

ENTERPRISE sparks

APR - JUN 2023 >> ISSUE #37



Exploring the Deep End: The Wonders of Deep Tech Startups

Dive deeper into some of the Run 8 NUS GRIP Startups that took off on Lift-Off Day!

04

16

Scentsational Fragrances: Scent Journeyer

Discover how science and art come together to tap into the healing essence of nature with Scent Journeyer, a startup that creates bespoke fragrances using high-quality, ethically sourced, and sustainable ingredients.

EDITOR'S Note



Dear Readers,

Welcome to the latest edition of SPARKS, where we celebrate innovation, creativity, and entrepreneurship. As always, we have curated a collection of inspiring stories, insightful articles, and exciting news for those connected in our ecosystem.

In this issue, we bring you insightful articles on the latest trends and developments in the world of entrepreneurship, innovation, and technology. We kick off this issue with NUS GRIP's (Graduate Research Innovation Programme) Lift-Off Day for their 8th run where we find out about up-and-coming deep tech startups developed from months of intensive research and preparation. We also dive deeper into 3 of the startups that were launched from Run 8's Lift-Off Day – Codaveri, NOVA and RoamAssist to learn more about their fascinating accounts on how they solve everyday problems.

In the realm of NUS Enterprise news, we find out about how our collaboration with Indonesia's Lembaga Pengelola Dana Pendidikan (Indonesia Endowment Fund for Education Agency, LPDP) to foster and cultivate innovation and entrepreneurship between Singapore and Indonesia. Within our PIER71 community, we also hear from MarinaChains's co-founder, Jonathan, on building and growing a team from scratch.

As an avid perfume fan myself, one of my favourite Trailblazers stories I've written to date has got to be on Scent Journey, a Singapore-bred startup that creates mood-boosting perfumes. Joyce shared on her journey in launching her own fragrance brand, describing how she tapped into science and art to create the unique blends many customers are familiar with in her perfumes. It was inspiring to hear her vision for Scent Journey and

her passion for not only creating beautiful scents, but for also upholding safety and sustainability as key values in her business.

Lastly, we looked into funding for startups and why it is essential for their business – this in turn helps drive innovation, create jobs and make a positive impact on society. We compiled useful information on funding within our ecosystem that we hope can serve as a useful guide for budding entrepreneurs launching their startup.

I hope that you find this edition of SPARKS to be informative, engaging, and thought-provoking as you navigate the exciting and ever-evolving world of entrepreneurship. If you have an interesting story or startup you would like to feature, do reach out to us at enterprise@nus.edu.sg.



Megan Ting

SPARKS Editor



red hot



Ready, Set, Lift-Off!

A LOOK AT **NUSGRIP'S**
RUN 8 LIFT-OFF DAY





In December 2022, the NUS Graduate Research Innovation Programme (GRIP) held its Lift-Off Day for yet another successful run, the virtual showcase featured 12 up-and-coming deep tech startups from its 8th run. The months leading up to this Lift-Off Day were intensive; the teams underwent a rigorous 3-month hothousing period, where they developed and finetuned their research-based innovations into scalable and investible deep tech startups. On Lift-Off Day, the teams gathered to present their ideas to an audience that included venture capitalists, incubators, investors and other key ecosystem players. A plethora of startups were featured, ranging from AI (Artificial Intelligence), agritech, engineering, health technology, sustainability and InfoComm technology.

Professor Freddy Boey (former NUS Deputy President, Innovation and Enterprise) kickstarted the event, highlighting some key successes the 12 teams had over the past

most importantly, how pleased he was to have been able to witness the innovation that has taken place in this program for the last 5 years.

Since October 2018, NUS GRIP has become a program that helps postgraduate students and researchers transform their research into deep tech startups by providing the necessary tools and knowledge, and at the same time, helping to defuse the risks that are usually associated with launching a startup. Selected teams are first put through a 3-month structured program where they learn the basics of launching a startup. At the end of the 3 months, the teams would have already received market validation in the form of partnerships or sales and are ready to move on to the next stage, which is to pitch their business to the NUS investment panel for initial seed funding worth up to S\$100,000.

Run 8 teams pitched their ideas and walked the audience through their innovations and business proposals.

security auditing and blockchain for smart contracts, Roam Assist, a robotic guide dog for the visually impaired, MediCert, which can verify the authenticity of medication within seconds using Blockforest technology, and See Your Voice, a type of AI technology that allows for ready-made and 24/7 translation of sign language.

The second half of Lift-Off Day centered around teams specialised in healthcare innovations. These included Nova, a technology that allows people to monitor for cataracts from the comfort of their homes, CELL2Mix, which uses bioengineering to extract lifesaving drugs and RiDM, an innovative software solution that helps IC (Instrumentation and Control) engineers build their products 10 times faster. There were also teams specialised in the agritech sector such as GrowLights, an AI-driven energy-efficient LED lighting system which reduces the cost of using indoor vertical farms whilst increasing crop yield, and Cornucopia, a plant probiotic which can increase crop yield without compromising quality.

Notably, PharLyfe+ was one of the teams that had already achieved early success in their business previously. The startup focuses on creating oral films that make the process of producing and consuming medication more efficient and inclusive. Ms. Tan Poh Leng (Business Lead of PharLyfe+) shared the positive outlook her product has had in the healthcare industry: "We have clinical partners who are ready to recommend our product to their patients...in fact, we have already received orders even before our business started."

Following Lift-Off Day, Run 8 startups will be further incubated at NUS to strengthen their footing in the ecosystem and market in the coming months. We wish them all the best and can't wait to see the next unicorn in the deep tech sector!

The GRIP programme, by all account, has been a great success. 8 runs, and a total of 388 entrepreneurs trained from NUS, including 140 teams that they make up. I am certainly very proud of them, but even more we have to date, for every dollar that NUS invested, we have attracted \$6 of external funding. That is an incredible success that affirms that we are producing very strong and credible startup companies.



**Professor
Freddy Boey**

few months, such as CodaVeri, an automated programming coach, which already went live in NUS. Moreover, he mentioned how far NUS GRIP has come.

After 8 successful runs, the programme has seen 140 teams graduate, whilst awarding S\$100,000 to 100 of those teams for their initial seed funding. The program has also raised more than S\$35M in external funding for the startup teams.

Prof Boey ended off by stating that this would be his last run before moving on to new opportunities, and

MetaSense, a startup specialised in hyperlocal climate intelligence solutions, was one of the first teams to present. When asked about what differentiates their solution from others on the market, Abraham Wu (CEO of MetaSense) shared that their high-resolution technology is able to effectively detect climate risks for businesses and real estate investment managers, significantly reducing potential economic losses in their decision-making. Among the other teams to present during the first half include CodaVeri, Verazt Security, an automatic



EXPLORING THE DEEP END: THE WONDERS OF DEEP TECH STARTUPS

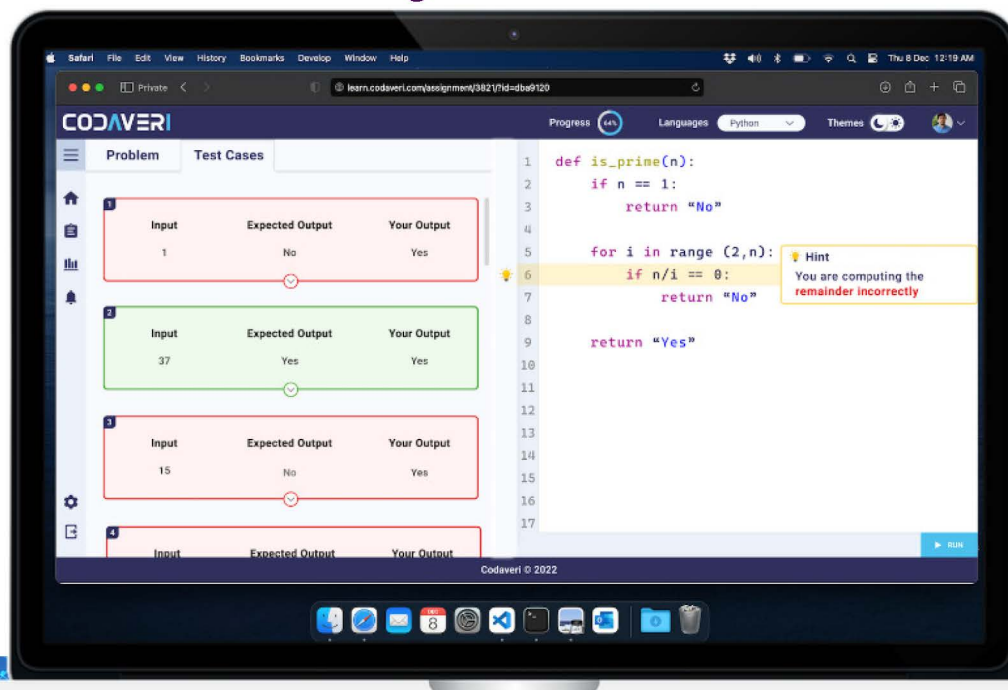
In recent years, the world has seen an explosion of startup activity, with countless new companies being founded and funded everyday. One area of particular interest is the emergence of deep-tech startups, which leverage cutting-edge technologies to solve complex problems across a range of industries.

Deep tech startups require significant investment in research and development, which can make them riskier investments compared to traditional startups. However, the potential rewards are also significant, and investors who are willing to take on this risk can reap tremendous benefits. The success of deep tech startups can lead to significant economic growth, job creation, and social impact.



Codaveri is an innovative startup that aims to revolutionise programming education by providing personalized guidance to students and instruction and grading support to teachers. Its founders, Umair Z. Ahmed and Shubham Sahai, started working on this idea during their graduate studies at IIT Kanpur in India. As introductory programming tutors, they noticed that students needed personalised help during practice, which is a tedious and repetitive task for teachers. "We realised that real learning in programming occurs during practice when most students need

Revolutionalising Programming Education: The Story of Codaveri



personalised help", said Umair and Shubham. The lack of timely guidance often led to students losing momentum and eventually dropping out. This problem formed a central part of Umair's Ph.D. thesis, where he developed an automated tutor that improved students' learning and increased teachers' efficiency.

After refining the technology at the NUS AI Center for Educational Technologies (AICET), NUS, under the mentorship of Associate Professor Ben Leong, the founders launched Codaveri. Codaveri also joined GRIP where they gained real-world knowledge and honed their product-

market fit and growth strategies. The startup's signature product, the Automated Programming Coach, uses a combination of artificial intelligence, mathematical logic, and programming language theories to provide instant feedback and guidance on students' mistakes. The system has been trained on thousands of real-world student programs and can accurately highlight errors, identify misconceptions, and provide the next steps. It is a valuable tool for both students practicing programming assignments and tutors grading submissions.

The name Codaveri was inspired by the Japanese concept of "Kodawari", meaning "the uncompromising and relentless pursuit of perfection." This aligns with the startup's goal of helping students achieve mastery in coding.

The programming education sector is highly fragmented, encompassing various providers such as schools, universities, private educational institutes, MOOCs, and online platforms. This presents both challenges and opportunities for Codaveri. Adopting new technology in an educational setting can be a challenge, where established methods and practices are deeply ingrained. However, with recent advances in AI, there has been a growing interest in automated assistants. This offers Codaveri opportunities to leverage these advancements to revolutionise programming education.

CODAVERI



Team Codaveri (from left to right): Dr Umair Z. Ahmed and Dr Shubham Sahai



For millions of people worldwide, cataracts are a significant eye problem, affecting their daily activities and overall quality of life. Cataracts cause the eye's natural lens to cloud, making it difficult to see clearly. According to the World Health Organization, cataracts are responsible for 51% of world blindness, affecting an estimated 65 million people globally.

Revolutionalising Cataract Care: NOVA's Autonomous Remote Monitoring Tool Takes the Eye Exam to Your Home



While surgery is the most common treatment option for cataracts, monitoring the condition is also essential to ensure patients receive timely treatment. Traditional cataract monitoring involves regular visits to an ophthalmologist, which can be time-consuming, costly and inconvenient for patients, especially those who live in rural areas or have mobility issues.

To address these challenges, NOVA, an autonomous remote cataract monitoring tool, has been developed by a team of medical and technical experts. NOVA provides clinically validated visual acuity testing, a multilingual conversational chatbot, and a clinical-grade cataract screening system in a self-enabled manner. Patients can now conduct their routine eye checks in the comfort of their own home, saving time and money while freeing up healthcare resources for other

critical needs.

NOVA was created in response to the need for better solutions to address the problems surrounding cataract triaging and treatment. Their signature product, NOVA (Novel Ophthalmology Virtual Assistant), was created through a combination of medical expertise and technical knowledge. The name encapsulates the essence of the product, which offers a novel way of monitoring cataracts in a virtual, non-invasive manner. The team applied their knowledge of computer science to build the first iterations of the solution before validating them with clinical experts. The product is an innovative combination of telemedicine, remote monitoring and AI chatbot technology.

NOVA joined GRIP to receive step-by-step guidance in starting, developing and growing their startup.

They were particularly drawn to the opportunity to receive hands-on mentorship from experienced commercial champions who could help them bring their solution into the hands of more clinicians.

Like all startups, NOVA faces regulatory hurdles and is currently working on clearing red tape to make their product more accessible to patients worldwide. They are also trying to conduct more pilots, particularly with overseas partners.

Looking ahead, NOVA plans to complete their current pilots and onboard more clinical partners. They are also building out more features as they progress through their testing phase. With the innovative NOVA solution, millions of cataract patients can now receive timely and effective monitoring, leading to better outcomes and a better quality of life.

“RoamAssist: The Robotic Guide Dog Revolutionalising Mobility for the Visually Impaired”

RoamAssist is a revolutionary startup that is aiming to provide a solution for the visually impaired to help them move around safely and independently. The company's signature product is a robotic guide dog that uses patented navigation technology to help visually impaired users navigate through complex environments both indoors and outdoors.



quality of life. The company's name, RoamAssist, reflects the freedom and empowerment of being able to roam wherever you want, whenever. The target users are not only visually impaired individuals, but also those with other physical or mental impairments as well as the elderly difficulty navigating.

RoamAssist

such as hospitals, to help visitors find their way. The company hopes that their robotic guide dogs will not only transform the lives of visually impaired people but also become helpful companions for many others.

RoamAssist is an innovative startup that is using cutting-edge technology to help visually impaired individuals



From left to right: Shaojun Cai (CEO of RoamAssist), Yingjia Wan (Marketing, User Experience Research and Product Development at RoamAssist), Yuhui Yuan (Business Development and Finance at RoamAssist)

The idea for RoamAssist was born when CEO Shaojun realised that his late grandfather had trouble getting around on his own. This led the team to interview people with difficulty getting around places and they soon discovered that the visually impaired community struggled immensely with this issue. With this in mind, they decided to create a robotic guide dog that could provide a reliable and low-maintenance alternative to real guide dogs, while also being more convenient than getting human help and easier to use than white canes.

The RoamAssist dog is equipped with interactive leash technology that guides users smoothly, while an interaction system communicates effectively with users. The solution is designed to help visually impaired individuals reach a level of freedom and independence that no other solution can offer, resulting in a significant enhancement of their

The team joined GRIP to turn their project into something with long-term impact and with better sustainability, which has helped them connect with potential collaborators and partner organisations. However, the assistive technology industry poses significant challenges, as personal assistive robots are a new concept for most people. Users need to get accustomed to in their assistive robot and trust it with different tasks to incorporate it into their lifestyle. This may take some time to educate users and penetrate the market.

Despite these challenges, RoamAssist has exciting future plans, with more trials lined up for this year. The company is adapting its products to suit the needs of more people, including those with hearing loss and the elderly who need help with daily tasks. RoamAssist dogs will also be seen in public facilities,

achieve a level of independence and freedom that was previously unattainable. The company's commitment to providing a reliable, low-maintenance, and user-friendly solution is what makes them stand out in the assistive technology industry. With their exciting plans for the future, RoamAssist is well on its way to revolutionalising the way people with disabilities move around in the world.

FUTURE BREAKTHROUGHS FOR SOCIETY

In conclusion, deep tech startups are essential for advancing innovation and solving complex challenges. Their potential to create new markets, change existing industries, and transform the way we live and work cannot be ignored. As the world continues to face new challenges, deep tech startups will always play a critical role in finding solutions that will shape our future.

NURTURING FUTURE ENTREPRENEURS IN ASEAN'S LARGEST ECONOMY

[NUS Enterprise](#) is partnering with Indonesia's Lembaga Pengelola Dana Pendidikan (Indonesia Endowment Fund for Education Agency, LPDP) to foster and cultivate innovation and entrepreneurship between Singapore and Indonesia.

Under this partnership, both LPDP and NUS Enterprise will jointly offer scholarships to deserving Indonesian students to support their graduate studies in [NUS, in particular, the NUS Master of Science in Venture Creation \(NUS MSVC\)](#).

NUS Enterprise and LPDP are also forging a long-term institutional collaboration in education in the area of innovation and entrepreneurship, with the objective of enhancing the technological, innovative, entrepreneurial, social and cultural exchanges of both countries. Through the promotion of the NUS MSVC, the parties aim to transform mindsets and accelerate the translation of ideas into solutions, thereby connecting the entrepreneurship ecosystems in Indonesia and Singapore, as well as paving a way towards nurturing future entrepreneurs and leaders in Indonesia, ASEAN's largest economy.



↑ Prof Chee Yeow Meng, Vice Provost (Technology-Enhanced and Experiential Learning) and Director of the NUS Overseas Colleges programme, NUS (left) and Dr Andin Hadiyanto, President Director, LPDP (right), inked an Agreement of Cooperation on 31 January 2023 to foster and cultivate innovation and entrepreneurship between Singapore and Indonesia.



Professor Yue Chee Yoon, Director of NUS Enterprise Academy, said, "NUS is excited to work with LPDP in nurturing the next generation of entrepreneurs and leaders in Indonesia. We look forward to grooming aspiring young Indonesian entrepreneurs through the NUS MSVC, bringing them closer to their entrepreneurial dreams. In turn, we are confident they would give back towards building innovation ecosystems back home, in Singapore and the region."

Associate Professor Dwi Larso, Director of Scholarship, LPDP, said, "In line with the Indonesian government's vision to embrace innovation, LPDP is cooperating with NUS, one of the world's leading universities in entrepreneurial education, to support and nurture more entrepreneurs, in hope of bringing more value added to the Indonesia's economy."

Launched in 2021, the NUS MSVC is an immersive graduate degree programme that combines experiential learning with the academic rigour of one of the top universities in Asia and the world. Designed to transform

mindsets and accelerate the translation of ideas into solutions, this one-year programme targets aspiring entrepreneurs wanting to launch new ventures with success or embark on an exciting new career in corporate innovation. Students are provided mentorship in business development and access to NUS technologies, as well as opportunities to network for market access. As part of the programme, students will have the opportunity to gain a valuable one-semester-long startup internship experience. They get to work alongside co-founders of innovative startups, experience the energy and immerse themselves in the thick of the action while connecting with like-minded people from the startup community, and forging a network of friends and future partners.

Following the signing of the agreement, NUS and LPDP will work closely to plan the launch of their joint initiatives within the next 12 months. Selected Indonesian students awarded the scholarships will attend the NUS MSVC starting from July 2023. There will also be a series of joint outreach events held at BLOCK71 Indonesia locations.



Group photo featuring representatives from NUS Enterprise and LPDP. From left: Beverly Teoh, Assistant Manager, NUS Enterprise | Agustin, Programme Manager, BLOCK71 Indonesia, NUS Enterprise | Claire Cheong, Associate Director, NUS Enterprise | Prof Yue Chee Yoon, Director, NUS Enterprise Academy | Prof Chee Yeow Meng, Vice Provost (Technology-Enhanced and Experiential Learning) and Director of the NUS Overseas Colleges programme, NUS | Dr Andin Hadiyanto, President Director, LPDP | Emmanuel Agust Hartono, Director of Finance and General Affairs, LPDP | Dr Agam Bayu Suryanto, Head of Cooperation and Scholarship Development Division, LPDP



In conjunction with the NUS-LPDP joint outreach event titled “Shaping the Entrepreneurial Landscape for the Future Economy”, BLOCK71 Jakarta hosted a fireside chat titled “Building a Winning Startup” on 5 December, 2022.

From left to right: Ming Hwee Chong, Co-Founder & CEO of New Markets, 99 Group | Ahmed Aljunied, CTO & Co-Founder, Pinhome | Dr Agam Bayu Suryanto, Head of Cooperation and Scholarship Development Division, LPDP | Prof Yue Chee Yoon, Director, NUS Enterprise Academy | Vanessa Tan, Marketing Director, Xiaomi Technology Indonesia | Claire Cheong, Associate Director, NUS Enterprise

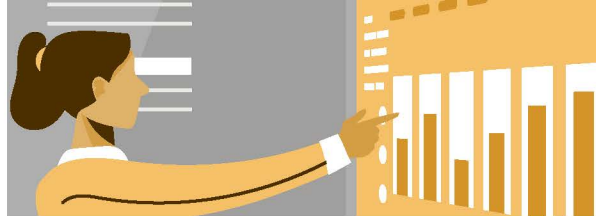
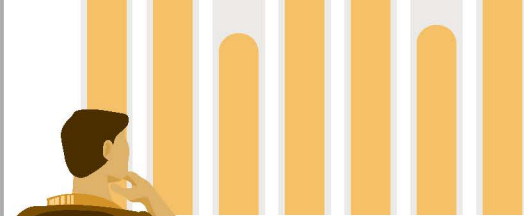


Fireside chat in BLOCK71 Yogyakarta with Delta Purna Widyangga, CEO and Co-Founder of Qiscus (centre) and Azellia Alma Shafira, CEO and Co-Founder of Banoo (right) held on 31 January 2023. The session was moderated by Dara Mawar, Programme Manager, BLOCK71 Yogyakarta (left).

SHAPING THE ENTREPRENEURIAL LANDSCAPE FOR THE FUTURE ECONOMY

NUS Enterprise has been closely involved in the innovation and entrepreneurship ecosystem in Indonesia since 2017 through programmes such as BLOCK71 Indonesia, [NUS Overseas Colleges \(NOC\)](#) and the [NUS Enterprise Summer Programme in Entrepreneurship](#). To date, NUS Enterprise has incubated more than 1,500 startups, providing incubation support and access to international markets through its BLOCK71 global network.

With a focus on shaping the entrepreneurial landscape for the future economy in the ASEAN region, the NUS Enterprise team with immense support from BLOCK71 Indonesia, co-organised the NUS-LPDP joint outreach events in [BLOCK71 Jakarta](#), [BLOCK71 Yogyakarta](#) and [BLOCK71 Bandung](#) on 5 December 2022, 31 January 2023 and 2 February 2023 respectively.



fired up



One of the highlights of these events was the fireside chats featuring speakers who are trailblazers in the ASEAN innovation ecosystem. Speakers for the Jakarta event included Mr Ming Hwee Chong (Co-Founder & CEO of New Markets, 99 Group), Mr Ahmed Aljunied (CTO & Co-Founder of Pinhome) and Ms Vanessa Tan (Marketing Director, Xiaomi Technology Indonesia). The session was moderated by Ms Claire Cheong (Associate Director, NUS Enterprise). The speakers shared their inspiring journey in their entrepreneurial pursuits, and views on building a winning startup.

These NUS-LPDP joint outreach events in Indonesia not only provided opportunities for like-minded people with entrepreneurial passion to gain insights from local entrepreneurs about entrepreneurial journeys, challenges faced, and business tips, but also offered a platform for aspiring entrepreneurs to learn more about NUS Enterprise's entrepreneurial initiatives and LPDP scholarship opportunities.



Panel Q&A session on "The role of universities in nurturing the next generation of entrepreneurs", held at BLOCK71 Bandung.

From left: Assoc Prof. Dwi Larso, Director of Scholarship, LPDP | Prof Yue Chee Yoon, Director, NUS Enterprise Academy | Claire Cheong, Associate Director, NUS Enterprise



NUS-LPDP joint outreach at BLOCK71 Bandung on 2 February 2023

From left to right: Alif Bahsyar, Programme Manager, BLOCK71 Bandung | Ming Hwee Chong, Co-Founder & CEO of New Markets, 99 Group | Dr Agam Bayu Suryanto, Head of Cooperation and Scholarship Development Division, LPDP | Adi Reza Nugroho, Co-Founder and CEO of MYCL | Claire Cheong, Associate Director, NUS Enterprise | Agustin, Programme Manager, BLOCK71 Indonesia | Assoc Prof Dwi Larso, Director of Scholarship, LPDP

Prospective students who are interested to find out more about the NUS MSVC may visit bit.ly/NUS-VentureCreation to learn more about the programme and its application details.

MARINACHAIN'S EARLY DEVELOPMENT TEAM:

A TEAM OF NUS UPSTARTS

By **Jonathan Jie**,
Co-founder & COO, MarinaChain
PIER71™ Smart Port Challenge
2022 Alumni



I've got to be honest here. MarinaChain is blessed to have the team it has, and we would not have accomplished as much as we have, if not for them. And with the launch of our product MarinaNet, one particular group of people that I've come to really appreciate is our development team.

Watching them work tirelessly through the Christmas season, even to the point of coming back to the office on weekends to finish their sprints, has made me glad of the people we chose to come aboard.

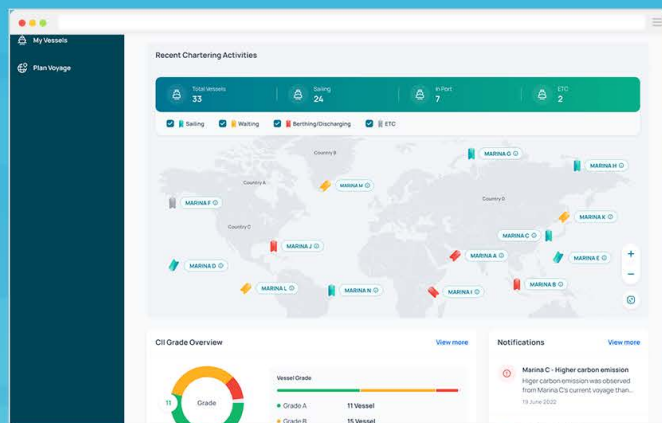
Back when the tech team was just Daniel (Head of Technology, MarinaChain) and myself, and we were looking to scale up our development, we were faced with the dilemma of outsourcing or building in-house. To no one's surprise, the advice we got was conflicting. We interviewed some developers a few years into their career, and also spoke to a couple of the dozens of offshore software develop houses that approached us, but ultimately we settled on the group of people we knew best – NUS and NOC (NUS Overseas Colleges) alumni.

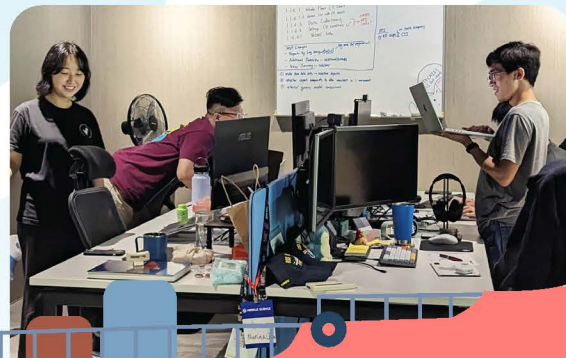
The decision to choose this unique subset of talent for our development team was made for three key reasons.

1 SPEED

Firstly, we needed a team that could move fast. Daniel and I initially considered offshoring development to an Indonesian team, as we were both Indonesian and communication wouldn't be an issue. However, the distance would have meant that the team wouldn't have been able to brainstorm with us in person, and there would have been a lag in the implementation cycle. This is why we ultimately decided to handpick a team of NUS and NOC alumni, who not only have the necessary skills and experiences, but are also able to work closely with us to ensure that we can move quickly and effectively.

In the maritime industry, the adoption of digital platforms is relatively new and comes with its own set of complexities. To tackle this, we needed to continually iterate the design of our interface to make it as user-friendly as possible. This required a team that could not only keep up with the pace of change, but also anticipate and adapt to new requirements. Our development team was up to the task, and they've helped us to create a product that's intuitive and easy to use, even for those who may not have a background in technology.





2 EXPERIENCE & PERSPECTIVE

Secondly, we wanted a team with diverse experiences. As a first-time founder, I wasn't equipped with sufficient knowledge of the best practices to instill into our fledgling tech team. But with the team we handpicked, they brought with them a wealth of diverse experiences and perspectives from their time working in startups across a wide range of industries, from Fintech to Web3 to B2B SaaS. This diversity allows us to approach problems from multiple angles, and to find solutions that are tailored to our specific needs. Additionally, because our team members have worked in so many different environments, they are able to bring best practices from one industry to another, helping us to innovate faster and more effectively.

3 CONTINUOUS GROWTH

Lastly, we want a team that will further our culture of Continuous Learning and Growth. At MarinaChain, we believe that learning and growth should be a continuous process, not just a one-time event. The NUS and NOC alumni we handpicked had already demonstrated their commitment to this philosophy, having gone through either the rigorous NUS Overseas Colleges Programme or the intensive Engineering Science Programme in NUS. By constantly seeking out new opportunities to expand their skills and knowledge, whether it's through online courses, conferences, or simply by staying up-to-date with the latest industry news, our team members are always looking for ways to improve. This focus on continuous learning has allowed us to stay ahead of the curve, and has helped us to deliver innovative solutions that truly make a difference.

In conclusion, MarinaChain's development team is a testament to the power of diverse perspectives and a culture of continuous learning and growth. Their backgrounds as NUS alumni and NOC participants have given them the skills and experience necessary to tackle the complex challenge of maritime decarbonisation. As we gear up for the beta launch of our product, I couldn't be more proud of the team that we have built, and I'm excited to see what the future holds.

And speaking of the future, if you're passionate about making a difference in the maritime industry and you're looking for a new challenge, we're always on the lookout for talented individuals to join our team. So why not drop us a line at careers@marinachain.io and let's see where you could fit in at MarinaChain!

ABOUT MARINACHAIN

MarinaChain is a Singapore-based startup that helps maritime decarbonisation and green financing through Web2 solutions. MarinaChain makes it possible for shipowners and managers to automate all CII (Carbon Intensity Indicator)-related workflows and create auditable reports for operational, commercial or regulatory purposes – this simplifies vessel emissions management significantly.





Scent-sational Fragrances that Unleash Your Senses With Every Spray:

Scent Journey

If you've ever delved into the world of perfumes, there are usually two sets of responses you get from the general public – those who love perfume and heavily use it as part of their daily routine, and those who have a negative association with fragrance. Most people who stray away will tell you that most perfumes are headache-inducing and many experience adverse effects of heavy fragrances. Joyce Lian founded Scent Journey, to capture the healing essence of nature, creating bespoke fragrances that not only smell good but boost your mood.



JOYCE LIAN
Founder of Scent Journey

THE SCIENCE OF SCENTS

For Joyce, returning back to the fragrance industry with Scent Journey was a long-awaited homecoming for her. From the very start, Joyce always had a passion for fragrances and hoped to become a perfumer of her own. After completing Polytechnic in 2016, she studied Chemistry at NUS to gain skills in perfume formulation. During her summer breaks she was always seen doing internships at big fragrance houses. When she graduated in 2018, she struggled to find a job in the fragrance industry due to how niche it is. Trying her hand in different industries, she worked at a bank for a short while. When the COVID-19 pandemic hit, she lost interest



"I think creating fragrances is the perfect combination of art and science - a perfumer balances chemistry whilst creating a scent story, stirring up emotions and memories through a single perfume"



During this time was when she did most of her research for Scent Journey, one of which was interviewing over a hundred individuals in Singapore to find common pain points associated with fragrances in the existing market. She found out that a lot of perfumes in the market used cheap methods of integrating alcohol into their fragrances such as denaturing it as methanol to avoid incurring alcohol tax. "When we first started the brand, it was difficult to find the perfect quality and type of alcohol, this was very important to me, I wouldn't launch the product if I was not proud of it," said Joyce. What makes Scent Journey unique from other perfume brands in the market is how they tap into wellness using science and technology. "In our research we even used technology such as the fMRI (functional magnetic resonance imaging) to help us study how individuals' moods are impacted by different fragrance accords," said Joyce.

Sustainability was also a top priority for Joyce when starting Scent Journey, "We work with top fragrance houses to source for ingredients ethically. Each time we harvest from farmers, they should have enough and not be stripped entirely. We also have a responsibility to protect the biodiversity," said Joyce. Scent Journey uses high quality ingredients with formulations that are 85% naturally derived, cruelty-free and not filled with unnecessary synthetic fillers.

THE JOURNEY TO SCENT JOURNEY

Scent Journey was officially created in 2021 and shortly after receiving the SG Startup Grant, it went on to incubate at BLOCK71. Scent Journey is known for their signature perfumes, mood nebulisers and microbiome hydration hand sanitizers. Some of their perfumes are "The Blooming Jewel", the crowd favorite featuring a rosy and fruity scent, "Clouds in Heaven", a popular scent among tourists visiting Singapore due to its distinctly

and struggled even to go to work - that's when she heard from her colleague about the Venture Building programme at NUS Enterprise (which was started during COVID-19). The program was 3 months, teaching aspiring entrepreneurs on how to turn an idea into a scalable venture. "For me it wasn't a hard decision to quit my job at the time because I have always found my passion in fragrance, I knew I had to go back," said Joyce.

creamy pandan scent and Joyce's current favourite, "A Starlit Spell", a relaxing scent filled with wild iris and pear. The startup aims to take individuals through the journey of mindfulness through scent. Their logo features a yellow vented bulbul, a common bird in Singapore which you can only spot when you slow down just like how fragrance is meant to be enjoyed when you slow down from the business of everyday life. Their signature bird also represents their freedom to explore the best ingredients in the world to transform into fragrance.



Scent Journey is constantly journeying to create new scents and is currently looking towards expanding into a major retailer. The startup is also always on the lookout for new collaborations and finding inspirations for their new fragrance launches.



Scent Journey took part in the November 2022 and March 2023 Boutique Fairs



Discover your perfect scent journey today: scentjourney.com
Scent Journey is also available at Design Orchard, Singapore.



"The awareness of the importance of gut health has been increasing since the COVID-19 pandemic, as many notice that the healthier the gut, the stronger the immunity. This is because 70% of the immune system is in the gut. What we choose to eat affects the diversity and composition of microbes in the digestive tract, which in turn affects the immune health."



GOOD FOR THE GUT

Soynergy's okara-based probiotic drink is known and documented to support gut and cardiovascular health. Using the probiotic strain, *Lactobacillus paracasei* L26, Viscozyme L enzyme, and the *Lindnera saturnus* NCYC 22 yeast, it supports gut health whilst producing a less gritty mouthfeel and fruity aroma of the drink. The startup also believes that by incorporating bio-okara in daily food such as snacks, it would benefit the consumers since it presents itself as a healthy alternative for people without having to change their eating habits. This is one area that their solution aims to tackle, which is to upcycle low value by-products and incorporate them into daily foods for consumers.

Another area that their solution aims to tackle is to work towards a zero-waste food manufacturing industry. With the emerging issue of food waste and its effect on the environment, there is a need to reduce the amount of food waste generated during

AN OKARA REVOLUTION: SOYNERGY

"We're often told to trust our gut, but are we taking care of it sufficiently? Soynergy, a Singapore biotech startup, that contributes to upcycling food by products has launched a product that is proven to be beneficial for our gut health. This is none other than their Okara-based Probiotic drink, a novel non-dairy product that is upcycled from okara, a by-product of tofu. Okara is an underutilised nutrient-dense ingredient high in fibers and protein but contains naturally insoluble fibres that can potentially cause bloating and indigestion.

Thus, the probiotic-fermentation technology patented by Soynergy aims to upcycle okara into functional bio-okara powder that exerts potential symbiotic effect. This "synergy" effect the process undergoes is the inspiration behind the company name, Soynergy, a combination between the words "Soy" and "Synergy".

CHARGING AHEAD

Since the launch of their first product, they have also launched a probiotic cookie made from upcycled okara and are looking to expand to other by-products such as brewers' spent grains. However, Dr Lin shared that the road is not always as easy as it seems. She mentioned that there are still potential challenges faced by the startup in the sustainable food industry. This includes balancing a competitive pricing strategy and reduced manufacturing costs, maintaining a consistent and reliable supply chain, as well as educating consumers on the benefits and safety of consuming upcycled food waste.



manufacturing processes. Every day, about 30 tons of okara is discarded or used as animal feed, compost or fertilizer in Singapore. Not only does it inflict a negative impact on the environment, but it also poses an economic loss to manufacturers. Thus, Soynergy is choosing to work with soy manufacturers that have onsite processing to reduce transportation and contamination issues, while also providing an additional revenue stream for them.

"Entrepreneurs must always be ready for multiple responsibilities and deal with unexpected problems. As a science graduate, we are often systematically trained in problem identification and solving. GRIP however, has expanded my abilities to not only solve hard technical problems that are clearly defined, but also to recognise emerging needs and wants so that I am able to proactively participate to satisfy them by creating and renewing solutions."

ABOUT SOYNERGY

Soynergy was co-founded by Dr Lin Jing in 2020 to commercialise their defensible and adaptable patented process. Dr Lin first discovered her passion during her PhD training period when she wanted to bring science-backed benefits to consumers, by transferring academic knowledge to industrial applications. This is why Soynergy's mission is to establish a biotechnology platform to transform food by-products into functional foods. Since then, she has taken part in the NUS Graduate Research Innovation Programme (GRIP), an incubator helping researchers fine-tune their innovations for the market, during its second run to develop her startup.



NUS GIVING

SEE THE POSSIBILITY

Make a gift to
positively transform
NUS students' lives



Ms Yap Ko Ko
(Arts and Social
Sciences '21)

I am honoured and grateful to have been a bursary recipient. These gracious gifts have greatly helped me and my family, and bolstered stability and my confidence.

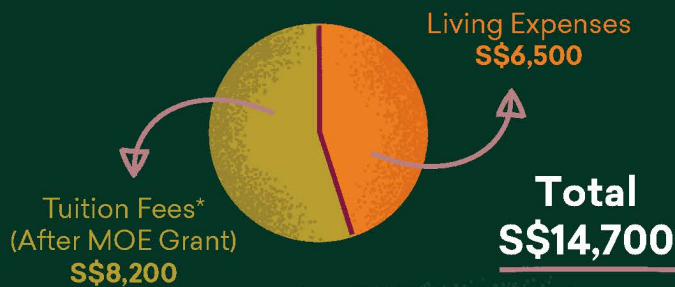
I was fortunate to be a former recipient of an NUS bursary. It allowed me to concentrate fully on my studies and enjoy university life, which I cherished deeply. I am forever grateful and honoured to be able to pay it forward.



Ms Jessie Tong
(Science '09)

Open doors to opportunities
for NUS students

Annual Cost of Education for Singaporean Students



Yearly out-of-pocket
tuition fees and living
expenses can be as low as

S\$16 a day*

*NUS students from households with a per capita income of S\$691-1,000.

Information retrieved from NUS Office of Admissions.



NUS SECURED ONLINE GIFT PORTAL

Please check that the QR code leads you to a webpage with a URL that starts with "bbis.nus.edu.sg" and a padlock icon.



PAYNOW

1. Launch your mobile banking application.
2. Tap on "Scan & Pay" and scan the PayNow QR Code.
3. Key in the gift amount.
4. Under UEN/Bill Reference Number, key in <DA033-NRIC/FIN/UEN>. Donors who do not provide their Singapore Tax Reference Number (i.e. NRIC/FIN/UEN) will not be able to enjoy tax deduction.



Development
Office

www.nus.edu.sg/nusgiving

askdvo@nus.edu.sg

1800-DEVELOP (1800-338-3567)

www.facebook.com/NUS.Giving



bright ideas

Just in case it slipped your mind, Mother's Day is coming up soon this May! This season, shower your mum with some love with these affordable, sustainably sourced and most importantly, thoughtful gifts.

Mother's Day Gift Ideas From Our Very Own Community!



Foreword Coffee's 6oz HuskeeCup Bundle

Mums work hard day and night, and if yours need a morning cuppa to start the day, this is for you! The HuskeeCup Bundle comes with 5 assorted biodegradable brew bags, a 6oz HuskeeCup with lid and a Foreword Pouch, making it a great gift set for special occasions. That said, this is not just any normal coffee! Every HuskeeCup is made from coffee husk, an organic waste material produced at the milling stage of coffee production. By using HuskeeCup, you are helping to recycle hundreds of tonnes of waste material from the production of coffee. Not only that, Foreword is also pledging 5% of sales revenue from their latest version of coffee brew bags to community development projects in coffee growing regions in Asia, talk about sustainability!



HuskeeCup Bundle Comes with 5 Assorted Biodegradable Brew Bags, 1 6oz HuskeeCup with Lid and 1 Foreword Pouch

\$31

Bloomback's Aromatic Flower Soap & Personalised Birthstone Bag Charm Gift Set

Of course, a Mother's day gift compilation cannot be complete without flowers! If you're looking for something a little different from the usual flower bouquet this year, consider this gorgeous gift set! Crafted using long-lasting real and premium flowers, the gift set comes with a customized bag charm paired with a complimentary birthstone which can be personalised to your mum's birth month. The gift set also includes aromatic flower soap, a thoughtful gift to emphasise self-care. Treat your mum to a luxury spa experience from the comfort of their own homes during her special day!



Bloomback's Aromatic Flower Soap & Personalised Birthstone Bag Charm Gift Set

\$100

Singrow's Bloom Strawberries

Pamper your mum with a box of these sweet and juicy strawberries that simply cannot be found in your neighbourhood supermarkets! We are talking about Singapore's very own strain of strawberries, grown using award-winning technology and state-of-the-art robotics after years of agricultural research. By supporting Singrow, you too can play a part in reducing the global carbon footprint and wastage that comes with food production and importation, all whilst enjoying strawberries that are 100% natural and free of pesticides! Alternatively, if you are looking for something more unique, consider getting a seedling kit for your mum to experience growing her very own strawberries!



Bloom Strawberries (350g per box)

\$22

Callery's Low-Calorie Ice Cream

Our parents' health should always be a top priority. This Mother's Day, indulge in a delicious, yet guilt-free sweet treat with your mum! Callery's Ice-cream is sweetened with Erythritol - which is naturally found in plants and fruits and almost calorie-free. With as low as 59 calories (that's 77% lower than regular ice-cream!) and 3.9g of sugar per serving, this is the perfect dessert for ice-cream lovers of all ages. Unlike other sugar replacements, Erythritol does not cause bloating nor affect blood sugar levels. Take your pick from the 3 flavours available and have it delivered to your doorstep today!



Callery's Premium Artisanal Ice Cream, Available in 3 Flavours

\$16.90

NEWSFEED



NuSpace and GomSpace (a Danish provider of nanosatellites and nanosatellites platforms) signed a Memorandum of Understanding (MoU) to develop an extended value proposition in Singapore NewSpace. The partnership aims to enhance the value proposition of both companies by combining their respective strengths in satellite communication and hardware development. **NuSpace** will leverage GomSpace's nanosatellite platform technology to enhance its satellite communication services and offer new capabilities, such as IoT applications, Earth observation, and remote sensing. GomSpace, on the other hand, will benefit from **NuSpace's** expertise in satellite communications and gain access to the Southeast Asian market. The partnership is a significant step for both companies in their efforts to expand their presence in the global satellite industry and offer innovative solutions to their customers.



Carousell Group has integrated the Laku6 team and its AI-first diagnostics technology to expand its mobile ecommerce services in Southeast Asia. Laku6 is an Indonesian-based startup that uses artificial intelligence to provide mobile device diagnostics and valuations. The integration of Laku6's technology will enable **Carousell** to offer more accurate and efficient valuations of mobile devices and expand its ecommerce services to more countries in Southeast Asia. The move is part of **Carousell's** strategy to tap into the growing demand for ecommerce services in the region and establish itself as a leader in the mobile marketplace industry. The integration of Laku6's technology is a significant step for **Carousell**, and it has the potential to create new opportunities and drive growth in the ecommerce market in Southeast Asia.



Singrow launches the world's first climate-resilient strawberry variety through precision agriculture. The new strawberry variety is said to be more resilient to heat stress, drought, and diseases than traditional varieties. **Singrow** plans to launch the strawberries in the Singapore market initially and expand to other global markets in the future. The startup uses precision agriculture techniques, such as vertical farming and hydroponics, to grow crops in controlled environments with minimal water and land usage. **Singrow's** climate-resilient strawberry variety is a significant achievement for the startup and has the potential to address the challenges of climate change and food security in the region.



FlexoSense has developed a smart insole to detect workplace falls which will be trialed in the maritime sector.

The smart insole uses pressure sensors and machine learning algorithms to analyse the user's gait and detect anomalies that may lead to slips, trips, or falls. The insole can also provide real-time feedback to users and alert caregivers or emergency services in case of a fall. The smart insole will be tested in a maritime company to evaluate its effectiveness in preventing falls and reducing workplace injuries. The trial is part of a broader effort to enhance workplace safety in the maritime sector and explore the potential of technology to prevent accidents and injuries. The development of the smart insole and its application in the maritime sector is a significant achievement for **FlexoSense**, and has potential to create new opportunities and drive growth in the occupational safety market.



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



RECENTLY REPORTED FUNDING & ACQUISITION IN OUR START-UP COMMUNITY

- Qoala – Series B+; \$7.5 million
- 99.co – Series C; \$11 million
- Alchemy Foodtech – Extended Bridge Round; US\$3 million

All info based on public news sources.



A Guide to Grants and Funding for Budding Entrepreneurs



**STARTUP
SG**

**GRANTS AVAILABLE
ALL YEAR-ROUND!**

For any aspiring startup, adequate funding is critical for a business idea to take flight. Regardless of whether you are a first-time entrepreneur, or a growth-stage startup, you may often find yourself overwhelmed with information and when researching on the support available, only to realise that your startup is not eligible or that the application window has just closed. To help you in your search for the most suitable grant, we have specially curated a list of grants by Startup SG that are open for applicants all year-round. So, feel free to save this page or share it with your fellow entrepreneur friends!

Grant	Startup SG Founder Grant	Startup SG Tech Grant	Startup SG Equity
SUITABLE FOR	New and early-stage startups	- New and early-stage startups - Growth stage startups	Growth stage startups
ABOUT	Under Startup SG Founder Programme, first-time entrepreneurs can access funding through a startup grant and mentorship from Accredited Mentor Partners (AMPs). This includes pitch training, networking opportunities with investors and corporates, secretarial and accounting support, and access to exclusive programmes.	The Startup SG Tech is a competitive grant that fast-tracks the development of proprietary technology solutions and supports Proof-of-Concept (POC) and Proof-of-Value (POV) for commercialisation of innovative technologies. Companies may apply for POC or POV grants depending on the stage of development of the technology/concept.	As part of the Startup SG Equity scheme, the government will: (i) Co-invest with independent, qualified third-party investors (managed by SEEDS Capital and SGInnovate) (ii) Invest in selected venture capital firms that will in turn invest into eligible startups, through a fund-of-funds approach (managed by EDBI)
GRANT CAP	Up to \$50,000 by matching \$5 to every \$2 raised by the entrepreneur. As your AMP, NUS Enterprise will provide an additional \$10,000 cash investment as well as corporate secretarial and accounting support for 12 months, in return for a nominal percentage in equity.	POC: \$250,000. POV: \$500,000. Grants will be awarded upon the completion of each milestone instead of reimbursement. The grant will also carry an equity component where Enterprise Singapore will have the rights to exercise a share subscription.	General tech: \$2,000,000 Deep tech: \$8,000,000 Please visit the Startup SG website for more information on the Co-investment ratio.
JUDGING CRITERIA	- Differentiated Business - Feasibility of Business - Passion and Entrepreneurial Spirit Demonstrated by Management Team - Potential Market Opportunity	- Clearly demonstrate how science/technology is applied - Be of a breakthrough level of innovation (i.e. distinctly different or new technology which either (i) has the potential to disrupt an existing market; or (ii) to replace, or create, a new market/purpose/niche) - Lead to or build on proprietary know-how/IP - Commercially viable	- Substantial innovative and/or intellectual property content developed or owned in-house - Commercially viable business model – this includes being able to secure some pilot/paying customers - Clear value proposition and potential for scalability - Committed and capable management team with relevant experience and business acumen skills, and receptive to guidance from co-investors



For more information on application criteria and terms and conditions:



Ready to take off your ideas but don't know where to start? Whether you are a fresh startup or are looking to venture into the overseas market, NUS Enterprise is here to provide a helping hand to support entrepreneurs at every stage of your entrepreneurial journey

Covering 5 main facets: Marketplace, Mentor Consultation, Professional Services, Network and Expanding Overseas, NUS Start-up Runway is an initiative by NUS Enterprise where incubatee companies can leverage on a range of services and resources to grow their businesses. These include but are not limited to mentorship, professional services and even overseas expansion.



NETWORKING

Establishing a good business network is crucial to grow your company. As an incubatee with NUS Enterprise, get priority access to many networking-centric activities and events for you to mingle and interact with fellow startups in our ecosystem. Importantly, industry experts, angel investors, venture capitalists and mentors often drop in during these occasions, presenting you with a golden opportunity to open doors and take your startup to the next level!



MENTOR CONSULTATION

Met a roadblock? Hear from experienced mentors who will guide you in the right direction. In addition to general business advice, our mentors can also offer advice for Go-To-Market strategies, business growth strategies, industry knowledge and more. Incubatee companies will be matched to a suitable mentor for dedicated mentoring, while startups who are not yet registered as incubatees can also book a short consultation with our mentors up to 2 days in advance.

Visit our website for more information:



NAVIGATING THE TALENT MARKETPLACE

Often, startups may face difficulties in recruiting good talent. In this aspect, NUS Enterprise plays a supporting role by connecting startups to potential hires looking for job opportunities to gain valuable work experience in the entrepreneurial space. Incubatee companies can leverage career fair booths organised by NUS Enterprise, which are excellent platforms to scout for talent. In every calendar year, incubatee companies can expect up to three career fairs; one organised by the Centre for Future-Ready Graduates and two organised by the NUS School of Computing. In addition to NUS Career fairs, NUS Enterprise also organises open houses at N-House, our entrepreneurial-themed residence, as another avenue for incubatee companies to showcase their businesses and network with potential hires.

Apart from physical events, incubatee companies can also leverage BLOCK71's one-stop shop to post available job listings online or request for placement of recruitment notices at noticeboards within NUS Enterprise premises to facilitate their talent search.



PROFESSIONAL SERVICES

We understand that fresh startups may require support to manage back-end business functions such as accounting, book-keeping or marketing due to a lack of experience or capacity. With that in mind, NUS Enterprise will provide one year of complimentary service in Corporate Secretarial and Basic Accounting/Tax-related matters through our specially appointed legal counsel and financial services consultant respectively. After the first year of incubation, you may wish to continue the services at subsidised rates. In addition, incubatee companies can receive help in marketing communication efforts, including advice on market positioning and drafting and disseminating of press releases, if necessary.



EXPANDING OVERSEAS

As a startup, venturing overseas may feel as if you are stepping into a new world of uncertainty. However, the process need not be daunting if you have the right partner to help you along the way.

Startups exploring overseas markets may tap on the Startups Go Global programme, which provides startups with a grant of up to S\$15,000 to access international markets, meet potential clients or partners, and attend industry events to gain exposure for their products and services.

At NUS Enterprise, our network of local and overseas partners has enabled us to set up business hubs in markets like China, US and ASEAN to help startups gain greater access to these economies. Our BLOCK71 locations provide a physical locus for expanding startups to access new markets while leveraging NUS Enterprise's global network of resources and contacts, allowing entrepreneurs to receive comprehensive support to integrate into the local ecosystems seamlessly.



Students checking out opportunities available at the annual career fair organised by the NUS School of Computing

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.

NUS Enterprise actively promotes entrepreneurship and cultivates global mind-sets and talents through the synergies of experiential entrepreneurial education, active industry partnerships, holistic entrepreneurship support and catalytic entrepreneurship outreach. Its initiatives and global connections support a range of entrepreneurial journeys and foster ecosystem building in new markets. These initiatives augment and complement the University's academic programmes and act as a unique bridge to industry 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.

