge technologies into real-world applications.

At the three-day event, NUS Enterprise's Technology Transfer & Innovation (TTI) team showcased a wide range of technologies at their booth, featuring contributions from 10 research teams and spin-offs. These innovations included future-ready food solutions, a solar-powered portable water purification device, an advanced AI-chip, circular manufacturing processes utilising recycled aluminum, and optimised transport routing for eldercare centres. This diverse portfolio reflects the commitment of NUS to address pressing global challenges through innovative technology.

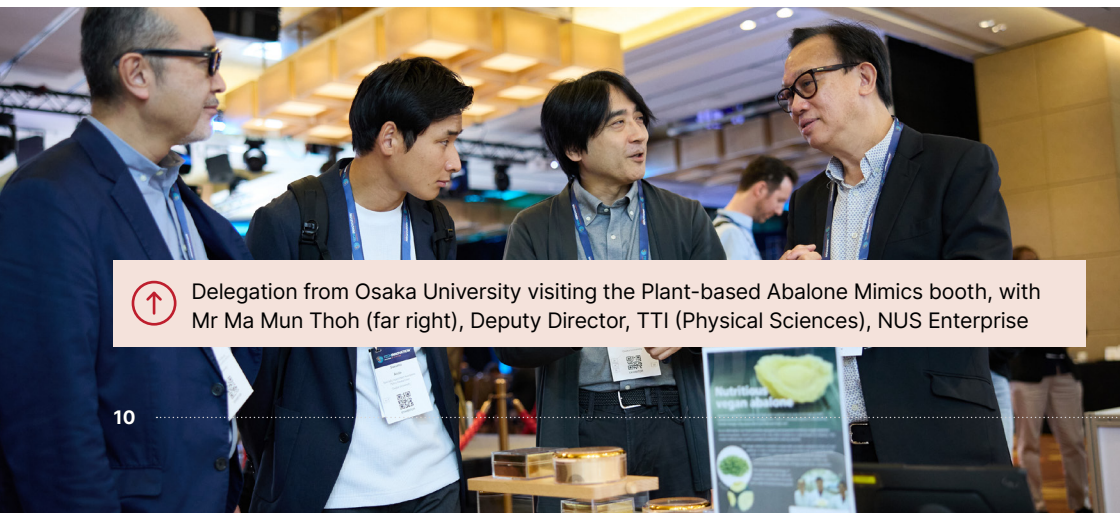
and the US. Since 2011, we have served as launchpads for startups, providing resources, mentorship and collaboration while fostering partnerships with corporations, government and universities.



↑ Ainaa Rosli (left), Co-founder & CEO of Tech Up Advance



↑ (From left to right, Dr Liu Yunjiao, Research Fellow from Food Science & Technology Department, TechInnovation Guest of Honour, Ms Low Yen Ling, Senior Minister of State, Ministry of Culture, Community and Youth & Ministry of Trade and Industry, Mr Sun Shifeng, Postgraduate (MSc) student from Food Science & Technology Department, and Professor Chen Tsuhan, Deputy President, Innovation and Enterprise, NUS Enterprise



↑ Delegation from Osaka University visiting the Plant-based Abalone Mimics booth, with Mr Ma Mun Thoh (far right), Deputy Director, TTI (Physical Sciences), NUS Enterprise



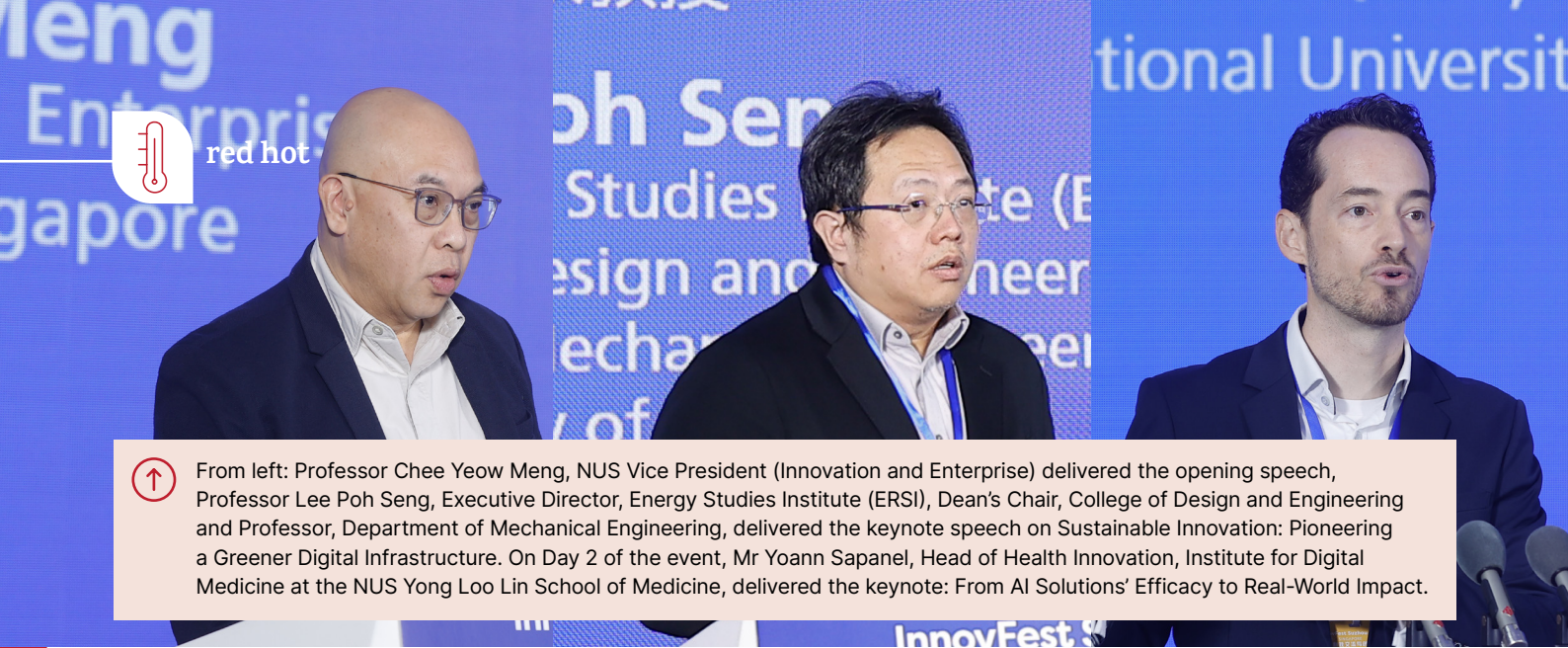
Opening Ceremony of InnovFest Suzhou 2024: From right, Ms Liu Hua, Vice Party Secretary of CPC SIP Working Committee and Vice Chairman of SIP Administrative Committee; Professor Chee Yeow Meng, NUS Vice President (Innovation and Enterprise), Mr Shen Mi, Member of the Standing Committee of CPC Suzhou Committee and Secretary of CPC SIP Working Committee, Prof Xu Guo Qin, Director, NUSRI Suzhou.

InnovFest Suzhou 2024

EMPOWERING
START-UPS
WITH GROWTH
OPPORTUNITIES
IN CHINA

The annual InnovFest Suzhou, organised by NUS (Suzhou) Research Institute (NUSRI Suzhou) and supported by NUS Enterprise, took centre stage this year, serving as a premier platform for fostering cross-border collaborations in innovation.

Bringing together cutting-edge ideas and entrepreneurial energy, the event held at NUSRI-Suzhou from 18 to 19 November 2024, attracted thought leaders, innovators, and start-ups in AI & Digitalisation, and Sustainability.



From left: Professor Chee Yeow Meng, NUS Vice President (Innovation and Enterprise) delivered the opening speech, Professor Lee Poh Seng, Executive Director, Energy Studies Institute (ERSI), Dean's Chair, College of Design and Engineering and Professor, Department of Mechanical Engineering, delivered the keynote speech on Sustainable Innovation: Pioneering a Greener Digital Infrastructure. On Day 2 of the event, Mr Yoann Sapanel, Head of Health Innovation, Institute for Digital Medicine at the NUS Yong Loo Lin School of Medicine, delivered the keynote: From AI Solutions' Efficacy to Real-World Impact.



Centre: Jean Herfina Kwannandar, Co-founder and CEO of Konstruksi AI, LPDP engaging participants at the exhibition showcase.

This year marks the 30th anniversary of the Suzhou Industrial Park (SIP), a pioneering joint venture established in 1994 between Singapore and China. This milestone serves as a testament of the enduring partnership, as emphasised by Professor Chee Yeow Meng, NUS Vice President of Innovation and Enterprise.

In his welcome address, Professor Chee Yeow Meng, NUS Vice President (Innovation and Enterprise) noted that the collaboration between China and Singapore has been instrumental in the success of SIP. Initiatives like InnovFest are crucial for fostering a global innovation ecosystem that drives sustainable development and empowers entrepreneurs. He added that this year's InnovFest Suzhou has gathered start-ups from around the globe to accelerate innovation and tackle pressing global challenges,

particularly highlighting the growing number of women entrepreneurs who are shaping the future of technology and business.

The two-day event attracted over 400 attendees, featuring nearly 40 start-ups from Singapore, China, Chile, Germany, Indonesia, and Thailand, along with representatives from nine Institutes of Higher Learnings and three government agencies.

These start-ups showcased transformative innovations in AI,

sustainability and other cutting-edge technologies, with almost 40 per cent of the start-ups led by female founders, highlighting the increasing involvement of women, bravely taking on new challenges as business leaders.

The showcase included a variety of innovative solutions, such as AI and IoT-powered farming techniques that boost crop yields while minimising environmental impact. Construction technologies utilising robotics and

“ Greenbix is pleased to have the opportunity to participate in InnoFest Suzhou 2024 and be shortlisted to present at the Tech Pitch Battle. This event has not only allowed us to showcase our innovations on a global stage but also enabled us to connect with potential partners for our expansion beyond Singapore. We look forward to continuously building strong, mutually beneficial relationships that will help us achieve our strategic commercial goals in this dynamic China market.

- GUO SHUAI, CHIEF TECHNOLOGY OFFICER, GREENBIX



material optimisation aimed to reduce waste and improve efficiency.

Food tech start-ups presented sustainable production methods, while sustainability-focused companies introduced advanced recycling, carbon capture, and renewable energy technologies. Additionally, medical tech companies unveiled breakthroughs in diagnostics and remote health solutions, wearable devices, advancing accessible and personalised healthcare, collectively demonstrating the vast potential of deep tech to address pressing global challenges.

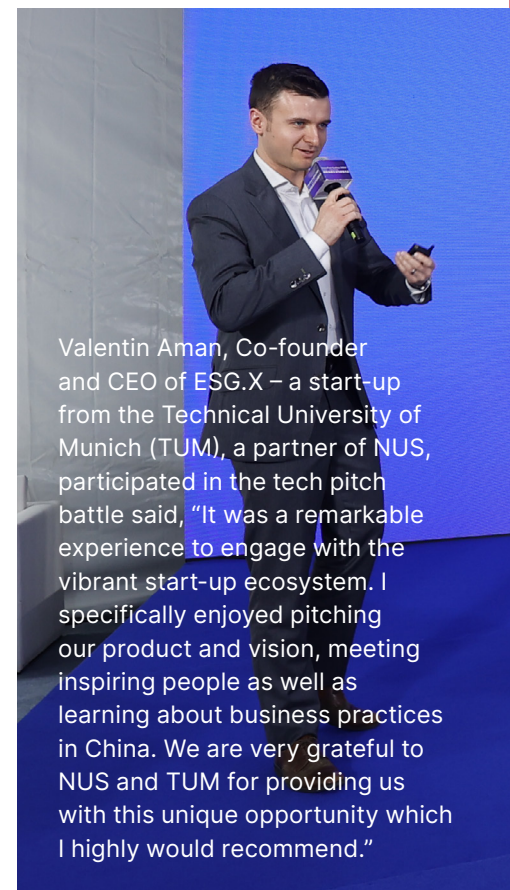
Guo Shuai, Chief Technology Officer, Greenbix, a start-up of NUS Graduate Research Innovation Programme (GRIP) Run11 expressed gratitude for the opportunities InnovFest Suzhou provided.

Beyond a startup technology showcase, InnovFest Suzhou also featured a dynamic array of activities designed to engage, inform and inspire attendees. The event included keynote sessions by Professor Lee Poh Seng, Executive Director, Energy Studies Institute and Dean's Chair, NUS College of Design and Engineering on "Sustainable Innovation: Pioneering a Greener Digital Infrastructure", and Mr Yoann Sapanel, Head (Health Innovation), Institute for Digital Medicine at the NUS Yong Loo Lin School of Medicine, on "From AI Solutions' Efficacy to Real-World Impact" respectively. Six insightful panel discussions explored the challenges and opportunities associated with implementing sustainable practices and harnessing AI to drive digital transformation.

One of the event's highlights was the Deep Tech Pitch Battles, where affiliated overseas start-ups of NUS Enterprise presented their groundbreaking solutions in diverse fields such as medical technology, food tech, and renewable energy, to a panel of venture capitalists and investors, underscoring the vibrant start-up ecosystem.



From right: Guo Shuai, CTO, Greenbix and Cheng Kai Xian, Co-founder and CEO, Greenbix.



Valentin Aman, Co-founder and CEO of ESG.X – a start-up from the Technical University of Munich (TUM), a partner of NUS, participated in the tech pitch battle said, "It was a remarkable experience to engage with the vibrant start-up ecosystem. I specifically enjoyed pitching our product and vision, meeting inspiring people as well as learning about business practices in China. We are very grateful to NUS and TUM for providing us with this unique opportunity which I highly would recommend."



Partner, SparkPlug Capital Deputy General Manager, Hangzhou Taiyuan Pharmaceutical Innovation Research Institute Co., Ltd Managing Partner, Jinshajiang United Runpu medical Fund Founder, Totem Biosciences Partner, Vertex Ventures

Panel discussion on Harnessing AI in Life Sciences featuring speakers from the left: Mr John Cai, Partner, SparkPlug Capital; Dr Larry Gao, Deputy General Manager, Hangzhou Taiyuan Pharmaceutical Innovation Research Institute Co Ltd; Dr Wang Xiaoyan, Managing Partner, Jinshajiang United Runpu Medical Fund; Dr Xu Shuoyu, Founder, Totem Biosciences (Suzhou); Ms Liu Tianran, Partner, Vertex Ventures.



CYBERCALL LAUNCHES AT CYBERSECURITY INNOVATION DAY 2024



The launch of CyberCall 2024 (November edition) was announced by Mr David Koh, Chief Executive of the Cyber Security Agency of Singapore (CSA).

The CyberSG Talent, Innovation and Growth (TIG) Collaboration Centre (The Centre) launched the CyberCall 2024 (November edition) at Cybersecurity Innovation Day on 11 November 2024, attended by over 500 participants. This is the second CyberCall run of the year by The Centre — a joint initiative between the National University of Singapore (NUS) and the Cyber Security Agency of Singapore (CSA).

First launched in 2018 by CSA, CyberCall helps catalyse the development of innovative cybersecurity solutions to strengthen organisations' cyber resilience. Each selected solution that fulfils the eligibility criteria may receive funding of up to S\$1 million under CSA's Cybersecurity Co-Innovation and Development Fund (CCDF).

Mr Christopher Chen, Executive Director of The Centre, said, "Cyber adversaries hold an unfair advantage, outpacing defenders with greater resources and time. CyberCall helps level the playing field by uniting public and private sector expertise to tackle real-world challenges and accelerate viable cybersecurity solutions. Singapore is the ideal hub for this initiative because through collaboration, we enable the best solutions and technologies to be deployed quickly. CyberCall also allows us to collaborate globally in securing our digital future."

CYBERCALL 2024 CALL FOR PROPOSALS: OPEN NOW UNTIL 10 JANUARY 2025

CyberCall 2024 (November edition) is now open for submissions, inviting innovative proposals in two categories:

- 1. Open Call Category:** The open call category seeks proposals in these focus areas: Cybersecurity for Artificial Intelligence (AI); Using AI for cybersecurity; Quantum safe security; Operational Technology (OT) or Internet of Things (IoT) security; cloud security; and Privacy-Enhancing Technologies (PET).
- 2. User Driven Challenge Statements:** Companies are invited to address three user-driven challenge statements provided by corporate end-users YTL PowerSeraya and Panasonic. The aim is to leverage the latest AI technologies to improve the efficacy of cybersecurity solutions in sectors using OT such as manufacturing and energy.

Cybersecurity companies, start-ups, and innovators are encouraged to apply. Submit for CyberCall 2024 (November edition) now at cybercall.sg

SEVEN PROPOSALS SELECTED FROM CYBERCALL 2023

The event also celebrated the success of CyberCall 2023, with seven outstanding companies receiving up to S\$4 million in funding. The awardees, Cloudsine, Ensign InfoSecurity, MetaTrust, pQCee, ST Engineering (Info-Security), ST Engineering IHQ, and Veracity Trust Network, were recognised for their innovative solutions in AI, quantum safe security, cloud security, and IoT security.

Mr Matthias Chin, Founder and CEO of Cloudsine, shared, "The CyberCall has given us better insights into customers' pain points related to IoT security and challenged us to think outside the

box, especially using Gen AI. Going through the stringent evaluation and development process has also validated our company's ability to innovate and positioned us for better growth opportunities for the future."

Mr Tan Teik Guan, Co-founder and CEO of pQCee, added,

“Evolving technologies like AI and quantum have made the cyber threat landscape more complex. It is thus important for organisations to future-proof their systems and make sure they are quantum-safe. CyberCall enables us to transform our innovative ideas into actual products more quickly, and this ultimately helps more organisations to stay secure and protect their critical systems against quantum threats.



(From left) Mr David Koh and one of the seven CyberCall 2023 awardees, Mr Tan Teik Guan, Co-founder and CEO of pQCee.



Giving women entrepreneurs in Asia a leg up

One might think that the folks behind MADCash are perhaps, a little mad. The start-up founded by Nuraizah Shamsul Baharin (Aizah), JP Valdes and Musyrifah Malek has an ambitious vision – to touch one million lives through financial and business education, and micro-funding. And today, they are well on their way to achieving just that.



MADCash

MADCash, which stands for (Multiply Assist Donate Cash) is a Shariah-compliant Fintech company that works with women entrepreneurs to help them achieve greater financial security by providing micro-funding, business and financial education to grow their micro-businesses, with a goal of creating a future bankability score.

The start-up has its headquarters in Kuala Lumpur and is expanding its operations to Singapore this year as one in seven social enterprise start-ups in the inaugural cohort for the 10-week Technology for Sustainable Social Impact (TS2) accelerator programme, a collaborative initiative by NUS Enterprise and the Singapore Centre for Social Enterprise, raiSE.

MADCash offers Syariah-compliant micro-funding with 0 per cent interest to eligible women entrepreneurs throughout the year, with amounts ranging from RM1,000 to RM5,000 in Malaysia, and between S\$2,000 to S\$3,000 in Singapore.

The funding amount is provided with a structured MADCash programme that includes financial literacy education, entrepreneurship development, and assistance in building the credit standing of entrepreneurs.



SCRATCHING AN ITCH AFTER OVER A DECADE OF COMMUNITY WORK SUPPORTING WOMEN

Back in 2019, Co-founder, Aizah joined the UNCDF Financial Innovation Lab to pursue her interest in fintech. She had worked with women business owners in Malaysia for years and saw firsthand the challenges and day-to-day struggles in setting up a business and keeping it afloat in the long run.

These women entrepreneurs may have been blacklisted or have low credit score. Majority of them did not have access to funding institutions, could not qualify for traditional financial services or were unbanked with no access to legal funding options.

Female-run businesses make up between 40 per cent to 60 per cent of all micro-small- and medium-sized enterprises (SMEs) in Southeast Asia, yet many of these businesses are not seen because the business is not registered.

“My theory was that a donation can be done in a pay-it-forward business model. If a small donation can help a woman entrepreneur stabilise and grow her business, then when she pays it back, the funding goes to another woman entrepreneur to help her grow her business. I believe that this continuous flow of funding will keep circulating and helping our community,” said Aizah.

When the Covid-19 pandemic hit Malaysia in 2020, she took the opportunity to test the idea. “We raised RM3,000 from friends and provided an interest free loan of RM1000 each to three ladies, with the intention to use the loan as a pay-it-forward model. We kept reviewing their progress and testing new approaches.”

Many bumps on the road later, she learnt that loans alone are not enough. To make this business model sustainable, they had to go much further: micro-funding must be coupled with knowledge upgrade, mentoring, strong networks and peer support.

Today, the team has provided over



RM800,000 in micro-funding to about 400 women, and worked with at least 1000 women entrepreneurs in the MADCash programme. They also facilitated RM1.5M loans that were distributed directly from Bank Islam to them beneficiaries in Malaysia.

LEANING INTO THE START-UP ECOSYSTEM IN SINGAPORE AND MALAYSIA

To build a sustainable business, MADCash was quick to change tack. After months of garnering donations from the public in 2021, MADCash decided to raise funds from financial institutions and banks in Malaysia that have a strong incentive and desire to work with the women in local communities. Today, MADCash’s corporate partners include Maybank, Hong Leong Islamic Bank and PayNet.

The team also joined accelerators in Singapore and Malaysia to explore the networks and mentoring support needed to grow the business. Aizah’s friend and lawyer, Malek, and MADCash’s product lead, JP, soon stepped up as co-founders. MADCash then went on to secure pre-seed funding in 2022, and RM 5 million in pre-Series A funding in 2023.

The funds go towards enhancing MADCash’s e-learning platform, which uses artificial intelligence, help defray operational and marketing costs, and fund the expansion of the start-up within Southeast Asia.

“**BLOCK71 and the TS2 accelerator programme team have been incredibly supportive. They have been engaged throughout and committed to supporting us and giving value. The way Yuen Ping and team keep showing up and helping when we needed it - really amazing service.**

– AIZAH

In particular, the team found the introduction to their mentor, Joe Rouse, Ambassador-at-Large for the global start-up community at NUS Enterprise most helpful. “We continued to engage with him even after we completed the TS2 accelerator Programme.”

Today, the start-up’s tech platform allows MADCash’s corporate partners to track the impact of their investments, view repayment statistics, and enable women entrepreneurs to track their income and repayments at the same time.

CROSSING BORDERS TO SERVE A GROWING COMMUNITY OF WOMEN ENTREPRENEURS

MADCash is currently running programmes in Malaysia and Tajikistan. The programme acts as an incubator – women who join must be committed to growing their business and giving back to the community. Using a combination of online content and physical workshops, the team is able to run the MADCash programme multiple times throughout the year and localise content to fit women entrepreneurs in different locations.

JP is candid about the challenges of scaling up, “As MADCash grew bigger, we needed to upgrade and streamline our processes; thus also improving our online platform to map and support these changes. As we expand to other markets, we needed to make our online platform multilingual and include more modular functions.”

Sharing her personal take on measuring success, Aizah mused, “I am happy that I can pay salary every month to the people that I am responsible for. But in the long run, we want to expand to multiple markets, stay on course, and impact one million lives.”

LEARN

ROBOTICS?

GAME ON!

trail blazers



GO **TECH**^{UP}

Just as robots are being developed with increasing intelligence and adaptability to help us in our daily lives, Tech Up Advance, a social enterprise start-up is leading the charge in the EdTech landscape with their mission to make robotics education accessible and exciting for everyone.

“In today’s world, robotics is all around us. But in most classrooms, it is not a subject that is taught often,” said Ainaa Rosli, co-founder of Tech Up Advance. “Generally, robotics education is seen as expensive and exclusive. We created GoTechUp, a gamified simulation software to bridge the gap between classroom learning and real-world applications.”

While only 20 per cent of students typically have early exposure and access to robotics education, the remaining 80 per cent often miss opportunities to discover their STEM interests. As a web-based software, GoTechUp democratises access, allowing educators worldwide to engage students in STEM topics through a gamified virtual environment. Students explore 115+ levels of virtual learning while

working hands-on with an actual robotic kit.

“Once they saw the robot, they just couldn’t wait to start. Three hours later they wouldn’t let me go home!” exclaimed Sulfya Lim, co-founder of Tech Up Advance, enthusiastically sharing her experience with classroom sessions for the [Glyph Community](#). The start-up trained educators with the children’s charity in Singapore to provide underprivileged children with essential STEM education.

A SHARED PASSION FOR MAKING ROBOTICS FUN FOR ALL

A love for teaching is evident when hearing Sulfya speak. Her co-founders, Ainaa and Lok Kah Fai, clearly share the same passion. The trio first met as scholarship students, took different career paths, and reconnected when their paths crossed years later.

Pursuing her love for edtech, Ainaa had set up education businesses in the past, roping in Kah Fai who had transitioned from a manufacturing process engineer to running an IoT business. As Technical Advisor for Tech Up Advance, Kah Fai leads the engineering of GoTechUp.

“I love playing games, and I wanted to bring that element of fun into teaching robotics too,” Kah Fai shared. “We used a robotic kit to teach coding to kids in the past, and now with GoTechUp, we are teaching kids through gamified simulations, which is a more intuitive platform and engages them on a deeper level.”

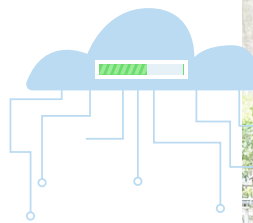
Sulfya joined the duo after leaving a successful career in banking,



↑ Tech up Advance founders from left: Lok Kah Fai, Ainaa Rosli and Sulfya Lim



↑ Lok Kah Fai, Technical Advisor of Tech Up Advance, demonstrates IR photoreflexor sensors in the GoTechUp simulation



steering the start-up's finances and operations as CFO and COO. While on a career break, she rediscovered her joy in learning.

"I started to notice everyday things and became fascinated by the science behind them. I realised I was never exposed to STEM education at an engaging level. When I saw what Ainaa and Kah Fai were doing with GoTechUp, it resonated with me deeply. I tried it out and became hooked."

GAMIFIED STEM EDUCATION STARTS FOR 5-YEAR-OLDS

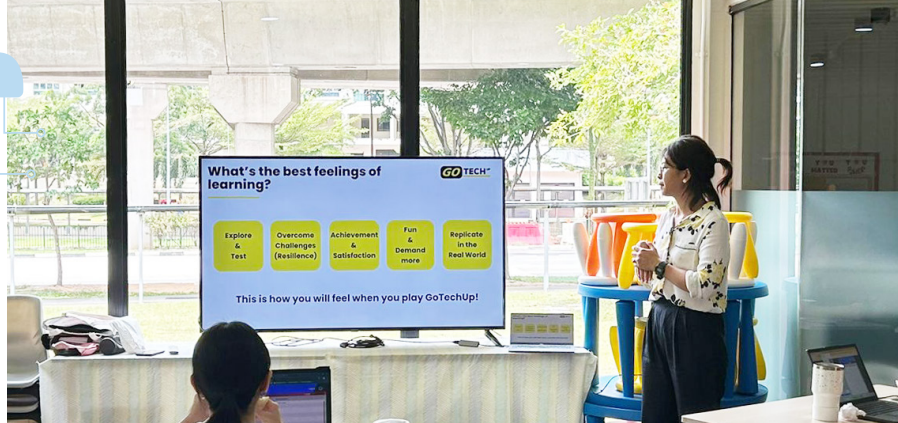
The gamified simulator software has two modules, GoTechUp Junior for kids aged 5-7, and GoTechUp x ArtecRobo, which is suitable for everyone above the age of seven.

In each module, students operate a virtual robot to complete mini quests in each level. The quests are designed to build foundational STEM education, ensure stable progression and seamless transition to a robotics hardware experience. Students can monitor their in-game progress and are prompted to explore creative approaches to problem-solving.

"GoTechUp is developed based on a digital twin concept—what you programme and see in the virtual world, you can actually programme into a physical robot as well. This allows students to 'jump' into the world of robots much quicker compared to traditional textbook-based lessons," Ainaa said.

BALANCING PROFITS AND SOCIAL IMPACT

Tech Up Advance is one of the first seven start-ups in the Technology for Sustainable Social Impact (TS2) accelerator programme by NUS Enterprise and the Singapore Centre for Social Enterprise, raiSE. The team had set up base at the BLOCK71 Social Impact Hub, which officially opened in July 2024.



“ This year has been a pivotal one for us. The mentorship from experienced entrepreneurs and networking opportunities received through the TS2 accelerator programme are top notch. I think we have found our tribe here in this very supportive community of fellow social entrepreneurs. Everyone understands the unique challenges we face – because we are not just growing a business, we are also trying to change lives here, ”

– SULFYA LIM

Ainaa adds, "When you are prioritising impact, it is difficult for some to understand that things take time because our focus is social development."

Tech Up Advance has been making great strides. GoTechUp is now used by over 10,000 beneficiaries across Singapore, Malaysia, Japan, Brazil and France today. Selected public schools in Malaysia are using the software, with trained educators having the flexibility to incorporate it into their lesson plans across subjects.

In Singapore, the team has been providing STEM education using GoTechUp to community centres such as Glyph Community and Suncare SG since 2024, reaching out to over 70 community members, including underprivileged children.

The start-up signed an MOU in November 2024 with PT Ruang Teknologi Kreatif Nusantara (Cube Studio), a creative media centre founded by the Indonesia Endowment Fund for Education (LPDP) Alumni. LPDP has collaborated with NUS Enterprise in developing the I&E ecosystem through scholarships. Through this strategic partnership, Tech Up Advance and Cube Studio will leverage both organisations' strengths to create transformative learning experiences in STEM education.

To keep the business sustainable, GoTechUp is available to educational institutions through license-based plans. The start-up co-creates with educators who need tailored curricula and want to have their own customised system. This collaborative approach led to QuestUp, a space-themed gamified module whose minimum viable product (MVP) launched recently at Edutech Asia 2024.

Sulfya said, "Impact and profitability can coexist. Our focus is creating genuine value for a better society. Actually, the kids teach us so much. Their joy and sense of accomplishment when learning robotics drive us to go further each day. Ultimately, we want to ignite this timeless curiosity in them to keep exploring what's out there."

We are living our dream. And we want them to live theirs too."



Ainaa Rosli, co-founder of Tech Up Advance at NUS Enterprise booth at SWITCH 2024.



Goldies

Round, gold and good for you

Goldies, the innovative energy balls by the local track winner of the NUS FoodTech Challenge (FTC) 2024 are made to delight and nourish. Each ball is a burst of flavours – sweet, savoury, nutty and aromatic, thanks to the wondrous combination of its hero ingredient, honey-fermented turmeric, with walnuts, wheat germ and dried cranberries. Kyo Eun (Kyo), Celina, Hoai, Shun and Chloe, friends from [NUS College](#) bonded over their shared interest in the food industry – and their love for food. So, when FTC 2024 swung by and presented them with a problem statement by Nestlé - to develop a packaged, ready-to-consume food or beverage with traditional fermentation processes for Gen Zs in Southeast Asia - the team immediately got to work.

CREATING GOLDIES FOR THE FOODTECH CHALLENGE

The team wanted to create a nutritious snack with functional benefits to brain health, gut health and immunity. It also had to be delicious and easy to consume to suit Gen Zs on the go. After extensive research, the team hit on turmeric, an understated, Southeast Asian spice known for its anti-inflammatory and antioxidant properties. Curcumin, the biologically active compound in turmeric, is primarily responsible for the health benefits behind turmeric. Daily consumption of curcumin improved memory and mood in people with mild, age-related memory loss, according to a study conducted by [UCLA researchers](#).

The NUS Food Lab became the team's second home for weeks as they experimented with different ingredient ratios and bases to derive optimal taste, texture, shelf life and nutritional impact – before formulating the perfect recipe for Goldies. Through extensive testing, they found that lacto-fermentation of turmeric with honey results in a tenfold increase in curcumin concentration, raising its anti-inflammatory and antioxidant activities.

Using wheat germ as a base ingredient was a conscientious choice as it delivers more protein than oats and is an upcycled ingredient from the traditional wheat milling process.

The 2024 FoodTech Challenge was organised by the [NUS Department of Food Science & Technology](#) and the [NUS Food Science & Technology Society](#), and [NUS Enterprise](#), with Nestlé's Research & Development as the main sponsor.

In the final round, the team competed against 15 other teams across Southeast Asia, pitching their product, Goldies, to a judging panel of industry veterans and researchers. They emerged as the local track winner, walking away with a grand prize of S\$2000, internship opportunities with Nestlé, the world's largest food and beverage manufacturer headquartered in Switzerland, and an opportunity to incubate at [THE HANGAR](#) by [NUS Enterprise](#).

Kyo shared, "I really appreciate longer challenges like FTC, which lasted around three months. This format provides enough time for participants to bring their concepts to life and test them. After all, anyone can come up with ideas—it's the execution that matters."

LEVERAGING THE SUPPORTIVE I&E ECOSYSTEM AT NUS ENTERPRISE

Kyo who does the pitching, market research, consumer insights for Goldies shared, "Through this Challenge, we were able to consult with R&D professional and Senior Brand Manager at Nestlé, Tina Liao, who provided positive feedback on the energy ball concept and shared insights on market trends, which influenced our decision. We also sought feedback from other mentors, who supported the energy ball concept as innovative and appealing."

The team also approached the [moonbeam.co](#), a social impact food tech start-up supported by NUS Enterprise. Celina, who tinkers with the food science behind Goldies added, "We got samples

of the moonbeam.co's products to try, and assessed how we can improve ours. Thanks to their guidance, we learnt that true innovation stems from synthesis of people and knowledge."

WHAT NEXT FOR OUR STUDENT ENTREPRENEURS?

Since winning the Challenge, the team has done pop ups at NUS College and a commercial gym and is happy to be able to turn a profit through pre-orders. Celina will be embarking on an internship with Nestlé soon, while Kyo, Hoai and Shun will be heading overseas for the NUS Overseas College (NOC) programme and student exchange. Chloe has since left the team to pursue her own plans.

Kyo shared, "This challenge empowered me to step into a leadership role and taught me that innovation starts with a desire to understand people and create solutions for their needs—a practice I can apply daily."

Shun, who does the team's finance and business road mapping said, "This venture fuelled my passion for entrepreneurship and eased my fears about starting out. The greatest reward has been connecting with customers and using their feedback to improve our product."

Chipping in, Celina added, "I enjoyed the rewarding process of developing a new food product and look forward to turning ideas into impactful solutions." Hoai, who designed the Goldies' packaging concluded, "As some of us are heading overseas, we'll take a break from Goldies, but we remain committed. Experiencing the impact of health-focused products and has inspired me to explore ideas that improve lives."



The team behind the Goldies. From left: Thai Le Minh Hoai, Dao Nguyen Hanh, Celina and Kim Kyo Eun. The fourth member, Shun Pyae Phyo was overseas during the interview.



Building a better and more connected future with AI and Machine Learning

AI and machine learning (ML) are integral to the development of many products and innovations across industries. In this issue, we shine the spotlight on four start-ups developing cutting-edge solutions with AI or machine learning to help solve pressing global challenges and societal problems today.

Founded in 2012, **CLOUDSINE** is a  trusted cybersecurity company that protects business in eight countries. Their flagship product, the WebOrion® suite, helps protect websites with tools like a Web Application Firewall, a patented system to monitor and detect website defacement 24/7, and a one-click web restoration feature.

Cloudsine developed an innovative firewall solution to secure internet-connected surveillance cameras, as part of its CyberCall 2023 project, which received funding. These cameras, widely used in places like police stations, checkpoints, and hospitals, are often targeted by hackers who may try to take control or tamper with recordings. For example, during the closing ceremony of the 2015 Southeast Asian Games, a hacker breached the police surveillance system, disrupting camera operations at the National Stadium.

Cloudsine's solution uses advanced firewalls and AI-powered tools to identify and respond to cybersecurity threats. It is expected to be tested by the end of 2025 and made available for more businesses soon after.

 cloudsine.tech

IP8VALUE is a platform designed to enhance the management and transformation of intellectual property, catering specifically to universities, research institutions, and technology companies.



Powered by database technology and Large Language Models (LLMs) the platform is a one-stop technology transfer solution designed to facilitate the management and commercialisation of intellectual property such as academic research, inventions, and patents.

With an embedded digital technology manager, users can easily migrate technical details, interact with different knowledge databases, perform in-depth analysis, conduct preliminary valuations, and create marketing materials.

The public platform features a dedicated tech portal for publishing, searching, and trading technology, enhancing market exposure and efficiency while providing real-time feedback.

 ip8value.com

HEALTHGEN, an NUS spin-off established in 2024 has launched, Empower+, a digital chronic disease management mobile app that uses machine learning to motivate and encourage users to adopt a healthier lifestyle.




Developed jointly by NUS School of Computing and healthcare provider SingHealth, Empower+ will give diabetic and hypertensive patients personalised nudges based on the user's activity goals, food intake, medication and blood pressure.

The app uses data analytics and AI algorithms to analyse data collected from wearable devices and is available for download on Apple App Store and Google Play Store.

Preliminary results showed that participants who used Empower+ kept their minimum step count requirements at about 50 per cent throughout a study of about 1,000 diabetic participants, compared with 40 per cent for those who did not use the app.

 apps.apple.com/sq/app/empower-research/id1662059011

Did you know that 25,000 bots  are blocked every day, and the number keeps growing? Founded in 2016, **VERACITY TRUST NETWORK** focuses on fighting the increasing problem of malicious bot activity.

As bots continue to evolve, Veracity's patented, AI-powered technology stays ahead by detecting and blocking even the most sophisticated attacks. It works by analysing user behaviour to protect websites, apps, and digital ads from bots that try to impersonate real users. For example, their machine-learning platform, abbi™, operates in real-time to identify and stop the most complex bots in any environment. With its APAC headquarters in Singapore, Veracity's solutions help businesses across industries secure their digital spaces.

As a CyberCall 2023 awardee, Veracity received funding to work with one of the world's largest fashion retailers. Together, they are developing advanced bot detection solutions that can be adapted for different industries and regions.

 veracitytrustnetwork.com

NEWSFEED



MangaChat comes in third at 6th Qualcomm Innovate in Taiwan Challenge

Congratulations to MangaChat, third-place winner of the 6th Qualcomm Innovate in Taiwan Challenge (QITC)! This year's challenge focused on advancements in AI PCs and edge computing technology. The QITC finals was a milestone for MangaChat to validate its innovations.

MangaChat enhanced its emotional journaling platform through integration of edge computing and transformation of AI PCs into home-based gamified Cognitive Behavioral Therapy tools for children with ADHD. This solution provides effective assistance as it includes AI-driven support strategies for caregivers. As part of its QITC journey, MangaChat successfully completed a six-month incubation programme, receiving technical support from Qualcomm and financial aid for two patent applications. This recognition strengthens MangaChat's commitment to expand across Asian markets, driving its mission to use technology to improve emotional well-being for children everywhere.

Kosmode Health wins Singapore Apex Sustainability Award

Congratulations to Kosmode Health, the SME winner of the Singapore Apex Sustainability Award, Sustainable Solutions Category, organised by UN Global Compact Network Singapore in October 2024! As one of the three SME winners, Kosmode Health is recognised for its commitment to sustainable business practices that align with the Ten Principles of the United Nations Global Compact, which encompass areas such as environment, human rights, labour, and anti-corruption.

Ms Florence Leong, Co-founder of Kosmode Health Singapore, mentioned that this is a celebration and validation of Kosmode Health's sustainable health mission of expanding access. The win will help drive the company's efforts in repurposing food processing waste for sustainable functional ingredients.

With this achievement, Kosmode Health is looking forward to drawing business partners, investors, and customers to support and try their products, including the WOW® noodle.



Record maritime innovation proposals received for 8th Smart Port Challenge

Organised by NUS Enterprise and the Maritime Port Authority of Singapore (MPA), Smart Port Challenge (SPC) 2024 went global this year with eight roadshows across America, Asia, and Europe. This effort attracted over 200 proposals from start-ups in 35 countries to address key maritime challenges.

The SPC Grand Finals, held during the annual PIER71™ Great Circle 2024 on 19 November 2024, drew over 400 attendees. Clear Robotics, Open Ocean Robotics, and GT Green Technologies took first, second and third place, respectively, while Thiospark Energy received a Special Mention for their innovations.

For the first time, S\$10,000 awards were given to Mapsea Corporation for AI (supported by Amazon Web Services), GT Green Technologies for Maritime Sustainability Innovation (supported by OCBC Bank) and Planys Technologies for Smart Port (supported by PSA Singapore).



Open Ocean Robotics closes CA\$2.8 million investment round to further scale commercial operations for sustainable ocean monitoring

Open Ocean Robotics (OOR), a maritime robotics and AI company transforming ocean monitoring, has successfully closed a CA\$2.8 million investment round in October 2024. The round was co-led by Antares Ventures and Spring Impact Capital, with participation from venture funders and other strategic investors. These funds will aid product and technological advancements, scale manufacturing of its uncrewed surface vehicles (USVs) and expand into Southeast Asia.

OOR is also the second-place winner in the PIER71™ Smart Port Challenge this year. Providing safe, affordable, sustainable and scalable solar-powered ocean monitoring solutions, OOR has a suite of sensors for data collection without producing GHG emissions, noise pollution, or risking oil spills. Their USVs are being used to protect endangered whale populations, safeguard against illegal fishing in marine protected areas and restore maritime biodiversity.

To recap past NUS Enterprise events and stay apprised of those upcoming, please refer to the following QR code.





New Year's Resolution for 2025

Get started on bringing your invention to market in 2025

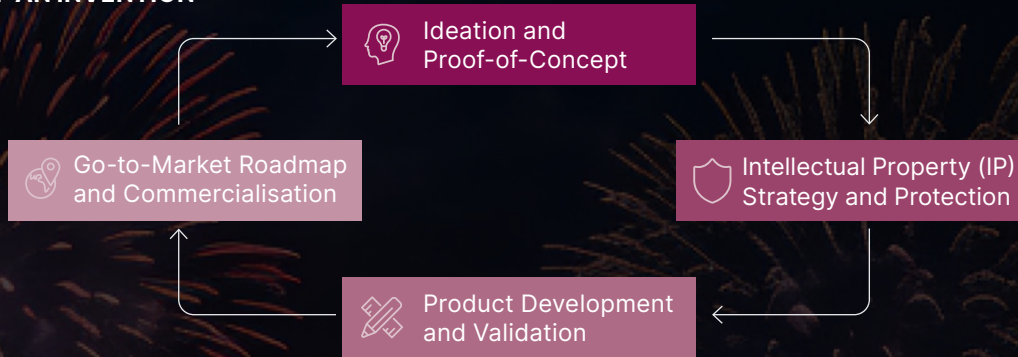
If you are looking to bring your invention to market in 2025, the process is not as unattainable as one may think. The NUS Technology Transfer and Innovation (TTI) team can provide the resources and networks that serve to accelerate your time to market, regardless of which stage you are at with your invention.

Bringing inventions to market (also referred to as technology commercialisation) enables cutting-edge research to benefit end-users, often solving critical and urgent problems in sectors such as education, environment, and healthcare. Commercialising these technologies brings about important economic and societal impact, along with the building up of research and innovation ecosystems in Singapore and beyond.

As the technology commercialisation arm of NUS, TTI receives approximately 400 new Invention Disclosures (ID) across the Physical Sciences (PS), Life Sciences (LS) and Information and Communication Technologies (ICT) domains each year. The support provided by TTI at each phase is illustrated through the lifecycle of an invention.



LIFECYCLE OF AN INVENTION



PHASES	SUPPORT FROM TTI
Ideation and Proof-Of-Concept	<ol style="list-style-type: none"> 1. Assess the unmet need and addressable market size of the proposed invention.
Intellectual Property (IP) Strategy and Protection	<ol style="list-style-type: none"> 1. Evaluate and perform due diligence based on the invention documented in the submitted ID Form. 2. Recommend the best way to protect the invention (e.g. patents, know-hows, copyright or trade secrets). 3. Work with inventors and patent lawyers in strategising, preparing, filing and managing the patent applications.
Product Development and Validation	<ol style="list-style-type: none"> 1. Journey together with inventors to explore (a) collaboration and partnership opportunities with research institutes and companies and (b) suitable grants to further develop and improve the market readiness of the IP. 2. Provide access to resources such as translational funding and prototyping via Minimum Viable Product Studio. 3. Share best practices in liaising and contracting with industry, ensuring that the interest in the rights of the invention is properly taken care of
Go-to-Market Roadmap and Commercialisation	<ol style="list-style-type: none"> 1. Formulate Go-to-Market plan with inventors. 2. Showcase and market the IP to companies that are interested in the technology. 3. Negotiate with licensees on the terms of the licence. 4. Support inventors in Venture Creation initiatives (e.g. Graduation Research Innovation Programme and connecting with funders and investors).

Take the first step in actualising your new year’s resolution and reach out to TTI today at StartYourJourney@nus.edu.sg

Ready to join our NUS Enterprise entrepreneurship ecosystem?

NUS Enterprise, the entrepreneurial arm of the National University of Singapore (NUS), plays a pivotal role in advancing innovation and entrepreneurship at NUS and beyond.

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

Learn more about how we can support you in your entrepreneurial journey.



Find out more



Join our events

If you are an entrepreneur affiliated with NUS Enterprise, find out how you can:



Give back to the community



Have a question or a suggestion? Reach out to us at enterprise@nus.edu.sg.

