Knowledge Manufacturing with Researchers, Startups, Corporations and Educators

Nest Garage

2026.3
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Education Development:
Growing Future Researchers Together

Human Development:
Entrepreneurship-Ready Talent In Asia:
From Mindset to Ecosystem

Research Development:
Knowledge From The Region:
Emerging Research In Southeast Asia

Frontier Development:
Startups Going Beyond The Comfort Zone

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Leave a Nest

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ON THE COVER

Ms. Gillian Santos

Co-Founder & Chief Executive Officer
Anihan Technologies (AniTech), Philippines

Ms. Gillian Santos is an agri-tech entrepreneur leading IoT-driven agricultural innovations to reduce food loss and improve supply chain efficiency, with a strong background in research, economics, and venture creation. Her startup, AniTech, is also an investee of Leave a Nest, reflecting strong institutional support for her mission to transform the agricultural value chain through technology.

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GROWING FUTURE RESEARCHERS TOGETHER

Curiosity is the starting point. Students grow when they are given space to explore and discover.

Guidance matters. With the right mentorship, curiosity turns into confident inquiry.

Teachers play a vital role in shaping mindsets, nurturing resilience, and inspiring future researchers.

Research starts with curiosity. It begins with a simple question, “Why?” In this section, Growing Future Researchers Together looks at how schools and educators help students turn curiosity into research skills.

We focus on growth, not just grades. Students learn to think critically, ask better questions, and stay resilient when answers are unclear. Research is not treated as a one-time assignment. It becomes a guided process. Teachers create safe spaces where students explore ideas, test them responsibly, and learn from mistakes.

When research connects to real-world and community issues, learning becomes meaningful. Students begin to see purpose in their work.

Through feature stories and educator perspectives, we share practical approaches that support this journey. Our goal is simple. We want young people to see themselves not only as learners, but as future researchers.

GUIDING MINDS, BUILDING RESEARCHERS:
HOW TEACHERS EMPOWER STUDENTS TO REACH THEIR FULL RESEARCH POTENTIAL

By Edilyn Odero

In many Philippine classrooms, the word "research" can trigger anxiety. For some students, it feels technical, rigid, and reserved for the academically gifted. But for Atty. Darrel Tibre, Senior Education Program Specialist for Planning and Research at the Department of Education - Catbalogan City Division, research is not meant to intimidate. It is meant to empower.

Through years of teaching, mentoring, and system-level leadership, he has seen how teachers can transform research from a mere requirement into a meaningful instrument for learning, leadership, and nation-building.

From Intimidation to Inspiration

Atty. Darrel Tibre's early years in university were marked by rigorous academic training and strong mentorship. At first, conducting research felt overwhelming. The demands were high, the standards exacting. Yet over time, the process became deeply fulfilling.

"There is a distinct sense of accomplishment," he shares, "in discovering new knowledge through one's own efforts."

That realization shaped his enduring commitment to education and research. Interestingly, while many assume he shifted from law to teaching, Tibre explains it was the other way around. Teaching came first in his sense of purpose. Becoming a lawyer strengthened his analytical thinking, but teaching grounded him in service and nation-building. The two professions, he says, complement each other in administration, policy development, and research leadership.

Demystifying Research in Philippine Schools

One of Tibre's earliest realizations as a teacher was simple yet powerful; students are not afraid of research itself but they are afraid of not understanding it. "Many learners see research as disconnected from real life, buried in jargon and rigid templates," he says. In the Philippine context, challenges extend further, limited access to resources, insufficient mentorship, and difficulty obtaining relevant local data. Students commonly struggle with three things: confidence, clarity, and connection. They doubt their ability to produce quality work, feel overwhelmed by technical requirements, and fail to see how research connects to their lived experiences.

For him, the solution begins with reframing. "Research starts with everyday problems," he explains. "It begins with local realities and genuine curiosity." When students are encouraged to examine issues in their own communities, research becomes less abstract and more meaningful.

Creating Safe Intellectual Spaces

Fear diminishes when educators create safe intellectual spaces, classrooms where questions are welcomed and mistakes are treated as part of the learning process. He encourages teachers to emphasize process over perfection because they are crucial enablers.

"Good research is not about having all the answers at the beginning," he says. "It is about being disciplined, ethical, and honest in the pursuit of knowledge."

After his classroom teaching years, Tibre transitioned into Human Resource Development and eventually into Planning and Research, where his work expanded to system-level capacity building. He helped design research trainings, mentoring initiatives such as the ABKD Research Clinic, and policy-aligned programs that connect research to school improvement and strategic planning. His approach is consistently practical. Research, he insists, should inform better instruction, responsive policies, and stronger governance, not simply serve as compliance for promotion requirements.

Witnessing Potential Unleashed

Even during his time as a classroom teacher, Tibre firmly believed in his students' potential. Despite the challenges they faced, he witnessed outputs that exceeded expectations. Their success, he notes, came from sincere effort, intellectual curiosity, and a desire to offer solutions to everyday problems. Today, some of his former students have published studies and authored books, a testament to persistence and early mentorship. These stories reinforce his belief: when teachers guide patiently and model integrity, students rise beyond what they initially believe possible.

Research and the Future of Philippine Education

Looking ahead, Tibre sees research as central to national reform efforts, particularly those anchored in the Quality Basic Education Development Plan (QBEDP) and the findings of the Second Congressional Commission on Education. Both initiatives underscore a critical truth: meaningful reform must be evidence-based. Learning gaps, teacher workload concerns, resource inequities, and systemic inefficiencies cannot be solved through intuition alone. They require reliable data, careful analysis, and credible research.

From his vantage point in Planning and Research, Tibre describes research as the bridge between vision and execution. It ensures that reforms are not merely well-intentioned but strategically responsive to realities on the ground. More importantly, cultivating research competencies among teachers and students nurtures a generation that values critical thinking, accountability, and innovation.

A Call to Teachers and Future Researchers

For teachers who wish to better support students in research, Tibre offers grounded advice:

- Start where your students are.
- Avoid overwhelming them with jargon.
- Teach research first as a way of thinking before presenting it as a technical process.
- Model integrity, because research, much like law, rests on credibility and trust.

In the end, strengthening research culture in Philippine schools does not begin with complex frameworks. It begins with teachers who model inquiry, ethical practice, and intellectual honesty every day. When research becomes embedded in how schools teach, lead, and govern, it ceases to be intimidating. It becomes transformative. And in that transformation, teachers are not just instructors, they are nation-builders guiding minds and building researchers for the future.

FROM FIRST QUESTIONS TO REAL-WORLD IMPACT: HOW NEXUS INTERNATIONAL SCHOOL (SINGAPORE) ENABLES YOUNG RESEARCHERS TO THRIVE

By Mohamed Shazada,Bbs

Where Curiosity Becomes Capability

In an age shaped by artificial intelligence, climate anxiety and constant information flow, schools face a defining challenge. How do we prepare students not just to absorb knowledge, but to think independently and responsibly? At Nexus International School Singapore, research is not reserved for a select group of high achievers. It is woven into the culture of the school, shaping how students question, analyse and create.

For Shoaib Raza, Director of Digital Learning and Entrepreneurship at Nexus, the mission is clear. Students must move beyond consuming knowledge to creating meaningful value.

"At Nexus, we define entrepreneurship as empowering learners with objective led mindsets that embrace innovation to create meaningful value," he explains. Research grounds innovation in evidence. In a world of instant answers, discernment has become essential.

This mindset begins early. From as young as seven, students are exposed to structured inquiry and guided questioning. Raza often challenges learners with a simple but uncomfortable idea. Young people sometimes use the term non player character (NPC) to describe someone who drifts passively through life. At Nexus, students are reminded they are not background characters in their own education. They are expected to think, question and take ownership.

The Art of Asking Better Questions

One of the first hurdles students encounter is crafting a strong research question. While ideas originate from students, teachers work closely with them to refine direction and scope. "The research question is very important," Raza says. "Teachers guide students carefully on where that question will lead."

This reflects a core belief at Nexus that inspiration is structural rather than motivational. Instead of entertaining students into engagement, educators design systems that demand intellectual effort. Learners explore sustainability, ethical technology and social impact not as abstract themes, but as real problems requiring rigorous thinking.

Students are explicitly taught how to refine questions, evaluate sources, detect bias and interrogate AI outputs. Through the school's Critical Thinking for an AI World programme, AI becomes a support tool rather than a substitute for reasoning.

When Failure Becomes the Lesson

A machine learning project presented at Science Castle Asia 2024 captures this philosophy in action. Students investigated how machine learning could distinguish between pulsar radiation, star radiation and cosmic background radiation. Teachers scaffolded the process through dataset validation and model evaluation.

When the team later discovered dataset imbalance that weakened their early findings, it became a pivotal moment.

At Nexus, failure is reframed as First Attempt In Learning. During these moments, teachers are deliberate about tone and language. This is where the growth mindset is either nurtured or diminished. Instead of removing difficulty, educators guide reflection, reinforcing resilience and intellectual humility as essential research qualities.

Research as a Continuum, Not a Competition

Research at Nexus follows a clear developmental pathway. Primary students complete guided inquiry projects. In secondary school, every learner participates in an annual science fair. At IGCSE and IB levels, Internal Assessments and the Extended Essay demand sustained independent investigation.

Research complements formal curriculum demands. “Research strengthens curriculum mastery rather than competing with it,” Raza emphasises. Skills such as analysis, evaluation and methodological rigour strengthen academic performance while building resilience that extends beyond examinations.

Beyond the Classroom

Learning extends well beyond campus. Students engage with platforms such as Science Castle, NASA challenges and collaborations with organisations like Y:WAIT. Talks by NASA scientists connect learners to authentic research communities.

These experiences place students just beyond their comfort zones, where challenge meets support. When treated as emerging contributors rather than passive observers, they rise to expectations.

For Raza, the true fruits of this work may appear years later when alumni thrive in significant roles. Yet events like Science Castle by Leave A Nest offer earlier glimpses of that growth as students defend their methodology and respond to critique with confidence.

At Nexus International School Singapore, research is not about chasing awards. It is about cultivating disciplined questioning, responsible innovation and the courage to confront complexity. In a world searching for solutions, that mindset may be education’s most powerful contribution.

TEACHERS AS CATALYSTS IN NURTURING SCIENCE AND INNOVATION EXCELLENCE

By Anis Nadyra Zifruddin, Ph.D

After 16 years of teaching Chemistry, Mrs Nurul Huda binti A. Ghani still walks into her classroom with the curiosity of a student. While guiding her own students through experiments and research projects, she is also completing her Master's degree in Chemistry Education at Universiti Teknologi Malaysia. A graduate of Universiti Sains Malaysia, where she earned her Bachelor of Education (Chemistry) with Honours, she balances academic deadlines with lesson plans, laboratory supervision, and mentoring sessions, not because she has to, but because she believes learning should never stop. For her students at Sekolah Sains Seri Puteri (SESERI), Kuala Lumpur, that dedication speaks louder than any lecture ever could. Her active involvement in STEM conferences and competitions has also earned her recognition, including the Sentul District Co-Curricular and Sports Excellence Award 2025.

Teaching Students to Think Like Researchers

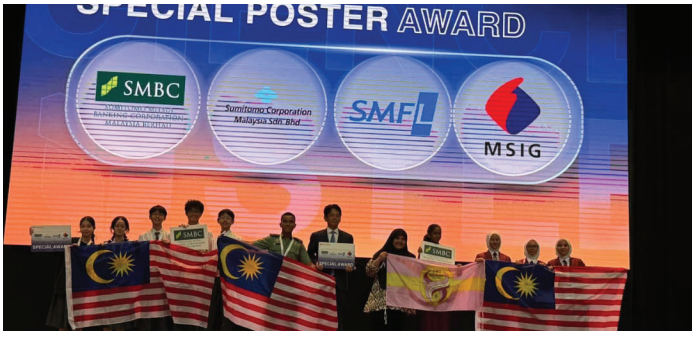
Her dedication to STEM education is a natural extension of her belief as a science teacher. For her, teachers play a critical role in providing students with the support and guidance they need, but it does not stop there. She emphasises teaching students the scientific way of doing research from the beginning by identifying a clear problem statement, constructing a sound methodology, and conducting proper experimental procedures. In this way, students learn to think and work like young researchers, not simply to complete an exciting science project.

Through her Master's studies, she also exposes students to the importance of reading and referencing reputable resources and scientific publications to strengthen the credibility of their research work. This encourages students to build knowledge based on evidence and develop better research discipline and ethics. When conducting science activities, Mrs Huda applies multimodal learning by combining visual, auditory, and hands-on approaches, helping students understand concepts more effectively based on their learning preferences. She also sees STEM projects as a supportive space for students who are going through mental health challenges, as it helps them stay focused, remain present, and experience small wins throughout the process.

Mrs Huda proudly holding her certificate of recognition at the Sentul District Co-Curricular Excellence Awards 2025.

STEM for All, Beyond Competitions

Mrs Huda has brought her students to numerous national and international science and innovation conferences and competitions, believing these platforms build confidence in presenting ideas and defending research findings. Even though laboratory facilities in school are limited, the students continue to give their full commitment, supported by parents and strengthened through collaboration with university partners. She once said, "I hope STEM will never be exclusive but accessible to all students with curiosity to explore and experiment." This is also why platforms like Science Castle matter because it is not only about competing, but about giving students a safe space to share their research, learn from feedback, and grow as young scientists. For her, the process of conducting proper and ethical research is what shapes students in the long run, far beyond any trophy.



PURPOSE-DRIVEN CURIOSITY: THE DEFINING TRAIT OF THE NEXT GENERATION OF RESEARCHERS

By Mohamed Shazada, BBS.

Curiosity with a Cause

Scientific curiosity has always driven discovery. But among today's young researchers, curiosity is evolving. It is no longer curiosity for knowledge alone but it is curiosity guided by purpose. This defining trait is reshaping how the next generation explores science, turning research into a tool for real-world impact.

This mindset is clearly reflected in students from Cavite National High School: Liam, Chloe, Hannah who were the grand winners of Science Castle Asia 2025. Their project which won the hearts of the judges was the SoPoMo Fish which was developed to support fishermen in Cavite City, Philippines.

Innovation Born by the Bay

Growing up in a coastal city, Cavite, known as the "City by the Bay," the team witnessed the daily uncertainty fishermen face. Every trip to sea carried risk, with no guarantee of a good catch. Climate conditions, environmental degradation, and unsustainable fishing practices further strained livelihoods. Instead of viewing these challenges as distant problems, the students treated them as personal responsibility.

Their research journey did not begin with a single breakthrough moment. SoPoMo Fish emerged through months of study, experimentation, and collaboration. The team explored multiple ideas before refining a solution grounded in both scientific research and community insight.

What sustained them through experiment after experiment and through complex data gathering was meaning. Purpose gave their research resilience. When projects are rooted in lived experiences, perseverance becomes easier, and setbacks become lessons rather than failures.

Cavite National High School won the Grand Award during the Science Castle Asia 2025

The Power of Guidance and Teamwork

Another strength of this generation is collaboration. Rather than competing within their group, the team divided responsibilities, leaned on each other's strengths, and sought guidance from teachers and mentors. Their research journey was further strengthened by the guidance of their teacher, Jimmy Maquirang, who helped them explore and refine the idea behind SoPoMo Fish, challenging them to think critically and ground their innovation in real scientific principles. Science, for them, is a collective effort, one that thrives on communication and shared accountability.

A Victory Shared by a Community

Technology also plays a role, but with awareness. While information is more accessible than ever, the students recognize that success depends on discipline and discernment and knowing how to separate valuable knowledge from distraction. For Liam, Chloe and Hannah, success is not defined by awards alone. It is defined by perseverance, growth, and the ability to improve lives through science.

As they were named Grand Winners of Science Castle Asia 2025 in Malaysia, their achievement reflected not only their individual brilliance but also the strong support system behind them. The School Division Office (SDO) of Cavite City played a vital role in enabling the team to represent their community on the international stage, demonstrating how institutional support can transform young researchers' dreams into global opportunities. In that moment, one powerful truth came to light: the future of research belongs to those who explore with empathy.

SCIENCE CASTLE SERIES 2026: A PLATFORM FOR YOUNG RESEARCHERS TO LEARN, SHARE, AND CONNECT

By Izzaty Ismail, Ph.D.

Leave a Nest Malaysia is pleased to announce that applications for the Science Castle Series 2026 are now open. Science Castle is the platform for secondary and high school students to present and discuss their scientific research projects, receive feedback from academic and industry experts, and connect with fellow student researchers across regions.

The Story Behind Science Castle

Science Castle began in Osaka, Japan, in 2012 with one simple idea: to give students a place to experience what it feels like to be a researcher. From the start, it was a platform where students could share their ideas, present their research, and see how science can make a real difference in the world.

As the community grew, Science Castle became an Asia-wide platform in 2023, bringing young researchers together across borders. Today, Science Castle continues to grow as a community that supports students, not by ranking them, but by helping them find their voice, build confidence, and connect through research.

For educators who aim to cultivate independent thinkers and inquiry-driven learners, Science Castle offers more than a presentation opportunity. It provides a structured environment where students learn to refine their ideas through dialogue, respond to critical questions, and strengthen their reasoning. These experiences directly support research-based and higher-order learning in schools. Choosing to participate in Science Castle is not simply about joining an event, but about making a pedagogical decision to immerse students in authentic research practice.

Not a Competition, but a Research Platform

Science Castle is not built around the idea of winning, but around the spirit of discovery and exchange. It serves as a vibrant platform where students present their completed research projects, receive thoughtful and constructive feedback, and gain exposure to diverse topics and perspectives from peers across different backgrounds. More than just a presentation stage, it creates meaningful opportunities to connect with fellow student researchers, educators, and experts, mirroring the atmosphere of a real scientific conference. Although awards are given as a form of recognition, the true heart of Science Castle lies in fostering learning, growth, and the open exchange of ideas.

Science Castle is not a place to present a perfectly polished story. Rather, it is a space where students bring their unresolved questions, moments of uncertainty, and research limitations to the table. Through discussion with fellow student researchers and experts, they examine their assumptions, refine their thinking, and move their research forward. We believe that a highly completed project is not always the same as a meaningful one; what truly matters is the willingness to deepen inquiry.

Science Castle Series 2026

In 2026, the Science Castle Series will be held across **three locations,** offering multiple opportunities for participation.

	SCIENCE CASTLE SINGAPORE 2026	SCIENCE CASTLE MALAYSIA 2026	SCIENCE CASTLE ASIA 2026
CONFERENCE DATES	11 APRIL	16 APRIL	22-23 AUGUST
APPLICATION DEADLINE	28/2/2026	3/3/2026	31/5/2026
VENUE	Woodlands Library, Singapore	UiTM Cawangan Sarawak, Kampus Samarahan	Universiti Sains Islam Malaysia, Nilai, Malaysia
ELIGIBILITY REQUIREMENTS	Open to international Participants Each team may consist of up to **5 members**. Only completed research projects are eligible for conference presentation	Exclusive to **Malaysian** schools, with a focus on schools in **East Malaysia**. Each team may consist of up to **5 members**. Only completed research projects are eligible for conference presentation	Open to international Participants Each team may consist of up to **5 members**. Only completed research projects are eligible for conference presentation
FEES & ACCOMMODATION	**No registration fee.** Schools must bear the cost of participating in the conference. **No accommodation provided**	**No registration fee.** Schools must bear the cost of participating in the conference. **No accommodation provided**	**No registration fee.** Schools must bear the cost of participating in the conference. **No accommodation provided**

Science Castle Series 2026

Building a Community Through Research

Through the Science Castle Series, Leave a Nest remains committed to nurturing young researchers, strengthening research-based learning in schools, and creating a platform where students can grow through sharing, dialogue, and meaningful connection.

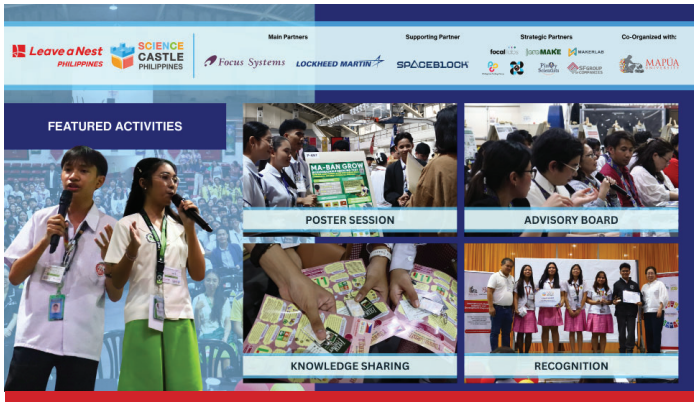
By intentionally creating an environment where students encounter diverse perspectives and constructive intellectual challenges, Science Castle encourages them to refine their research questions and think more critically about their assumptions. The experience moves beyond presenting results; it develops the discipline, curiosity, and resilience required to pursue inquiry over the long term. More than a single event, Science Castle is a step toward cultivating a sustained researcher mindset that continues far beyond the classroom.

SCIENCE CASTLE PHILIPPINES 2026: SHAPING FUTURE RESEARCH LEADERS

By Alexander Gali, B.Sc.

Science Castle Philippines 2026 marked the second season of the Science Castle series, held on 17–18 of January 2026 at Mapúa University–Intramuros. Organized by Leave a Nest Philippines, the programme brought together 120 research teams, alongside educators, research coaches, and partner organizations. Over the two-day program, more than 300 participants gathered to engage in research presentations, discussions, and collaborative activities. Designed as a platform for nurturing young researchers, Science Castle Philippines 2026 aimed to strengthen research culture among high school students by nurturing curiosity, communication skills, and collaborative thinking, which are key competencies required of future scientists and innovators.

Science Castle Philippines Registered Teams



Featured Activities

Workshops

Multi-Sector Collaboration in Action

The program combined structured research presentations with interactive learning experiences. The programme opened with a strong emphasis on research culture-building through 45 splash presentations, interdisciplinary knowledge-sharing activities, and hands-on workshops. Students participated in sessions covering areas such as robotics, 3D printing, microscopy, and communication systems. These sessions connected students with real-world applications of science and technology while exposing them to diverse professional perspectives. In parallel, dedicated sessions for teachers reinforced inquiry-based learning and effective research mentorship, ensuring that the programme's impact extended beyond the event itself.

The second day elevated the intensity of academic exchange and collaboration.. 120 Student teams presented posters and 12 teams delivered oral presentations evaluated by a multi-sector panel of experts from academia, industry, and government. Booth exhibitions further facilitated dialogue between students and organizations, highlighting how early-stage research can align with practical challenges and emerging industry needs.

Measurable Outcomes and Long-Term Impact

Science Castle Philippines 2026 demonstrated tangible outcomes, including sustained mentorship opportunities, constructive feedback for all presenting teams, and recognition mechanisms designed to support young researchers. By positioning students within a collaborative research ecosystem, the program created clear pathways for continued development. Ultimately, Science Castle Philippines 2026 serves as a platform where future researchers are empowered early, fostering innovation that holds long-term value for society and industry alike.

Recognition Awardees

ENGINEERING THE FUTURE TOGETHER:

LOCKHEED MARTIN AND FILIPINO YOUTH RESEARCHERS AT THE FIRST SCIENCE CASTLE GRANT PHILIPPINES

By Airiel Joy B. Baldemoro, B.Sc.

Students from Valencia, Pagalanggang, and Bansud National High Schools present their research project at Science Castle Philippines 2026.

This year marked the first takeoff of the Science Castle Grant in the Philippines, setting in motion a new approach to supporting Filipino high school research grounded in curiosity, guidance, and real-world impact.

The inaugural cycle was supported by Lockheed Martin, whose participation reflects a belief that investing early in STEM education is essential to building long-term innovation and resilience. Through the Science Castle Grant 2025 Lockheed Martin, students were given opportunities to develop critical thinking, problem-solving, and research communication skills that are essential not only in science and engineering, but in addressing future global challenges. This partnership between Leave a Nest Philippine and Lockheed Martin focused on empowering students while strengthening the country's growing STEM talent.

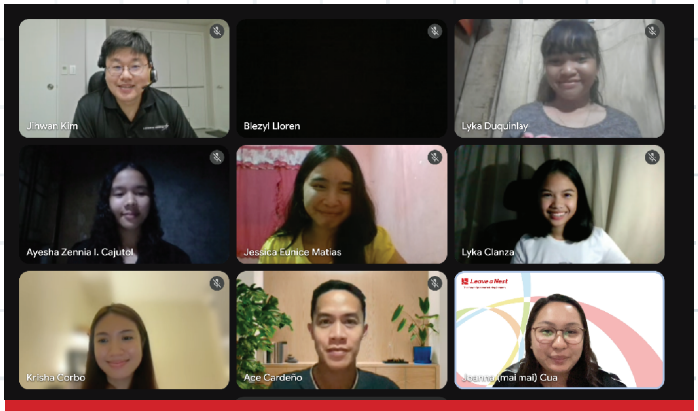
Following a nationwide call and screening of applications, 34 research proposals were submitted by high schools across the Philippines. After a careful selection process,three schools were awarded the Science Castle Grant: Pagalanggang National High School (Bataan), Bansud National High School – Regional Science High School for MIMAROPA (Oriental Mindoro), and Valencia National High School (Bukidnon).

For these teams, the Science Castle Grant was more than funding. Each team received PHP 15,000 along with mentorship and support throughout the program. Their projects explored areas such as drone technology and wearable innovation, demonstrating how student curiosity can be translated into practical research ideas. Throughout the programme, students were challenged to think critically, solve problems independently, and communicate their research clearly.

The journey culminated during Science Castle Philippines, where students presented their projects on the second day of the science castle.. During the final presentation, the Advisory Board of Lockheed Martin,Ms. Abigael Go, Dr. Yevgeny Asteer Dulla of Leave a Nest Philippines, and Dr. Ryan Corpuz of Nanolabs LRC Co., Ltd. served as oral judges,engaging with students, offering feedback and guidance for future development.

This first implementation of the Science Castle Grant in the Philippines marks only the beginning. Moving forward, Leave a Nest Philippines will continue to nurture young researchers,supporting them as they grow toward a future shaped by innovation, curiosity, and a lasting passion for STEM.

Science Castle Grant Final Presentation Day at Mapúa University



Science Castle Grant Mentoring Session with Atty. Jihwan Kim

FROM A GRANDMOTHER'S LOVE TO INNOVATION: THE JOURNEY BEHIND GLYCOSMART RICE

By Aisyah Robi, MPhil

What began as a granddaughter's concern for her grandmother has grown into an inspiring innovation by five Form 3 students from SM St. Michael Penampang, Sabah Gemma, Anas, Henrietta, Arleney, and Ally. Their project, GlycoSmart Rice, was created to offer a healthier rice option for individuals living with diabetes.

The idea was sparked by Gemma's close relationship with her grandmother, who struggled with diabetes but still loved eating rice. Seeing this daily challenge motivated Gemma to find a solution. When she shared the idea with her teammates, they quickly supported it. Some of them also had family members affected by diabetes, making the project even more meaningful.

Although the idea sounded difficult at first, the team was determined to make it work. Through discussions, research, and experimentation, they worked together to turn their concept into reality. Their journey was not without challenges. They conducted laboratory tests such as iodine and Benedict's tests to analyze starch and sugar content, often repeating experiments to find the correct parameters. There were setbacks, including failed trials and limited laboratory equipment at school. At one point, illness temporarily delayed their progress.

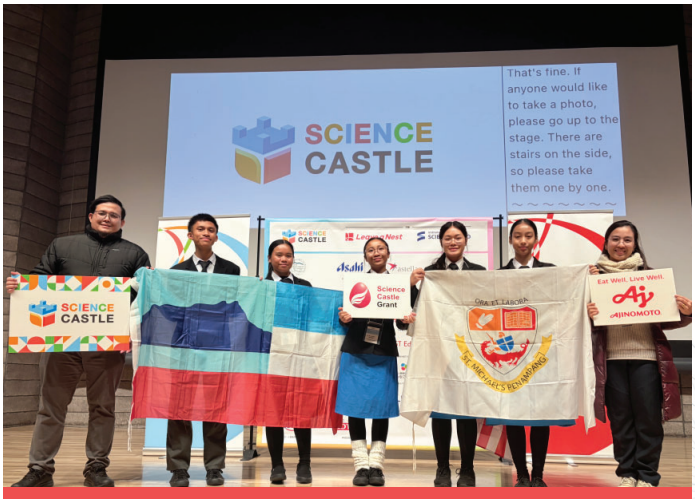
The Glyco Smart Rice team preparing their experiment using Saba green bananas

Despite these obstacles, the team persevered. They even visited the local market with their teacher to explore different types of rice and ingredients that could support their research. Each challenge strengthened their teamwork and resilience.

Behind their success stands a dedicated teacher who balanced her own responsibilities to guide them. "I have the best team," Teacher Erica shared. "They work independently, I'm just there to guide them when they stumble."

Looking ahead, the students hope to commercialize GlycoSmart Rice and further explore the health benefits of resistant starch. They are grateful to their teacher and mentors for the guidance, and Ajinomoto (M) Berhad for the funding for their research. Their story proves that innovation can begin with compassion and that even young students can make a meaningful impact on community health.

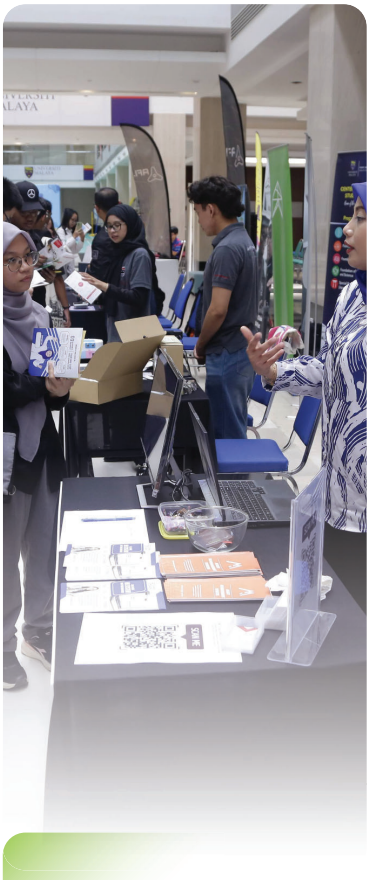
SM St Michael Sabah won special recognition for Ajinomoto Science Castle Grant Ajinomoto (M) Berhad 2025



SM St Michael at Science Castle World 2025 Tokyo last December.

ENTREPRENEURSHIP-READY TALENT IN ASIA: FROM MINDSET TO ECOSYSTEM

Educators from across countries gather in a shared commitment to cultivate entrepreneurship-ready talent through mindset shifts, experiential learning, and ecosystem collaboration.



Students engage directly with industry partners in an innovation showcase, translating entrepreneurial mindset into experiential learning within a supportive ecosystem

Learning beyond the classroom: students collaborate with local institutions, building entrepreneurial awareness through shared experience and community engagement.

A quiet shift is underway in how talent is being prepared for the future of work. Entrepreneurship is no longer seen only as starting a business, but as a mindset rooted in curiosity, adaptability, and value creation. As economies navigate digital disruption and sustainability challenges, many countries are increasingly encouraging young people to think entrepreneurially, whether they become founders, intrapreneurs, or change-makers within their communities.

This shift comes to life through experiential learning. Universities, training providers, and industry partners across the region are moving beyond lectures to hands-on experiences such as startup immersion, industry challenges, innovation bootcamps, and community-based projects. These real-world encounters help learners build confidence, resilience, and practical problem-solving skills, qualities especially important in ASEAN's diverse, fast-growing, and resource-constrained markets.

Behind the scenes, entrepreneurial ecosystems are gaining strength. Government programmes, accelerators, investors, corporates, and innovation hubs are creating pathways for ideas to turn into impact. Yet the real opportunity lies in collective action. By working across borders, sectors, and disciplines, we can nurture a generation of entrepreneurship-ready talent equipped for an uncertain future. Now is the time for educators, policymakers, industry leaders, and aspiring entrepreneurs to join the bandwagon and shape more innovative, inclusive, and resilient talents together.

WHY STARTUP TRAINING MATTERS IN SCIENCE-BASED VENTURES

By Neil Clarence Diaz, BSc.

Today, startups generally fall into two groups: those that have received structured training in startup development and those that have not. While one is not necessarily superior to the other, participation in such programs can offer meaningful advantages.

Through the lens of their Chief Product Officer, Sarah Rose Linas, the journey of Nutrilink, recently rebranded as AllerKit, illustrates how structured training can fundamentally shape a startup's direction and identity.

SARAH ROSE LINAS
Chief Product Officer,
Allerkit Executive Administrative Services,
Clevel Executives

Broader Technopreneurial Perspective

Before participating in the Scholars Technopreneurship Training Program (STTP) 2024 Region 6, members of the Allerkit team already had clear ambitions. They were academically trained and motivated to build something meaningful. Sarah herself has been into product pitching, and with a background in humanities and social science, she loved writing business plans, financial modeling, and analyzing data. However, they realized that technical knowledge alone was not enough. She noted that building a startup also requires understanding factors such as psychology, culture, logistics, and financial limitations.

Clearer Problem Definition and Focus

One of the problems in new startups is being overwhelmed with the number of societal issues that they want to address. During the program, the team initially aimed to address broad systemic concerns like in the food industry. But through feedback and guided discussions, they narrowed their focus to allergy detection. They identified a specific gap between expensive clinical diagnostics and having no testing at all. *"We learned that the problem should be urgent and apparent,"* Sarah explained.

AllerKit

Allerkit is a startup that graduated from STTP 2024 Region 6, a technopreneurship training program by the Department of Science and Technology-Science Education Institute. Their goal is to make allergy testing accessible, affordable, and painless, advancing health care and personalized medicine.

Stronger Team Alignment

For science-driven ventures, where product development is long and uncertainty is high, internal alignment often determines resilience. Training environments cultivate this alignment intentionally by encouraging them to identify shared values, complementary skills, and aligned goals.

In the case of STTP, early program activities required participants to present their goals at the front stage. This allowed Sarah and her teammates to identify shared motivations, which helped them divide responsibilities effectively and maintain cohesion. This ultimately became a strong foundation that made the team intact even long after the program.

Expanded Networks and Proactive Execution

Through STTP they were incubated in WVSU-BINHI whose programs provide access to mentors and industry professionals. Sarah emphasized that the most critical lesson learned from engaging with other founders, executives, and mentors was the necessity of taking action and putting their "foot inside the door". Successful startups, regardless of initial challenges like financial limitations, are characterized by founders who consistently move forward.

Startup development programs such as STTP, give founders the structure, exposure, and confidence needed to turn ideas into real ventures. For science-based startups like AllerKit, this kind of training helped sharpen their focus, strengthen their teamwork, and build the courage to take consistent action despite uncertainty. While no program guarantees success, participating in structured training can be a powerful step for aspiring technopreneurs who want to move their innovations beyond the laboratory and into meaningful impact.

LEADING THE FUTURE OF LIFELONG LEARNING: INSIGHTS FROM GLOBALNXT'S VICE CHANCELLOR

By Nor Ilia Anisa binti Aris, PhD, P.Eng

Lifelong learning is no longer an optional aspiration, it is a compulsory learning outcome expected of all students, not only at the undergraduate level but increasingly at the postgraduate stage. In a rapidly evolving world shaped by digital transformation, artificial intelligence, and shifting workforce demands, the ability to continuously learn, unlearn, and relearn has become essential.

In this exclusive feature, Prof. Dr. Chinmoy Sahu, Vice Chancellor of GlobalNxt University, shares his perspectives on the evolution of lifelong learning within the institution, particularly in the context of its online Master's and PhD programmes. Drawing from nearly three decades of experience in research, teaching, administration, and higher education leadership, he reflects on how GlobalNxt has redefined postgraduate education to meet the needs of modern professionals.

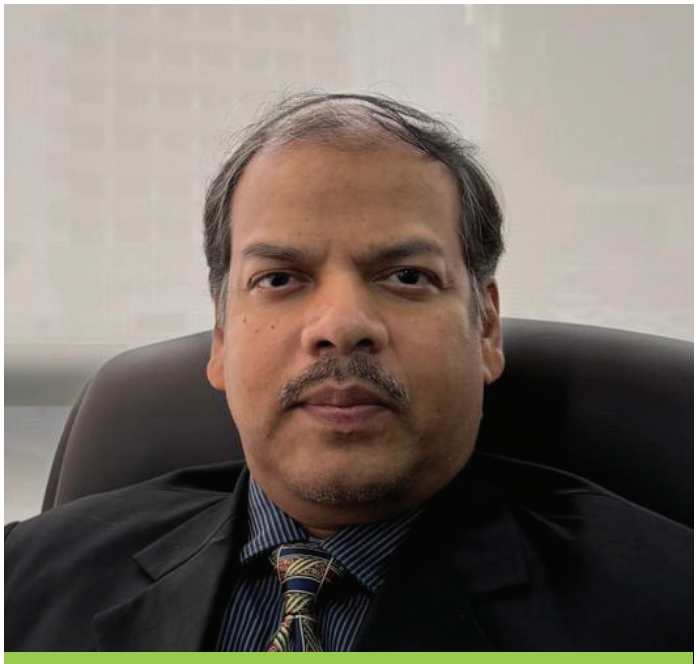
From flexible programme structures and outcome-based education to experiential learning pathways and global online delivery, GlobalNxt's approach signals a broader shift in how advanced education is designed, delivered, and experienced.

Lifelong Learning as a Culture, Not a Choice

"Lifelong learning today must be understood beyond formal education," the Vice Chancellor explains.

In the late 1990s, learning opportunities were limited. Professionals who entered the workforce often had few pathways to continue their education without sacrificing their careers. By the early 2000s, however, online and work-integrated learning models began reshaping possibilities. Having been exposed to educational ecosystems in Malaysia, India, and other countries, he observed notable differences. In Malaysia, many individuals enter the workforce earlier, sometimes without pursuing higher academic qualifications. In contrast, in countries like India, it is common for individuals to complete a Master's or even a PhD before entering professional life. Today, the landscape has shifted dramatically.

Professionals can now pursue advanced qualifications without leaving their careers. Learning is no longer about duplicating prior knowledge, it is about advancing to higher-order thinking. With AI and open information access, lower-level learning is readily available. Universities must now cultivate higher-level cognitive skills. Lifelong learning, therefore, must become embedded as a culture, not treated as a temporary academic pursuit.



Prof. Dr. Chinmoy Sahu,
Vice Chancellor of GlobalNxt University

Flexibility as the Key Enabler

Encouraging professionals to pursue postgraduate studies requires flexibility in the learning environment. Unlike traditional semester-bound systems where learners must complete modules in a fixed sequence, GlobalNxt allows professionals to progress according to their circumstances. Flexibility at GlobalNxt extends beyond scheduling. It includes accessibility to learning materials, adaptable timelines for deliverables, recognition of prior experiential learning (APEL), and modular structures that enable learners to manage their academic journey alongside professional and personal responsibilities.

However, flexibility does not imply a reduction in standards. The university adheres strictly to the regulations set by the Malaysian Qualifications Agency (MQA) and follows Outcome-Based Education (OBE) principles. Clearly defined Course Learning Outcomes (CLOs) and Programme Learning Outcomes (PLOs) ensure that every learner meets rigorous academic benchmarks. Assessment methods, including integrated micro-credential modules, are carefully designed to demonstrate measurable competency and mastery.

“Flexibility must coexist with discipline. Academic excellence is non-negotiable,” he emphasizes.

To reinforce structured engagement, most programmes require participation in discussion forums as part of the assessment criteria. These forums are not merely administrative requirements, they are designed to cultivate social learning, encourage peer-to-peer knowledge exchange, and expose learners to diverse professional perspectives. In many modules, participation contributes significantly to overall assessment, reinforcing the importance of collaborative intellectual growth even within an online environment.

The Road Ahead

Looking forward, Prof Dr Sahu identifies three major shifts shaping postgraduate education.

First, social learning will become even more critical. Even in online environments, structured interaction and peer discussion drive higher-level thinking and broaden global perspectives. Second, experiential pathways will expand. Through APEL mechanisms, professionals can convert meaningful industry experience into recognized academic progression, reducing duplication while maintaining credibility. Third, artificial intelligence will raise academic expectations. As AI delivers instant access to foundational knowledge, universities must focus on advanced competencies like critical analysis, systems thinking, ethical judgment, and innovation aligned with global challenges such as the Sustainable Development Goals.

“AI does not replace higher education,” Prof Dr Sahu reflects. “It raises the expectations of what higher education must deliver.”

In this evolving landscape, online and distance learning will continue widening access across borders. Modular structures and digital accessibility allow professionals to upgrade themselves periodically, without pausing their careers.

For those who have yet to pursue a Master’s or PhD, the opportunity has never been more accessible. Lifelong learning is no longer confined to a specific stage of life. It is a continuous journey, one that institutions like GlobalNxt are actively shaping for the future.

SOLID FOUNDATIONS: EXPLORING YOUR POTENTIAL THROUGH FINANCIAL LITERACY WITH DR. SITI SHAZWANI AHMAD SUHAIMI

By Josemaria R. Sison, BSc.

Dr. Siti Shazwani Ahmad Suhaimi
Leave a Nest Malaysia,
Human Development Division

"I see financial literacy as both a skill and a mindset, one that evolves over time."

It is with this reflection that Dr. Siti Shazwani Ahmad Suhaimi looks back on her journey so far.

From earning recognition as a national-level athlete to completing a Bachelor's degree in Human Development at Universiti Putra Malaysia, followed by a Master's in Community Development and a PhD in Family Economics and Management, Dr. Shazwani's path has been shaped by a series of deliberate choices. Each stage brought decisions that carried financial consequences. These choices had to meet immediate demands while quietly shaping the opportunities available to her in the future. Over time, it was her growing financial literacy that helped her understand the weight of these decisions and navigate them with intention.

Beyond Definitions in the Everyday

Financial literacy is often reduced to familiar terms such as budgeting, saving, or investing. Yet in reality, it is most often learned through lived experience. For Dr. Shazwani, that education began early, during her years as an athlete.

Managing limited resources meant saving her allowance to cover transportation, sporting equipment, and tournament fees. These constraints introduced her to the reality that money is finite, and that every opportunity comes with a cost. With that came pressure, but also responsibility. Knowing the time and effort it took to prepare financially, she felt compelled to give her best performance, understanding that each competition represented more than just participation or experience but it was also an investment for the future.

At the heart of her financial decision-making were considerations of necessity, priority, and consequence. Over time, additional influences came into play such as family values and advice, lessons drawn from both success and failure, and growing academic exposure. Financial literacy, she explains, was never just about mastering concepts. It was about learning to recognise the true value behind each expense and the significance of each opportunity.

Foundations Over Time

As her experiences accumulated, they formed the foundation of a financial mindset that continues to guide her today. Discipline, patience, and accountability became cornerstones of her decision-making process. Early encounters with limited resources taught her that focusing solely on immediate needs was not enough. Instead, she learned to think further ahead and began setting clearer goals, tracking expenses more deliberately, and planning with greater intention.

This shift marked her transition from a technical understanding of finance to a more holistic one. Today, Dr. Shazwani views financial literacy as "interconnected with psychology, social context, education, and sustainability, not just numbers and calculations." Her earlier decisions, she emphasizes, were not mistakes, but necessary learning moments that revealed how much growth was possible.

That foundation has proven especially valuable in her academic and research career. Whether managing research grants, evaluating funding opportunities, or weighing long-term implications, she approaches financial decisions with a critical, analytical, and forward-looking mindset. According to her, with experience came confidence. And with confidence, came with greater emotional control and a more structured approach to decision-making.

Exploring Potential

Looking at where Dr. Shazwani stands today, as a scholar, researcher, and advocate for sustainable decision-making, it is clear that her achievements did not come easily. Financial literacy, much like her academic pursuits, required time, effort, and reflection to develop.

To explore her potential, she first had to start somewhere. By consistently building on her experiences and learning from each stage of her journey, she was able to move forward with clarity and purpose while also recognizing that growth does not end with a degree or title. As she puts it, financial literacy is a lifelong process, one that improves with exposure, practice, and reflection.

In that understanding lies a powerful reminder, the choices we make today, especially those involving money, are not just about meeting present needs. They are about laying the foundations for the futures we hope to build.

BUILDING CAPABILITY BEYOND EMPLOYABILITY THROUGH SUSTAINABLE CURRICULUM

By Nor Ilia Anisa binti Aris, PhD, P.Eng

ASSOC. PROF. DR. NOR ASNIZA ISHAK
Deputy Director,
Institutional Planning and Strategic Centre (IPSC),
Universiti Sains Malaysia (USM)

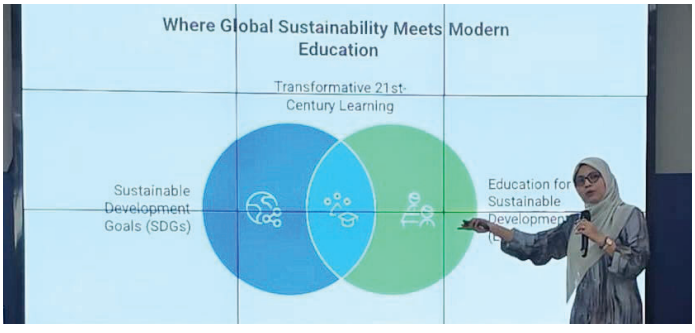
As the future of work continues to be shaped by artificial intelligence, digitalisation, and rapid societal change, universities are facing a critical question: how do we ensure graduates remain relevant not only at the point of employment, but throughout their careers? From an institutional planning perspective, the answer lies not in frequent curriculum overhaul, but in building coherence, connectivity, and long-term capability within curriculum design. This article features insights from Assoc. Prof. Dr. Nor Asniza Ishak, Deputy Director at Institutional Planning and Strategic Centre (IPSC), Universiti Sains Malaysia (USM) in sustaining higher education through curriculum design.

Assoc. Prof. Dr. Nor Asniza Ishak believes institutional planning plays an important connecting role. Universities often implement many positive initiatives such as curriculum innovation, industry collaboration, digital learning, and community engagement. However, without strategic coordination, these efforts can become fragmented. The institutional planning helps ensure that curriculum reform is aligned with experiential learning, interdisciplinary programmes, micro-credentials, and broader societal aspirations, while remaining grounded in academic integrity and values-driven development.

Education Sustainability in Practice

From a university standpoint, workforce readiness should not be narrowly understood as employability alone. Rather, it refers to preparing students to function and grow in professional environments. This includes strong disciplinary knowledge alongside adaptability, communication skills, ethical reasoning, and professional judgement. One of the key challenges universities face today is preparing students for change, not just for specific roles, particularly in an era where work is increasingly fluid. To address this, Assoc. Prof. Dr. Nor Asniza mentioned that university can strengthen it by the integration of project-based learning, industry-linked final-year projects, and community-engaged learning. These approaches allow students to engage with real-world problems rather than simulated tasks, helping them develop confidence, resilience, and decision-making skills under uncertainty. Similarly, challenge-based learning is increasingly used to help students connect theory with complex, open-ended issues, particularly in areas such as sustainability, health, and technology. Apart from that, industrial engagement remains essential, but its value lies in how it is embedded within curriculum design. Beyond internships, meaningful collaboration occurs when industry partners co-supervise student projects, contribute to micro-credentials, and inform learning outcomes and assessments. This ensures industry perspectives are integrated into the learning process rather than treated as external add-ons.

> ***Sustaining higher education is not about reacting to trends, but about building a resilient educational ecosystem that develops capable, future-ready graduates.***



A sustainable curriculum is one that remains relevant over time while responding responsibly to societal needs. In most programs at the higher education institutions, sustainability is embedded across disciplines through interdisciplinary projects and community-based learning, helping students understand how their expertise contributes to broader social and workforce challenges. From an institutional planning lens, assessment design is often overlooked, yet critical. Authentic assessments such as portfolios, reflective tasks, and project outputs better capture real-world competencies and collaborative skills. Equally important is continuous educator upskilling, particularly in digital pedagogy and AI-supported teaching, to ensure curriculum intent is effectively translated into classroom practice.

Ultimately, curriculum reform should not be viewed as an immediate solution to employability concerns. Meaningful and sustainable reform takes time. What matters most is whether graduates leave university with the confidence, values, and adaptability to navigate uncertainty and contribute positively to society. In this sense, sustaining higher education is not about reacting to trends, but about building a resilient educational ecosystem that develops capable, future-ready graduates.

FROM EMPLOYEE TO ENTREPRENEUR: A JOURNEY TOWARDS VEGAN JAPANESE CUISINE

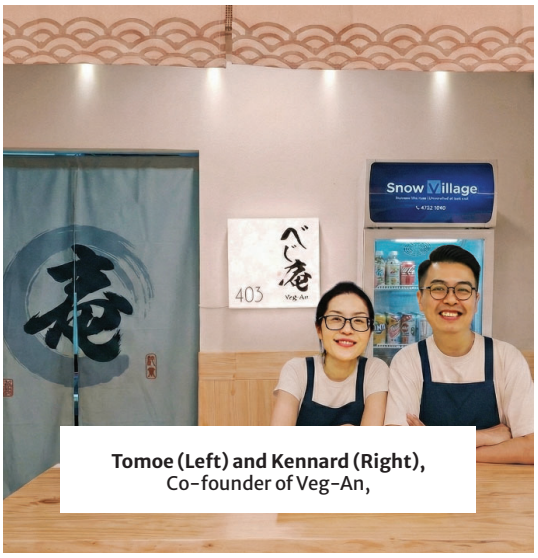
By Koki Mandai, BA

Building entrepreneurship-ready talent requires more than technical expertise; it demands resilience, adaptability, the courage to navigate uncertainty, and most importantly, the ability to constantly ask "why". Few stories reflect this better than that of Kennard Xu (43), co-founder of Veg-An, an authentic vegan Japanese home-cooking restaurant in Singapore that integrates advanced plant-based food technology through strategic partnerships.

Before Becoming an Entrepreneur

With a background in Japanese studies, Kennard, who pursued his education in Japan, never imagined entering the food and beverage industry as an entrepreneur. Following the 2008 Global Financial Crisis, limited job opportunities led him to join a Japanese semiconductor trading company, where he applied his language skills in a highly technical environment.

He later joined the Japan Exchange and Teaching (JET) Programme, serving as a Coordinator for International Relations at the Kagoshima Prefecture Government. There, he supported foreign affairs related work, cultural exchange, tour promotion, trade relations, and international outreach. Even after returning to Singapore in 2016, he continued contributing as an independent consultant for Kagoshima prefecture, promoting its premium yet lesser-known products and tourism resources abroad. The challenge was clear: how do you create demand where none visibly exists? This early experience and network he built in market development would later shape his entrepreneurial initiative.



Tomoe (Left) and Kennard (Right),
Co-founder of Veg-An,

Entrepreneurship Built from a "Side Hustle"

Veg-An was never part of a grand business blueprint. A vegan by conviction, initially motivated by health concerns and later by animal welfare and environmental awareness, Kennard and his wife Tomoe began the venture in 2021 as a COVID-era "side hustle" to sustain their livelihood .

Recognising the lack of vegan Japanese food in Singapore, they decided to offer Japanese home-cooking in the form of bento (packed meals) delivery, starting small from their home kitchen. Demand grew steadily and organically, through word of mouth. In 2023, Veg-An partnered with Fuji Oil Co., Ltd., incorporating the latter's natural plant-based stock series Miracore®, to recreate traditional Japanese flavours without using animal-based or synthetic ingredients. Given that traditional animal-based ingredients like bonito flakes are foundational to Japanese cuisine, Miracore® products such as the plant-based bonito flavoured stock became transformative for their menu.

Beyond serving customers, Veg-An positions itself as a bridge between novel food technology and general consumers, promoting innovative plant-based solutions while reshaping perceptions of vegan cuisine.

Lessons on the Entrepreneurial Journey

Kennard is candid about entrepreneurship: "There are hits and misses (...) no two days are the same. and we need to make decisions spontaneously all the time." While he started his career as a company employee, transitioning to civil service, and now embarking on the entrepreneur journey, he learned that passion alone is insufficient. Sustainable ventures require a sound business structure, financial clarity, and a clear value proposition.

"Businesses exist to solve problems," he emphasises. Without a defined "why," even an innovative entrepreneurship might risk becoming a mere margin game. For aspiring entrepreneurs, his journey highlights a crucial lesson: entrepreneurship-ready talent is built through real-world exposure, constant decision-making, and the discipline to align vision with viability through continuously asking "why" behind each decision made.

ADD VENTURE FORUM SOUTHEAST ASIA: A LAUNCHPAD FOR BOLD STUDENT FUTURES

By Ayu Permata, BSc.

Add Venture Forum (AVF) is more than a career forum; it is a platform built on the belief that research and innovation should actively shape society. Designed as a space where students, researchers, startups, and industry leaders converge, AVF encourages participants to move beyond passive networking and into meaningful dialogue. What sets AVF apart is its emphasis on co-creation: booth sessions become brainstorming arenas, conversations evolve into collaborations, and curiosity is treated as a powerful asset. By connecting academic passion with real-world ventures, AVF nurtures an "add venture" mindset, one that challenges individuals to step outside conventional career paths and explore how their knowledge can generate tangible impact.

ADD VENTURE FORUM IN SINGAPORE

In Singapore, AVF reflects the nation's dynamic innovation ecosystem. The forum channels the city-state's entrepreneurial energy by bringing together universities, deep-tech startups, and established industry players in one interactive space. Rather than focusing solely on recruitment, AVF Singapore emphasizes commercialisation and cross-sector collaboration. Participants are encouraged to examine how ideas can evolve into scalable solutions, while companies share candid insights into transforming technology into viable ventures.

ADD VENTURE FORUM IN MALAYSIA

In Malaysia, AVF carries a strong community-driven spirit. Rooted in local partnerships and evolving from earlier career-focused initiatives, the Malaysian edition highlights the role of talent as an engine for national innovation. The conversations often center on practical application; how skills, research, and creativity can directly address industry needs and societal challenges. Workshops and discussions foster hands-on engagement, enabling participants to test ideas, receive feedback, and envision collaborative possibilities.

ADD VENTURE FORUM IN THE PHILIPPINES

In the Philippines, AVF takes on a distinctly empowering tone. The forum creates a space for students and young professionals to reimagine their career trajectories and see research as a pathway to solving pressing local issues. By connecting talents with ventures tackling real societal challenges, AVF encourages participants to think boldly about their role in nation-building. The atmosphere is one of exploration and possibility, where personal growth and community impact intersect.

GTS | GREAT TEACHERS SUMMIT

By Muhammad Basril Muhammad Asri, M.Eng.Sc.

Hosted in the heart of Kuching, Sarawak, the Great Teacher Summit 2026 (GTS2026) serves as a premier platform for teachers to engage in deep discussions about STEM across the region. We believe that when teachers are empowered with the right frameworks, they become the ultimate catalysts for student success and societal transformation. By gathering educators from across borders, this summit provides a unique opportunity to bridge the gap between academic theory and real-world impact through collaborative initiatives with industry agencies and key stakeholders.

GTS2026 is designed as a highly interactive experience, featuring keynote sessions, insightful panel discussions, hands-on innovative workshops, and dedicated collaborative networking spaces. This collective effort aims to strengthen professional connections and knowledge-sharing, contributing to the continuous improvement of STEM education and fostering a future-ready generation in all participating countries.

PROGRAM OBJECTIVES

INCULCATE INNOVATION:

Equipping teachers with the “Innovation Framework” to turn classroom projects into feasible, impactful solutions.

BRIDGE THE ECOSYSTEM:

Connecting educators with researchers, startups, and corporate leaders to foster a holistic learning environment.

FUTURE-PROOF PEDAGOGY:

Addressing the trend of SPM leavers’ hesitation by providing teachers with the tools to inspire career-ready mindsets in students.

NETWORKING & SYNERGY:

Creating a platform for teachers to share “unique solutions to surrounding problems” and build lasting professional collaborations.

WHO SHOULD ATTEND?

- **Teachers (Primary, Secondary & Higher Education)**
- **School Leaders & Administrators**
- **Education Policymakers**
- **EdTech Innovators**
- **Education Enthusiasts & Researchers**

REGISTER NOW

Be part of a movement shaping the future of education.

Scan the QR Code below to secure your seat at GTS2026.

Limited seats available.

Early registration is highly encouraged.

KNOWLEDGE FROM THE REGION: EMERGING RESEARCH IN SOUTHEAST ASIA

Southeast Asia is not only responding to global challenges, it is shaping solutions from the ground up. Across the region, researchers, innovators, and entrepreneurs are transforming local realities into globally relevant breakthroughs.

Research in Agriculture

In agriculture, scientists and farmers are co-developing climate-resilient crops, regenerative farming methods, precision technologies, and sustainable aquaculture models that protect biodiversity while strengthening food security and rural livelihoods.

Research in Renewable Energy

In energy, pioneering work in decentralized renewables, bioenergy from agricultural waste, and resilient grid systems is accelerating the region's transition toward low-carbon, community-centered power solutions.

Research in Healthcare

In healthcare, emerging research in affordable diagnostics, digital health, biotechnology, and infectious disease monitoring is expanding access and strengthening resilience in diverse communities.

Rooted in biodiversity, cultural diversity, and practical ingenuity, Southeast Asia's research ecosystem is demonstrating how locally driven innovation can generate lasting regional impact and contribute meaningfully to global sustainability and wellbeing. Through this section, we will explore how emerging technologies and industry-research collaborations across the region are translating natural capital into scalable, science-based solutions.

RESEARCH DEVELOPMENT

BEYOND THE PEEL: HOW A FILIPINA RESEARCHER RETHINKS BANANA WILT

By Jomer Ruego, BSc

More Than Meets the Peel

Bananas seem simple. They are easy to peel, easy to eat, and easy to grow. But beyond the peel of this everyday fruit is a growing crisis few people notice and one that is becoming harder to ignore. Around the world, more than 400 million people depend on bananas and plantains for food and income. In the Philippines, bananas remain a major export, with about 2.3 million metric tons shipped in 2024. Yet this success is increasingly fragile. Beneath plantation soils, a biological threat is spreading and reshaping the future of banana production.

The Problem Beneath Our Feet

Fusarium wilt Tropical Race 4 is caused by a fungus, *Fusarium oxysporum* f.sp. cubense, that lives in the soil and attacks banana plants from below. Once inside the roots, it blocks the plant's water conducting system, slowly starving it even when the soil appears healthy. What makes this disease especially difficult is its persistence. The fungus produces structures called chlamydospores that allow it to survive in soil for decades. Chemical treatments offer little relief, and once land is contaminated it may be unusable for banana cultivation for years. In Mindanao alone, more than 40 percent of banana growing areas are already affected.

F. oxysporum f.sp. cubense infection in Cavendish banana showing characteristic wilting and leaf yellowing.

Irene A. Papa, M.Sc.
University Researcher III, UPLB–BIOTECH

Digging for the Right Questions

For Ms. Irene A. Papa, a university researcher and microbiologist at UPLB BIOTECH, banana wilt was never just a farm problem. She began working on the disease in 2012, approaching it as a biological system shaped by soil conditions and microbial communities. Supported by funding from the Department of Science and Technology (DOST) and the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD), she investigated the disease beyond its visible symptoms, examining what happens before it becomes apparent in the field. As she explains, *"once symptoms appear, usually three to four months after transplanting hardened meriplants in the field, it is already too late to intervene."* Her work showed that the most critical processes occur underground, long before infection can be detected in the plant.

ACTICon™, a locally developed biocontrol product against *F. oxysporum*

From Hypothesis to ACTICon™

This perspective guided the development of ACTICon™, a biological control product derived from beneficial microorganisms isolated from mangrove environments. Early studies showed that these microbes could suppress *Fusarium* while also promoting plant growth. *"We developed this through laboratory work, nursery testing, and field trials,"* Ms. Papa explains, emphasizing that progress came through repeated testing rather than a single experiment. ACTICon™ was refined over several years and patented in 2022. The product is applied as a solid powder to coat the roots of tissue cultured banana plants and reapplied during transplanting.

Management Beats Miracles

ACTICon™ works by acting directly at the soil and root interface where *Fusarium* grows and infects. Introduced early, it helps suppress the pathogen while supporting beneficial microbes and overall plant growth. Ms. Papa's research showed that prevention is essential, since intervention after symptoms appear offers little benefit. Her metagenomics studies comparing infected and healthy soils have further strengthened ACTICon™ by identifying microbial communities associated with disease suppression. With this scientific foundation in place, the remaining challenge lies in scaling production and deployment, which requires sustained infrastructure, resources, and collaborative partnerships.

Field trials evaluating the efficacy of ACTICon™.

"WE FOUND THAT TREATMENT IS MORE EFFECTIVE WHEN IT IS PREVENTIVE RATHER THAN CURATIVE."

Laboratory culture of beneficial bacteria used as a biocontrol agent.

Outlasting the Invisible

Fusarium wilt continues to spread across more than 20 countries, and its persistence in soil ensures it will remain a long term scientific challenge. ACTICon™ represents a meaningful advance, showing how careful biological research can lead to practical solutions without relying on chemical dependence. For early career researchers and graduate students, Ms. Papa's work shows what grows when attention is focused beneath the surface. It underscores that even familiar crops conceal complex biological systems, and that progress often comes not from quick fixes, but from sustained inquiry. Bananas may be easy to peel, but the science beneath them remains rich and worthy of long term support.

GEOTHERMAL INNOVATION AS A PILLAR OF INDONESIA'S ENERGY TRANSITION

By Farha Husna Ramli, MSc

Mount Bromo Volcano, East Java, Indonesia

Indonesia's energy transition places increasing emphasis on research and innovation as enablers of reliable, low-carbon, and domestically sourced energy systems. Among renewable energy options, geothermal energy occupies a unique position due to its baseload capability, low emissions profile, and strong alignment with Indonesia's geological conditions. Located along the Pacific Ring of Fire, Indonesia holds one of the largest geothermal resource bases globally, making geothermal energy not only a strategic energy option but also a critical domain for national research and development (R&D).

Recent system-level analysis highlighted that geothermal energy's importance extends well beyond electricity generation. Heating and cooling in residential and commercial buildings account for a large share of national energy consumption, and geothermal technologies could already meet approximately 66.5% of Indonesia's current national thermal energy demand. This potential increases to nearly 90% by 2050, as geothermal direct-use technologies mature and scale. When electricity, heating, and cooling are considered together, geothermal energy emerges as a system-level resource capable of displacing significant volumes of coal and oil currently used for process heat and cooling, positioning it as a cornerstone of Indonesia's long-term energy transition.

Sarulla Geothermal Power Plant in Indonesia

Geothermal Energy and Innovation in the Energy Transition

Indonesia's energy transition requires low-carbon solutions that preserve energy security and grid stability. Geothermal energy fulfills this role by providing reliable, dispatchable baseload power that complements intermittent renewables, making it vital for Indonesia's growing economy and industrial demand.

Geothermal R&D in Indonesia focuses on reducing exploration risk through integrated geological analysis, advanced modeling, and data-driven methods to improve reservoir prediction and drilling success. Innovation in high-temperature drilling technology aims to enhance efficiency and lower costs, while reservoir engineering research ensures sustainable long-term resource management.

Beyond electricity, geothermal innovation is expanding into direct heat applications for industry, agriculture, and district cooling, offering additional pathways to improve energy efficiency and accelerate decarbonization.

Institutional Landscape of Geothermal Research in Indonesia

Geothermal R&D in Indonesia is supported by a diverse institutional ecosystem involving universities, government research bodies, and industry-linked organizations. Academic institutions play a foundational role in developing human capital, conducting applied research, and supporting technology development.

Institut Teknologi Bandung (ITB) is widely recognized as a national leader in geothermal research and education, with long-standing expertise in geothermal engineering, geosciences, and reservoir modeling. Universitas Gadjah Mada (UGM) contributes significantly through geothermal systems analysis, energy conversion research, and sustainability studies. Other universities, including Institut Teknologi Sepuluh Nopember (ITS), Universitas Pertamina, and Universitas Pembangunan Nasional "Veteran" Yogyakarta, support geothermal R&D through geophysics, geological engineering, and energy systems programs aligned with national priorities.

Government research institutions complement academic work by supporting policy-relevant studies, technology testing, and pilot projects that link research outcomes with national development objectives. Industry participation further strengthens the R&D ecosystem through joint research initiatives, field trials, and data sharing, ensuring that innovation remains grounded in operational realities.

R&D Challenges and Strategic Outlook

Despite the breadth of research activity, geothermal R&D in Indonesia faces structural challenges. Limited access to early-stage funding, particularly for high-risk exploration research, remains a constraint. Coordination between research institutions, industry, and policymakers can also be fragmented, slowing the translation of research outputs into deployment. Addressing these challenges requires stronger institutional integration, clearer R&D prioritization, and sustained investment in applied research infrastructure.

From an R&D perspective, geothermal energy is positioned as a long-term strategic asset in Indonesia's energy transition. Even partial realization of geothermal's technical potential, particularly its ability to meet current and future demands, would significantly reduce dependence on coal and oil in power generation, industrial heat, and cooling. Continued innovation across exploration, drilling, reservoir management, and system integration will determine how much of this potential can be practically achieved.

CALL FOR COLLABORATION

What is needed now is the shared commitment to transform geological potential into generational impact.Geothermal innovation is a strategic pillar of Indonesia's low-carbon transition. With vast geological potential to support large-scale power generation and direct thermal applications, geothermal energy represents one of the nation's most reliable pathways toward a secure, affordable, and sustainable energy system.

Unlocking this potential requires deeper collaboration across the ecosystem. Stronger cross-border partnerships among universities, research institutions and industry leaders are essential to accelerate innovation, reduce development risks, and translate research into scalable deployment.

AGEING POPULATION IN THAILAND: PREVENTIVE CARE PRIORITIES AND THE MINDSET SHIFT NEEDED NOW

By Priyavadana Meyyappan, MSc

Thailand Elderly Policy & Systems Perspective

The discussion extended into systems-level considerations, highlighting how Thailand's elderly policy framework must integrate preventive care, community-based support, and innovation to address the realities of a rapidly ageing population. With contributions from Dr. Kammal Kumar Pawa, alongside fellow panelists, the session underscored that healthy ageing is not solely a medical issue but a societal responsibility—requiring coordinated efforts across policy, research, healthcare, and industry to ensure dignity and independence for older adults.

Thailand is ageing rapidly, with people aged 65+ now making up roughly 15% of the population (2024), a level that places the country firmly in the *"ageing society"* category and accelerates demand for sustainable healthcare systems. Preventive care is therefore no longer a "nice-to-have" public health add-on: it is the most practical strategy to preserve independence, reduce disability, and contain long-term costs.

In parallel, Thailand's Universal Coverage Scheme (UCS) and related national mechanisms already include prevention, health promotion, rehabilitation, and community/home-based care in their benefit approaches, creating a strong foundation to scale preventive ageing strategies.

Why Prevention Matters More Than Ever

Ageing increases the likelihood of chronic disease, frailty, falls, and cognitive decline, conditions that often compound each other and push people toward long-term dependency. Thailand has been strengthening community-based and home-based long-term care models under Universal Health Coverage, emphasizing care workforce development, care managers, caregivers, and local administrative organizations as core delivery partners. This is a crucial shift: preventive ageing isn't only about hospital medicine; it is about keeping people well and functional in communities, with systems that can support them before crises occur.

Where Digital Ageing Technology Fits And Why Mindset Is The Real Barrier

A key learning from the Hyper Interdisciplinary Conference Thailand ageing panel framing is that ageing tech adoption is no longer optional. The question isn't "will seniors like it?" but "how do we design systems so they can benefit from it?" Digital tools (remote monitoring, guided exercise, fall-risk screening, cognitive engagement tools, and care coordination platforms) can increase reach and reduce fragmentation, especially as caregiver availability becomes constrained.

Technology, Movement & Cognitive Health

Panel Session One at HIC Thailand 2026 brought together interdisciplinary leaders to explore how innovation, movement science, cognitive health research, and medical systems can collectively support healthy ageing. Moderated by Ms. Priyavadana (Leave a Nest Singapore), the panel featured Dr. Taspol Keerasomboon (Mahidol University, Faculty of Sports Science), Prof. Eva ("Eef") Hogervorst (Loughborough University), Dr. Kammal Kumar Pawa (Thammasat University), and Mr. Pattana Lee (Blue Oak), sharing insights on preventive ageing, digital health adoption, and the urgent need for a societal mindset shift in ageing societies across Thailand, Japan, and Singapore.

Prevention as a Continuum, Not an Intervention

Consistent movement protects mobility, reduces fall risk, improves metabolic health, and supports brain health. Evidence globally and regionally continues to show that physical activity is strongly associated with better cognitive outcomes and lower dementia risk factors. Thailand-specific research is also increasing, including community studies examining dementia prevalence and associated factors.

What this means for prevention: community programs should prioritize strength, balance, and functional training (not only *"exercise"*), with pathways that link older adults to coaching, screening, and follow-up.

Cognitive health protection starts long before dementia: it is shaped by vascular health, physical activity, sleep, nutrition, social connection, hearing/vision health, and mental wellbeing. Thailand's emerging focus on community-based support such as day care models that emphasize wellbeing, inclusion, and sustainable care networks aligns strongly with this preventive direction. In Thailand, researchers are already contributing to this direction. Academic institutions and public health bodies are studying dementia prevalence, community-based long-term care models, and culturally adapted health promotion strategies. Implementation research on primary care strengthening, caregiver support systems, and digital health adoption is also emerging. However, the scale and speed of demographic change mean that this research must deepen and broaden. There is a pressing need for interdisciplinary collaboration across movement science, cognitive health, gerontology, health economics, and digital innovation to evaluate what works, for whom, and under what conditions.

This is where Thailand's ageing transition becomes not just a policy issue but a research imperative. As the country strengthens community-centred and preventive care systems, it provides a living platform for rigorous study, co-creation, and evidence generation. The trajectory is already underway, but researchers are increasingly required to accelerate translation, refine models, and ensure that preventive ageing strategies are scalable, culturally appropriate, and sustainable.

What this means for prevention: build programs that combine movement + cognitive engagement + social participation, delivered through community platforms (local government, primary care, and community centers).

Community-Based Long-Term Care as Prevention

Thailand's community-based long-term care program (and related home/community care approaches) is often discussed as a response to dependency, but it is also a prevention tool when it helps older adults maintain function and avoid preventable complications.

What this means for prevention: strengthen the continuum from "well older adult" ➙ "at risk" ➙ "needs support," using community care workers, local administration, and primary care integration.

A continuum of preventive ageing, from active movement and early screening to integrated community-based care.

Reimagining Ageing Through Prevention and Innovation

Thailand's ageing transition is not only a demographic shift; it is a live research opportunity. As the country moves deeper into an ageing society, there is an urgent need for interdisciplinary research that integrates movement science, cognitive health, community-based care models, and digital innovation. Preventive care must evolve from isolated interventions to a research-informed systems strategy that measures functional outcomes, independence, and quality of life across the lifespan.

As discussed in the HIC Thailand panel, healthy ageing is not solely a medical responsibility; it is a societal one. For researchers, this signals a critical direction: Thailand is not just a case study of ageing pressures but also a living laboratory for preventive ageing innovation. With its expanding community-based care models, universal health coverage infrastructure, and openness to digital health adoption, Thailand offers a fertile ground for collaborative research, implementation trials, and policy translation. The question is not whether Thailand is ageing; it is whether researchers and industry will step forward to co-create scalable preventive models within this context.

LEAVE A NEST GRANT 2026 IS NOW OPEN!

L GRANT

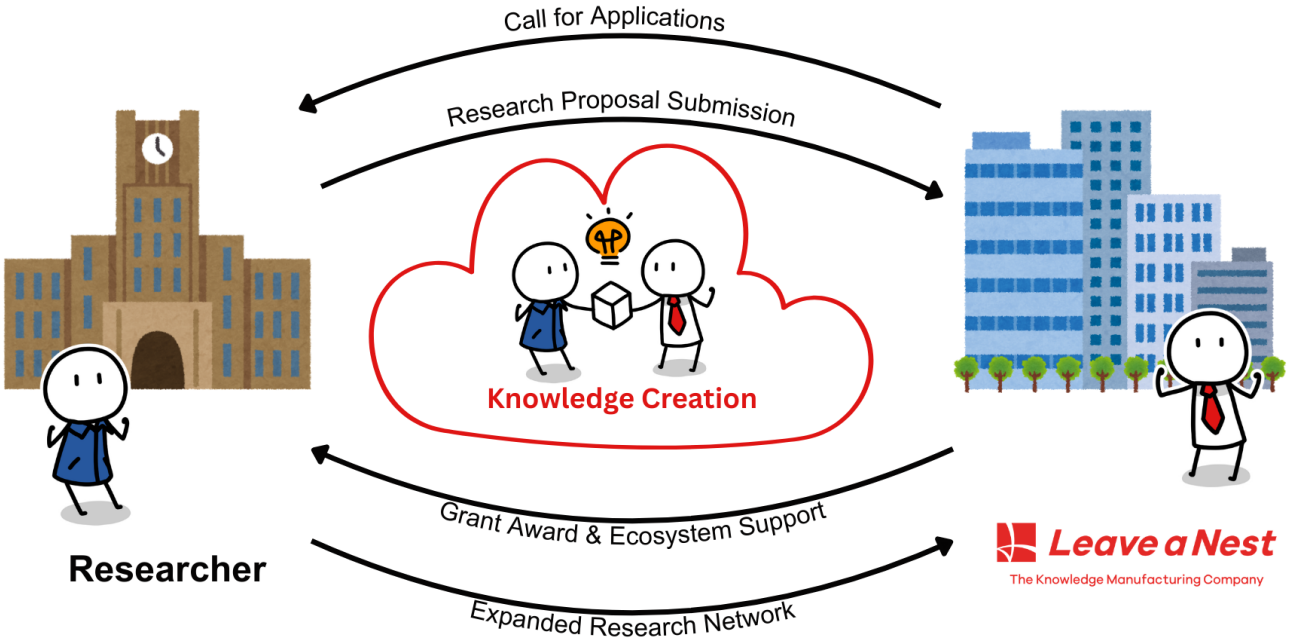
"How could young researchers turn their ideas into reality?"

In 2009, Leave a Nest began asking a simple but critical question. As members of the research community themselves, the team listened as peers shared the persistent challenges of securing funding to pursue their research endeavors. From these conversations, the Leave a Nest Grant, also known as LGrant, was born.

Unlike conventional research grant schemes, LGrant places strong emphasis on researchers' passion and curiosity. To enable this, LGrant removes much of the bureaucratic complexity commonly associated with research funding. While ethical and legal requirements, as well as specific terms and conditions, remain in place, grantees are given the autonomy to decide how best to use the funds based on their own judgment. Moreover, while practicality and priority areas of study are recognized as important, LGrant embraces the belief that research, regardless of scale or discipline, has value. Whether theoretical or applied, all research pursuits grounded in informed hypotheses and peer-reviewed knowledge are considered having the potential to bring new knowledge to society and contributing to global happiness.

What began as a small initiative in Japan has since grown across the nation, awarding more than 400 researchers in collaboration with over 100 companies. Today, Leave a Nest continues to expand LGrant locally and internationally, thus reaffirming its commitment to advancing science and technology for global happiness by empowering passionate researchers around the world.

How LGrant 2026 Works



1 Applications Open → 2 Document Screening → 3 Interview → 4 Awarding

RESEARCH DEVELOPMENT

APPLY FOR KICK STARTING YOUR RESEARCH WITH INCENTIVE FUND

Young researchers in the Philippines, Thailand, and Malaysia, this is your moment!

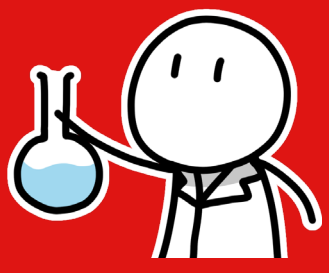
Leave a Nest proudly announces the launch of the Leave a Nest Grant (LGrant) 2026 in select countries across Southeast Asia. This research seed funding initiative is designed to empower passionate researchers and strengthen research ecosystems in the region.

If you have a bold idea grounded in science and driven by purpose, LGrant is your opportunity to take the first step.

Who Can Apply?

If you meet the following criteria, we encourage you to submit your application:

- Early career researchers looking to take first step of research journey
- Conducting research that demonstrates originality and effectiveness
- Passionate and committed to advancing their own research
- Aligned with the theme and target of LGrant in your country of residence



Research Themes & Grant Awards by Country

Malaysia

Theme: Transforming localized insights into worldwide impact

Research may focus on:

- Sustainable product innovation from local resources
- Functional mimicry and bio-inspired design
- Biomedical innovation from biodiversity and traditional medicine
- Locally developed intellectual property and breakthrough solutions

Grant Award: 7,000 MYR

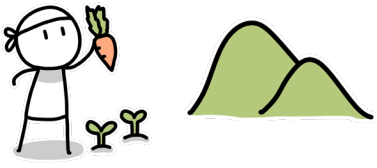
Philippines

Theme: Sustainable and ecologically responsible agriculture

Research may focus on:

- Agricultural systems and ecosystem health
- Sustainable approaches to pest, disease, and crop management
- Technologies and engineering solutions for sustainable agriculture
- Data, modeling, and decision-support for agricultural sustainability
- Resource efficiency and environmental impact reduction
- Social, economic, and policy dimensions of sustainable agriculture

Grant Award: PHP 50,000



Thailand

Theme: Climate Smart Agriculture

Research may focus on:

- Climate-resilient crops and adaptive farming systems
- Sustainable approaches to pest, disease, and climate stress management
- Technologies and engineering solutions for climate-adaptive agriculture
- Data, modelling, and decision-support systems for climate risk management
- Resource efficiency, soil health, and greenhouse gas reduction in agriculture
- Water management and climate-resilient irrigation systems
- Renewable energy integration in agricultural operations
- Social, economic, and policy dimensions of climate-smart transitions

Grant Award: THB 50,000

How to Apply

Ready to take the next step?

1. Review the LGrant theme in your country.
2. Visit the official LGrant website to access the application form and submission details.

Access the application portal at https://grant.lne.st/en/ or scan the QR code on the right!

RESEARCH DEVELOPMENT

IN A CATEGORY OF ITS OWN: HYDROGEN AND A SCIENTIST DEFYING CATEGORIES

By Krisha Corbo, BSc

An Element That Defies Definition

Hydrogen is often described as an element in a category of its own. It resembles both the alkali metals and the halogens, yet belongs fully to neither. It fits everywhere, yet nowhere. For Ms. Mary Nichole Apiladas, that ambiguity was part of its appeal.

A graduate of the Bachelor of Science in Chemistry with Materials Science and Engineering from Ateneo de Manila University, she focuses on hydrogen energy generation. Her work aims to develop cleaner, more sustainable, and potentially scalable methods of producing hydrogen fuel on demand. As the world searches for alternatives to fossil fuels, hydrogen's high gravimetric energy density makes it a compelling candidate for energy storage, fuel applications, and electricity generation.

Ms. Apiladas dons her academic attire as she graduates from the Ateneo de Manila University

Engineering Hydrogen on Demand

Her work centers on an aluminum-based composite engineered to produce hydrogen upon contact with water, even tap water. Although aluminum is abundant and cost-effective, it is naturally protected by a stable oxide layer that prevents it from reacting. To address this limitation, Ms. Apiladas synthesizes a composite material integrated with a renewable catalyst and electrolyte system capable of disrupting the oxide barrier. This enables hydrogen generation under ambient conditions while incorporating recyclability into the material design. The system has demonstrated promising laboratory-scale results and is currently under patent application.

Redefining Belonging Through Science

Her research, however, was shaped by her long-fought battle with self-doubt and impostor syndrome. Like hydrogen, she was drawn to spaces that did not always feel clearly defined. In high school, Ms. Apiladas struggled with impostor syndrome, particularly in a competitive science high school where she often questioned whether she belonged. Encouraged by a mentor to come back stronger, she carried that determination into college.

In her third year, what began as a required research project evolved into a sustained interest in hydrogen and sustainable materials. Much of her work progressed during the pandemic. During this period, she was selected to join a seminar hosted by Kyoto University on human security development through energy science, where her team won for designing a national energy system. The experience strengthened her conviction that science must intersect with human security and public policy. Now a licensed chemist and Magna Cum Laude graduate, she is working toward scaling her hydrogen system from controlled laboratory synthesis to real-world application.

Through her work, she shows that innovation begins with curiosity, resilience, and the courage to question limitations, whether scientific or personal. People should continue to support sustainable technologies, invest in scientific research, and create spaces where young innovators can grow despite uncertainty and self-doubt. Innovation often comes from those willing to challenge boundaries, whether in the periodic table or within themselves

HYPER INTERDISCIPLINARY CONFERENCE IN TAIWAN 2026: STRENGTHENING THE TAIWAN–JAPAN TECH CORRIDOR

Leave a Nest is proud to announce the upcoming Hyper Interdisciplinary Conference (HIC) in Taiwan, scheduled for April 24, 2026. Hosted at the prestigious National Taiwan University, this summit aims to solidify a strategic science and technology corridor between Taiwan and Japan.

Under the theme "Taiwan–Japan Partnership in Science and Technology for a Sustainable Society," the event addresses shared socio-economic pressures in both countries. A key highlight is our collaboration with Japanese companies to explore technological solutions that address issues that are common to Taiwan and Japan.

Event Timeline *(please take note that there might be some changes):*

Date: April 24, 2026 (Friday)
Time: 9:30~18:00
Venue: National Taiwan University

TQRCG

Please register via the QR code above!

TIME	ACTIVITY
09:30–10:30	Opening Ceremony and Keynote Presentation
10:30 – 11:30	HIC Splash
11:30 – 12:15	Poster Session 1
13:30 – 14:30	Panel Session 1: Urban Development
14:30 – 15:30	Panel Session 2: Education
15:30 – 16:15	Poster Session 2
16:15 – 17:15	Panel Session 3: Manufacturing
17:15 – 17:30	Awards & Closing

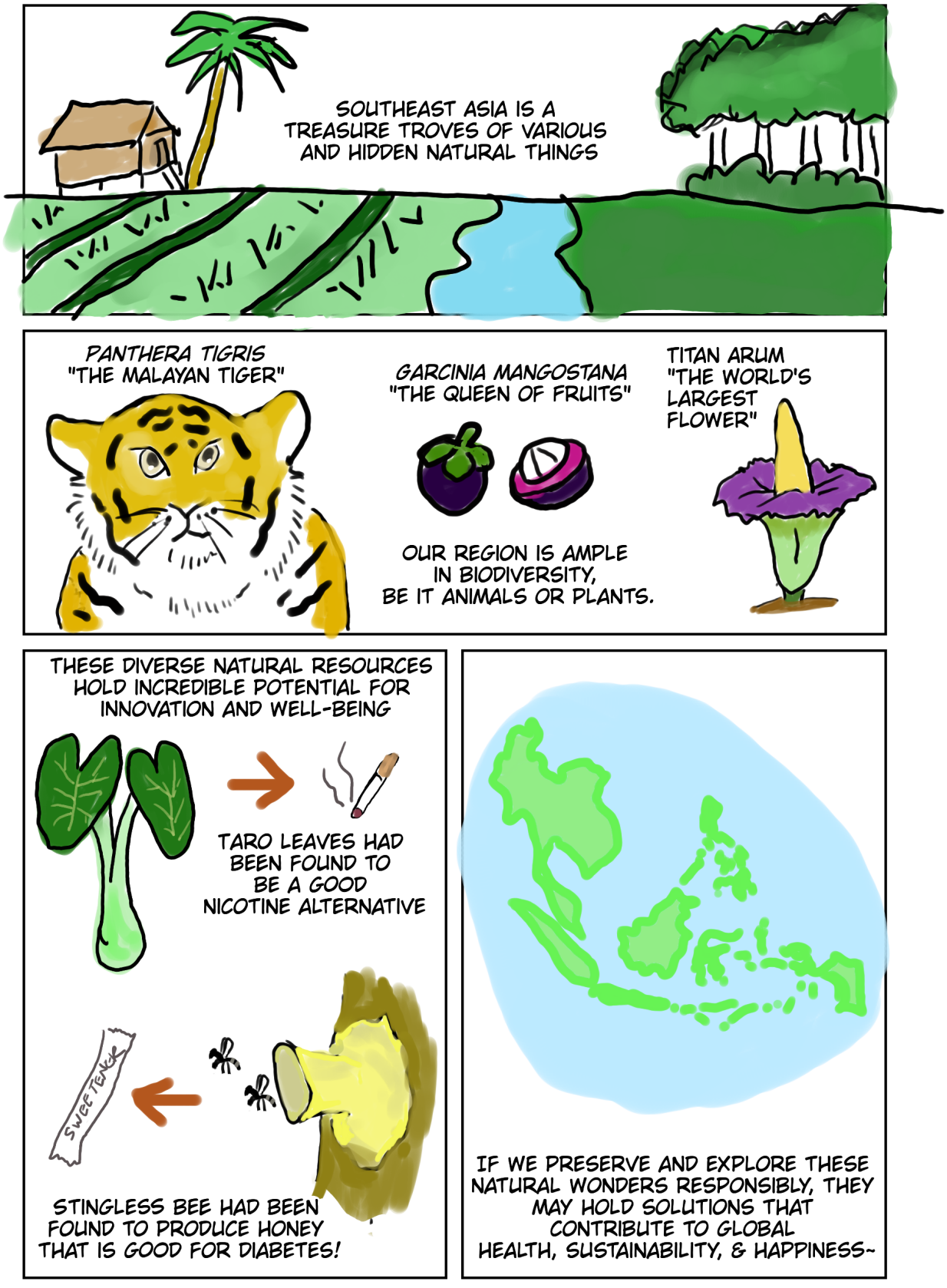
This initiative embodies our "Knowledge Manufacturing" philosophy: integrating Japanese technical precision with Taiwan's robust research ecosystem to empower both the next generation and the adult workforce. We are now inviting researchers and students to submit poster applications. We warmly welcome all stakeholders passionate about the future of technology to join us.

For more information and to register, please visit: *https://hic.lne.st/en/schedule/tw2026/*

RESEARCH DEVELOPMENT

SOUTHEAST ASIA: A TREASURE TROVE OF LIFE

By Hadi Akbar Dahlan, PhD



Desiyani et al., (2023). Pengolahan Daun Rajang Kering Talas Beneng Untuk Pasar Ekspor UMKM Di Desa Gelam. Jurnal Pengabdian Masyarakat Bangsa, 1(6), 812–817. https://doi.org/10.59837/jpmba.v1i6.229

Sahlan et al., (2020). The Effects of stingless bee (Tetragonula biroi) honey on streptozotocin-induced diabetes mellitus in rats. Saudi Journal of Biological Sciences, 27(8), 2025–2030. https://doi.org/10.1016/j.sjbs.2019.11.039

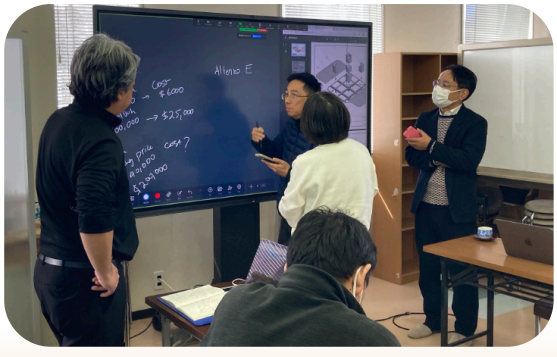
STARTUPS GOING BEYOND THE COMFORT ZONE

For startups, the comfort zone is typically built around what they know best - their core technology, first market, and early adopters. It offers familiarity, speed, and control. Yet real growth rarely happens there.

To scale meaningfully, startups must move beyond what is predictable. This may involve entering new markets with different regulations and cultural contexts, collaborating with partners from other industries, or rethinking assumptions about customers and value creation. Going beyond the comfort zone is not about abandoning strengths, but extending them into new environments. Strategic collaboration is often the catalyst. By working across borders and sectors, startups gain fresh perspectives, networks, and capabilities that would take years to develop alone. Such partnerships require trust, patience, and a shared objective, especially when navigating different working styles and expectations.

Stepping outside familiar ground is not a risk to avoid, but a deliberate path to growth , one that enables startups to expand their impact and redefine what is possible.

Global Innovation Alliance Phase 1 Image of Singaporean Startups exploring opportunities with relevant ecosystem partners in Tokyo

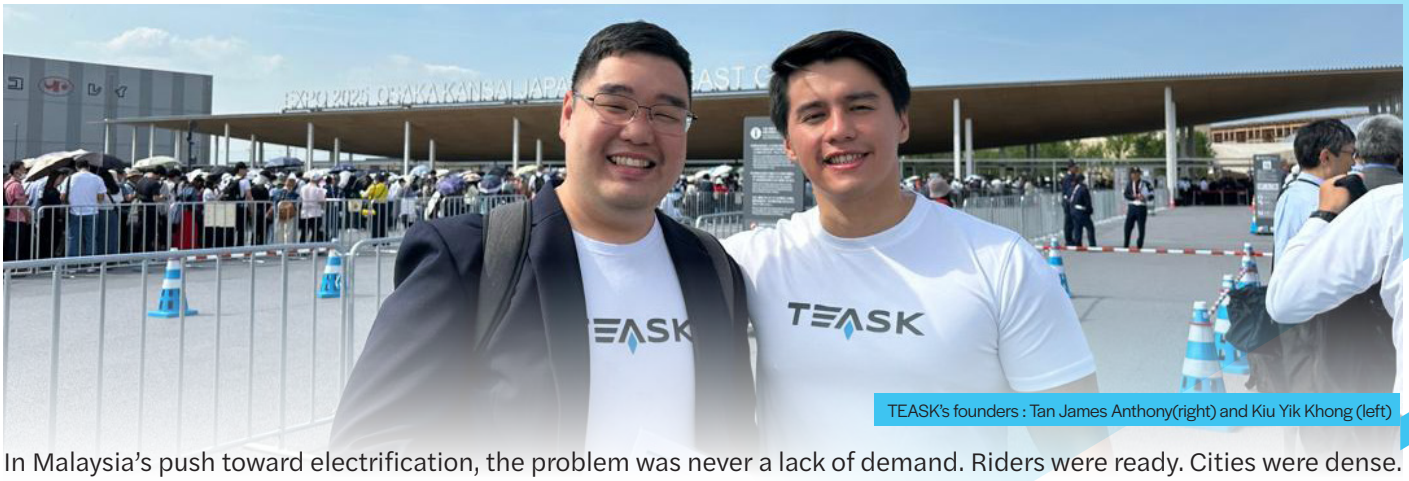


Vietnamese Startup Alterno exploring manufacturing collaboration in the Japanese prefecture (Ibaraki) under the Global Bridge Program

Deep Tech Venture of the Year being awarded to startups from the TECH PLANTER ecosystem who have had meaningful collaborations, partnerships and growth.

TURNING CONSTRAINT INTO MOMENTUM

By Mahirah Basri, MBA



TEASK's founders : Tan James Anthony(right) and Kiu Yik Khong (left)

In Malaysia's push toward electrification, the problem was never a lack of demand. Riders were ready. Cities were dense. Mobility was constant. What did not fit was the infrastructure in between. Charging systems were slow, expensive, and designed for a very different kind of user. For TEASK, this mismatch was not a setback. It was a signal. Friction, they believed, was simply form waiting to be shaped.

When Time Becomes the Real Cost

Energy systems often fail not because they are weak, but because they are deaf to the realities on the ground. For gig workers and micro mobility riders, time is income. Every minute spent charging is a minute not earning. TEASK realised that no matter how elegant an energy system looked on paper, it would fail if charging meant downtime. This was the gap they could not solve alone. When they encountered Naturenix, a Japanese deep tech startup with a three minute rapid charging technology designed to preserve battery health, the conversation shifted. Energy was no longer something you waited for. It became something you moved through.

TEASK signed Memorandum of Understanding with Naturanix in Nov 2025

TEASK team with Leave a Nest Japan senior management team at the TEASK Station

Aligning Different Ways of Thinking

But technology alone does not guarantee success, especially across borders. The partnership required careful alignment between two very different approaches to problem solving. Japanese engineering culture prioritises precision, longevity, and exhaustive validation. Malaysian operators are shaped by unpredictability, regulatory variation, and the need to move fast. Instead of choosing one over the other, the collaboration embraced both. Precision gave the system durability, while adaptability ensured it survived real world conditions.

Designing for Southeast Asia Reality

This thinking also shaped a key strategic choice. Avoiding battery swapping in favour of direct rapid charging. While swapping appears efficient at scale, it introduces hidden complexity such as inventory risk, standardisation challenges, and heavy capital requirements. Direct charging, by contrast, fits Southeast Asia's fragmented vehicle landscape and regulatory diversity. It keeps responsibility clear, integrates more easily with local renewable energy, and scales without overbuilding the grid.

Winning, for TEASK, is not measured in stations deployed or markets entered. It is measured in normalcy. When riders stop thinking about charging time, battery degradation, or energy cost, when clean energy fades quietly into the background of daily work, that is success. Like energy itself, people follow the path of least resistance. TEASK's ambition is simple but profound. To make the right path the easiest one.

FROM VISION TO IMPACT: HOW EARTHEORIES BUILDS SUSTAINABLE SOLUTIONS THROUGH COLLABORATION

By Khalid Khalil, MSc

Started quietly in a home garden, with a personal curiosity about plants, scent, and emotional well-being, Eartheories was born. What began as small experiments with nature gradually evolved into a larger idea to build a brand where wellness, science, and sustainability come together in a way that feels both human and impactful.

Redefining Wellness Through Sustainable Innovation

From the beginning, Eartheories has been guided by intention. The brand believes that nature holds powerful insights, and when combined with research and modern innovation, those insights can improve everyday life. *"Sustainability is not treated as a trend or a marketing message. Instead, it is built into how ingredients are sourced, how products are developed, and how partnerships are formed."*, Eartheories CEO, Mr. Fadz Subari commented. He also highlighted that, *"Eartheories focus on turning values into action, while bridging traditional knowledge with contemporary solutions."*

As the brand matured, momentum followed. Eartheories grew from experimental formulations into a recognized player in the wellness and fragrance space. Along the way, it gained industry recognition, built trust with institutional and corporate partners, and expanded its research and development capabilities. Each milestone reflected steady progress and a commitment to long-term thinking, rather than chasing short-lived trends.

Eartheories winning several awards internationally.

Collaborating for Innovation: How Eartheories Builds Value Through Ecosystems

Collaboration plays a key role in Eartheories' growth. The brand actively works across sectors, partnering with local and international organizations to co-create solutions. By bringing together business, research, and sustainability, Eartheories moves beyond conventional product development. These collaborations allow innovation, environmental responsibility, and commercial viability to move forward together, positioning the brand as a connector within a wider ecosystem.

One of Eartheories' most exciting current initiatives is its AI Perfume project. Collaborating with a company from Japan under the Leave a Nest ecosystem, this innovation uses artificial intelligence to help individuals discover fragrances that align with their emotions, personality, and personal purpose. Mr. Fadz explained, "*through guided inputs and emotional mapping, scent becomes more than a sensory choice, it becomes a personal, data-informed experience.*" The project opens new possibilities for wellness, hospitality, and corporate environments, where fragrance can support focus, calm, confidence, and emotional balance.

Variety of Eartheories aromatherapy products.

Looking ahead, Eartheories is building toward a global future. Rooted in Malaysia and connected internationally, the brand continues to invest in research, deepen collaborations, and develop scalable platforms that support its ecosystem. Mr. Fadz affirmed that, *"the long-term goal is clear: to show that purpose-driven businesses can grow responsibly, while proving that sustainability and innovation are strongest when they evolve together."*

NUCLEAR FUSION: SINGAPORE'S NEXT FRONTIER IN ENERGY COLLABORATION

by Priyavadana Meyyappan, MSc

The Global Shift in Fusion

Nuclear fusion has long been described as the holy grail of clean energy: abundant fuel, low environmental impact, and the potential to transform power generation. Today, the question is no longer whether fusion works scientifically, but how countries prepare for it and who collaborates early enough to shape its future.

For decades, fusion was considered a distant ambition. That perception is shifting. International programmes and private sector efforts are converging toward the 2030s as a critical window when demonstration plants may validate fusion technologies and open pathways to deployment. As this transition unfolds, attention is moving beyond laboratory breakthroughs to readiness, standards, partnerships, and trust.

Why Singapore Matters

Singapore faces rapid growth in AI workloads, data centres, electric mobility, and urban infrastructure, while land scarcity and import dependence constrain energy options. At the same time, it remains committed to net zero emissions by 2050. In Budget 2025, the government announced plans to study advanced nuclear technologies, signalling an intention to engage early even if deployment decisions lie further ahead.

Singapore roundtable on the future of nuclear fusion deployment, with key stakeholders discussing its potential in Singapore

From Dialogue to Ecosystem Building

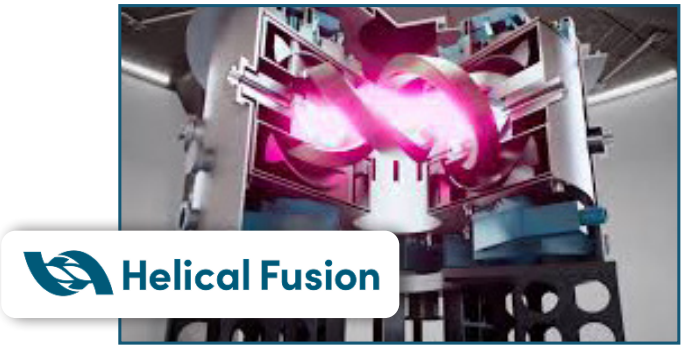
These themes were explored at the Innovation in Energy – Nuclear Fusion Dialogue, hosted by Leave a Nest Singapore with Helical Fusion and Hatch. Participants examined how Singapore could contribute meaningfully to the fusion ecosystem. Singapore's value lies in its business perspective, partnerships, and pathways to implementation.

A*STAR's Andrew Ngo highlighted how capabilities in aerospace and semiconductors could support long-term materials testing and modelling, work that requires early investment. HY's (HY M & E Consultancy Services Pte Ltd) Matthew Chew pointed to Singapore's potential role in building readiness frameworks through digital tools and system validation. CapitaLand's Aylwin Tan emphasised that stable, predictable energy costs are essential for anchoring sectors such as real estate, data centres, and food production.

International Collaboration

For Helical Fusion, engaging Singapore is not simply market expansion. CEO Takaya Taguchi shared that the company believes the helical stellarator approach can meet key commercialisation requirements, including net electricity generation, steady-state operation, and maintainability. Collaboration with Singapore connects Japan's frontier research with Southeast Asia's strengths in applied innovation, governance, and commercial networks.

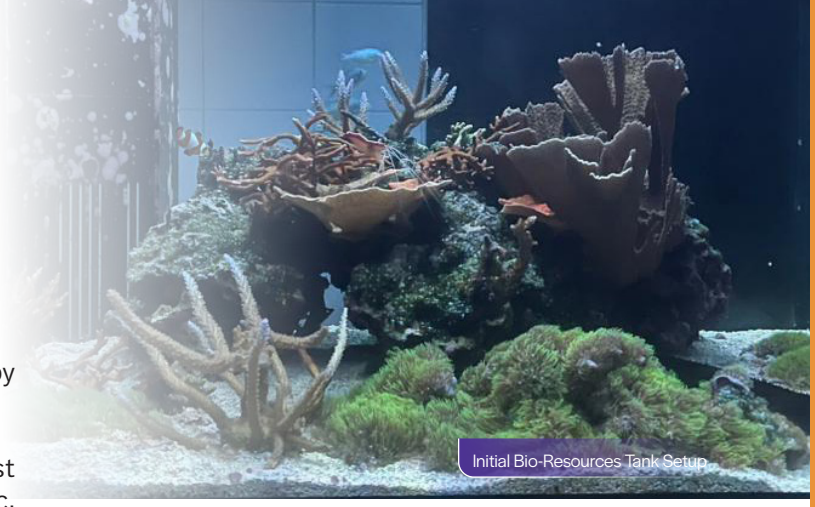
Fusion may or may not prove to be the ultimate holy grail. But it already reflects how societies approach collaboration, preparedness, and long-term vision. Singapore's role is not to compete in scientific discovery, but to become the place where frontier science meets business and society. As a science bridge communicator, Leave a Nest connects researchers, startups, industry, and policymakers to ensure frontier technologies like nuclear fusion advance through collaboration toward real-world impact.



Helical Fusion logo alongside the image of Helix KANATA, a fusion power plant Helical Fusion aims to commercialize in the 2030's

WALKING THE COAST: INSIDE INNOQUA'S NATURE-POSITIVE STRATEGY TOUR

By Fariz Syafiq, MSc


Initial Bio-Resources Tank Setup

What if understanding the future of the economy begins by stepping into a calm sea?

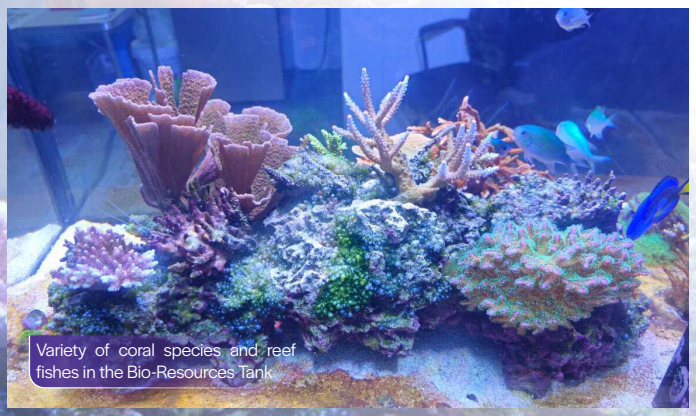
Established in late 2024, Innoqua Asia is the Southeast Asian arm of Japan's Nature Tech venture, Innoqua Inc. Committed to **"Continue to Watch the Nature We Love"** while engineering a transparent, nature-positive future, this tour aims to create a platform where human activities can contribute to the regeneration of the environment.
Rather than hosting another conference or seminar, Innoqua Asia is taking us outdoors.

Its upcoming Strategy Tour is designed as a hands-on journey along Malaysia's coast, where participants experience directly how coastal ecosystems, local communities and economic systems are deeply intertwined.

From Idea to Itinerary: More Than a Site Visit

This is not a typical study trip. The Strategy Tour brings together corporate partners, researchers and selected community stakeholders who are curious about the growing Blue Economy and how they can contribute in continuing to watch the nature we love together. While many participants come from business and industry backgrounds, the program is structured so that even non-experts can engage meaningfully.

The goal is simple: To move conversations about "nature-positive" growth from theory into lived experiences.
Instead of slides and spreadsheets, participants will connect with mangroves, corals and sea turtle conservation sites, then evaluate how local ecosystems function as natural infrastructure. The flow of the tour is carefully designed, beginning with coastal forests, moving toward wetlands and ending at island and reef systems, showing how everything from ridge to reef is interconnected alongside local social regeneration.


Variety of coral species and reef fishes in the Bio-Resources Tank

Nature-Positive in Practice: Learning by Doing

In Terengganu, sites such as Pulau Bidong, Pulau Redang and the Setiu Wetlands become outdoor classrooms.
Participants observe turtle conservation work, explore mangrove habitats, and learn how wetlands protect coastlines and support fisheries. Rather than diving deep into technical frameworks, the focus is on understanding the visible realities; how plastic pollution affects marine life, how healthy mangroves store carbon, how biodiversity strengthens coastal resilience and how corporates contribute potential solutions on local issues faced, as to continue to watch the nature we love together.

Through guided activities and citizen science tools, participants experience how environmental data is collected and why it matters for long-term sustainability.


Innoqua Asia team members

Learning Together: Communities at the Heart

A key highlight of the tour is the sharing sessions with local communities, researchers, and conservation partners.
These sessions are conducted through small group dialogues, site demonstrations, and storytelling circles. Community members share traditional ecological knowledge, from coral and sea turtle conservation practices to mangrove management as indicators of ecosystem health. Participants are encouraged to ask questions, exchange perspectives, and reflect together. The aim is not just knowledge transfer but mutual understanding.

By the end of the journey, participants leave with a renewed perspective: Nature is not a distant backdrop to development. It is the living foundation of future economies and sometimes, the most powerful strategy begins with walking the coast.

BRIDGING INNOVATION: HOW LEAVE A NEST DRIVES CROSS-BORDER SYNERGY

By Mohd Izwan Zainol, PhD

In today's interconnected innovation ecosystem, cross-border collaboration has become essential for accelerating commercialization. To truly accelerate this process, deep-tech ventures must look beyond domestic borders. Organizations that function as *"ecosystem bridges"* are now vital, facilitating the market access and industry partnerships required for global scaling. Leave a Nest has positioned itself as a cornerstone of this effort, strategically linking Southeast Asian ingenuity with Japanese corporate expertise, fostering meaningful collaboration across borders.

Global Bridge Program (GBP)

The Global Bridge Program (GBP) is meticulously designed to help startups validate their technologies for international markets. This initiative is more than a simple workshop; it provides guidance on market validation, regulatory understanding, business model refinement, and high-level partnership development. By merging the local infrastructure with Leave a Nest's extensive Japanese corporate network, the GBP transforms Malaysian startups into regional contenders. It effectively positions Southeast Asia as a strategic gateway for deep-tech expansion, ensuring that local innovations find a home in the broader Asian market.

A company introduction session during GBP program

Deep Tech Tour (DTT): Connecting Southeast Asia and Japan

The Deep Tech Tour (DTT) is a cross-border initiative that connects startups, researchers, corporates, and ecosystem players across Southeast Asia and Japan. Designed as a multi-country engagement platform, DTT facilitates technology scouting, partnership building, and market exploration. Through curated visits, pitching sessions, and ecosystem dialogues, participants gain first-hand exposure to innovation hubs in different countries. The program enables Southeast Asian startups and researchers to explore collaboration with Japanese corporations while also introducing Japanese entities to emerging technologies within Southeast Asian Countries. DTT fosters structured engagement. By identifying complementary strengths across ecosystems, such as advanced manufacturing capabilities in Japan and emerging digital or biotech innovations in Southeast Asia, the initiative accelerates meaningful business matching, knowledge sharing, and technology transfer. This cross-pollination is not just a concept, but a tangible business process, fostering sustainable growth across diverse geographical borders.

An insightful visit to a key agency and government body, to explore strategic alignments in the Malaysian innovation landscape.

Bridging ecosystems through live tech demos. The DTT fosters a unique environment for knowledge sharing and real-time innovation updates across borders.

Through these initiatives, Leave a Nest demonstrates how structured programs can transform cross-border engagement into tangible collaboration. By connecting markets, ecosystems, and stakeholders, the organization plays a vital role in advancing deep tech innovation beyond national boundaries.

THE IBARAKI BLUEPRINT: HOW GILLIAN SANTOS IS PLANTING FILIPINO INNOVATION IN JAPAN

By Joanna Marie Cua, BSc

When Gillian Santos won TECH PLANTER in the Philippines 2021, it validated not only AniTech's sensor technology for Filipino farms, but a larger belief: that Philippine-built deep-tech can compete and collaborate on the global stage. Today, that belief is being tested—not under tropical heat, but inside controlled greenhouses of Ibaraki, Japan.

For Santos, the Philippines was never the final market. It was the starting point.

From Local Win to Global Collaboration

Anihan Technologies or AniTech's expansion was not sparked by a single pitch, but by three years of deliberate visibility within the Leave a Nest ecosystem. Through TECH PLANTER in the Philippines & Asia Final, they met Japanese industry players like Focus Systems Corporation (FSC). Discussions with them led to collaboration opportunities with Koibuchi Gakuen College, and a regional joint research grant from Ibaraki Prefectural Government.

This structure combined corporate implementation, an academic greenhouse test site, and foreign government backing. The grant funded deployment, but more importantly, it signaled trust. Japanese investment created credibility, triggering invitations to business matching fairs and acceleration programs. Instead of chasing doors, AniTech found them opening.

Bridging Precision: Filipino Resourcefulness Meets Japanese Rigor

Inside Koibuchi Gakuen College's greenhouses, AniTech encountered an agricultural system vastly different from Philippine farms. Connectivity was seamless, winter temperatures were demanding, and environmental conditions were tightly regulated. Sensors originally designed for heat and humidity required redesign, with reinforced casing and more stable calibration.

What allowed the team to adapt quickly was Filipino resourcefulness—the ability to prototype efficiently, stretch limited budgets, and design for unpredictable climates and infrastructure gaps. Each site visit became a disciplined cycle of diagnosis, refinement, testing, and redeployment.

At the same time, Japan's culture of precision set higher standards. Calibration requirements were stricter, documentation more exacting, and validation metrics non-negotiable. Expansion demanded not only functional performance, but operational rigor. The collaboration became a balance: Japanese precision sharpening Filipino adaptability.

Ms. Gillian Santos
CEO and Founder, AniTech

AniTech sensors installed inside Koibuchi Gakuen College's greenhouse in Ibaraki, Japan. (above) Gillian Santos with Dr. Kawana (Leave a Nest) during installation. (below) Anthony Santos and Angelo Santillan (AniTech) with Mr. Nishimura (Leave a Nest) during the joint research deployment.

Beyond the Archipelago: A Roadmap for Founders

Now in its feasibility phase, AniTech is evaluating which services—irrigation optimization, in-transit monitoring, or cold storage sensors—best align with the Japanese market. While initial grants opened the first door, the company recognizes that long-term sustainability will depend on establishing robust distributors, strategic partnerships, and secured contracts.

For Santos, the lesson for Filipino entrepreneurs is clear: international exposure should not wait for complete local dominance. Global validation strengthens a startup's positioning and refines its overall strategy. She believes the Philippines should not be viewed as the final market, but rather as a launchpad for technologies built with discipline and intention.

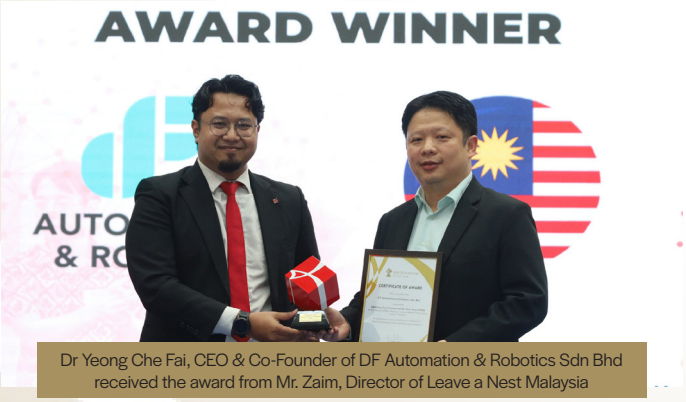
To the young researcher in a Philippine lab dreaming of Japan or beyond, her advice is simple: *"Start pitching. Start building relationships. Start now."* AniTech did not arrive in Ibaraki overnight; it planted itself there carefully, patiently, and with intent. Like any well-tended crop, its growth is only beginning.

DEEP TECH VENTURE OF THE YEAR SEA 2026: WHERE DEEP TECH MEETS REAL-WORLD IMPACT

By Dania Qarrina Azman, PhD

Introduced by Leave a Nest, the Deep Tech Venture of the Year award SEA 2026 recognises deep tech ventures in Southeast Asia that translate advanced science and technology into tangible societal and industrial impact. The award emphasises strong research foundations, long term vision, and the ability to address complex challenges that require deep technical expertise and sustained commitment.

Rather than focusing on short term growth or market trends, the award highlights ventures building core technologies in areas such as manufacturing, education, energy, and food systems. These companies demonstrate how deep technology can be practically implemented, responsibly scaled, and adapted to real world conditions across the region. This feature offers a closer look at how science driven innovation is shaping Southeast Asia's evolving deep tech ecosystem and contributing to a more resilient and sustainable future.



Dr Yeong Che Fai, CEO & Co-Founder of DF Automation & Robotics Sdn Bhd received the award from Mr. Zaim, Director of Leave a Nest Malaysia

DF Automation & Robotics: Advancing Smart Manufacturing Through Autonomous Robotics

DF Automation & Robotics is a Malaysia based deep tech company developing Autonomous Mobile Robots for smart manufacturing and intralogistics automation. Established in 2012 following an early industrial deployment, the company responded to a clear gap in the market where factories required practical, localised automation solutions that were reliable, affordable, and adaptable to real operating environments.

As deployments expanded across multiple countries, DF faced the challenge of scaling beyond customised systems. The team responded by productising its platform, standardising hardware, and developing proprietary software solutions, NavWiz for robot control and commissioning, and DFleet for fleet management. These platforms enable easier deployment, flexible integration with factory systems, and scalable multi robot coordination, strengthening DF's position in a competitive global automation landscape.

Participation in the Leave a Nest ecosystem strengthened DF's international outlook, partnerships, and cross border market access, particularly in Japan. Today, DF contributes to regional industrial competitiveness by improving productivity, reducing manual dependency, and supporting Industry 4.0 adoption. Looking ahead, the company is expanding into India, the United States, Japan, and the Middle East while continuing to enhance its software driven platform to deliver consistent and scalable automation solutions globally.

Mr. Trương Võ Hữu Thiên, CEO of GaraSTEM received the award from Mr. Hakim, Managing Director of Leave a Nest Malaysia

GaraSTEM: Building Future Technology Talent Through Deep Tech STEM Education

GaraSTEM is a Vietnam based deep tech education startup building a full stack STEM education ecosystem spanning curriculum design, teacher training, digital platforms, and hands on robotics tools. The company was founded to bridge the gap between theory focused classroom learning and the practical technological skills required in the future workforce. Early on, GaraSTEM identified key challenges in Vietnam's education system, including limited access to practical STEM tools, uneven teacher capacity, and unequal access to modern technology education beyond major cities.

Scaling hands on STEM education across diverse school environments required consistency and affordability. GaraSTEM addressed this by developing modular robotics systems, cloud based learning platforms, and streamlined teacher training that integrate hardware, software, and pedagogy into a single accessible solution.

Today, GaraSTEM supports more than 1,000 teachers across over 300 schools. After becoming a finalist at Tech Planter 2018, the company gained vital international validation and significantly strengthened its regional outlook. Through the Leave a Nest ecosystem, GaraSTEM successfully expanded its partnerships across Southeast Asia, positioning itself as a premier regional platform dedicated to nurturing future technology talent.

DEEP TECH VENTURE OF THE YEAR

Mr. Chanapol Tantakosol, CEO, MUU received the award from Dr. Yuko Ueno, Director of Leave a Nest Malaysia

MUU: Pioneering Sustainable Protein with Precision Fermentation

MUU is a Bangkok-based deep tech food startup developing next-generation protein through precision fermentation. Founded to address critical challenges in today's food system, MUU focuses on making protein more convenient, enjoyable, and sustainable. Many conventional protein sources carry strong flavours or require lifestyle changes, limiting daily intake. MUU's neutral-tasting protein can be seamlessly incorporated into everyday foods and beverages, improving nutrition without changing habits while significantly reducing land, water use, and emissions.

Scaling precision fermentation presented technical and market challenges, particularly in maintaining consistent quality and educating partners on protein functionality. MUU strengthened its scale-up capabilities and collaborated across the value chain to ensure reliable production and real-world applications. Winning the Real Tech Award at Tech Planter Thailand 2022 provided early validation and expanded its visibility beyond Thailand.

With support from the Leave a Nest ecosystem and strategic investments, MUU accelerated its transition toward commercialization through partnerships and pilot projects. Looking ahead, MUU aims to advance sustainable protein adoption across Southeast Asia while contributing to a stronger food biotechnology ecosystem.

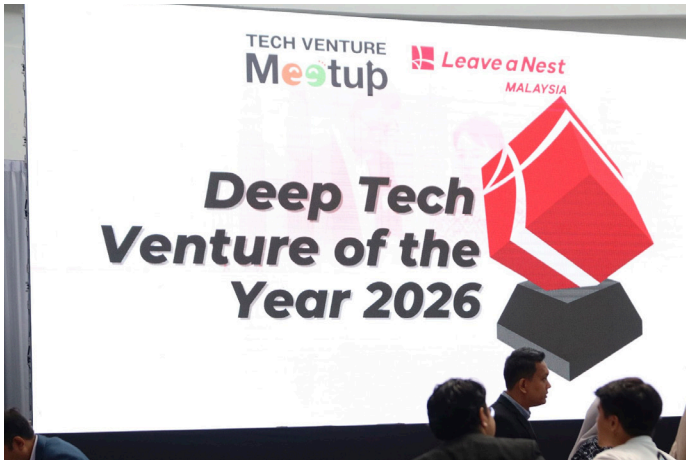
Dr. Arjun Bhattarai, CTO, V-Flow Tech Pte. Ltd. received the award from Mr. Daiki Kumamoto, Director of UntroD Capital Asia

VFlowTech: Powering the Energy Transition with Long Duration Energy Storage

VFlowTech is a Singapore based deep tech energy company developing long duration energy storage systems using vanadium redox flow battery technology. Founded to address a core challenge of the clean energy transition, storing renewable energy safely, affordably, and reliably at grid scale, the company focuses on solutions designed for long life, high cycling performance, and safe operation in demanding environments. As solar and wind adoption increased, VFlowTech recognised the limitations of conventional lithium ion batteries for long duration applications, particularly in safety, degradation, and performance in hot climates.

To scale its technology, VFlowTech addressed both technical and commercial challenges by improving system efficiency, durability, and manufacturability while building customer confidence through pilot deployments and close collaboration with utilities and industrial users. Becoming a finalist at Tech Planter Singapore 2020 provided early validation and credibility.

With support from the Leave a Nest ecosystem, VFlowTech accelerated partnerships and regional expansion, including entry into Japan. Today, its solutions strengthen energy resilience in Southeast Asia by enabling higher renewable penetration and supporting reliable, decarbonised power systems.



United in purpose: The key leaders and partners powering Deep Tech Venture of the Year SEA 2026 at Tech Venture Meetup, Leave a Nest Malaysia.

The Deep Tech Venture of the Year 2026 winners showcase highlights science driven startups across Southeast Asia translating breakthrough technologies into real world impact. Supported by Leave a Nest's mentorship and ecosystem platform, these ventures are accelerating commercialization and strengthening the region's deep tech leadership.

TECH VENTURE MEETUP 2026: OPENING PATHWAYS BEYOND BORDERS

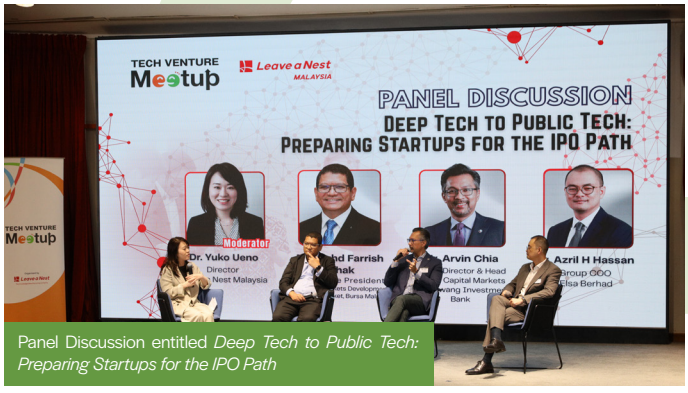
By Mahirah Basri, MBA

The Tech Venture Meetup (TVMU) 2026, held on 21 January at MRANTI Park, Kuala Lumpur, brought together Southeast Asia's deep-tech ecosystem with a clear ambition: to help startups move from local innovation to global relevance. Organised by Leave a Nest Malaysia, the event convened 279 participants from Malaysia, Japan, Singapore, Thailand, and Vietnam, reinforcing TVMU's role as a regional bridge between technology, capital, industry, and policy.

Anchored by the theme **"Open to the World: Innovate, Scale, and Go Public,"** TVMU 2026 focused on the often-overlooked middle ground between invention and expansion. The presence of His Excellency Noriyuki Shikata, Ambassador of Japan to Malaysia, as Honorary Guest underscored the importance of Japan–Malaysia collaboration in advancing deep-tech innovation across manufacturing, energy, sustainability, and materials. His remarks highlighted the long-standing partnership between Japan and Southeast Asia, and the growing role of joint research, co-development, and cross-border commercialisation.

Abdul Hakim Sahidi, Leave a Nest Malaysia Managing Director (left) and His Excellency Noriyuki Shikata, Japan Ambassador to Malaysia (right)

Throughout the programme, speakers from government, corporates, and the startup ecosystem emphasised that scaling challenges are rarely due to weak science, but rather unclear pathways, limited market access, and insufficient cross-border exposure. These issues were addressed through keynote sessions, partner presentations, startup pitches, and a panel discussion on IPO readiness, offering founders practical insights into governance, leadership mindset shifts, and long-term capital market preparation.



Panel Discussion entitled *Deep Tech to Public Tech: Preparing Startups for the IPO Path*

Dato Ir. Ts. Sudarnoto Osman, CEO of Sarawak Digital Economy Corporation Berhad, gave his speech digitally

A strong Malaysia–Japan collaboration was visible beyond the stage. Multiple Memoranda of Understanding were exchanged between Japanese and Malaysian companies, translating conversations into tangible partnerships. These collaborations spanned industrial inspection, marine robotics, circular economy solutions, and energy technologies, demonstrating how cross-border cooperation can accelerate commercialisation and regional market entry TVMU 2026 concluded with the Deep Tech Venture of the Year Southeast Asia 2026 Award Ceremony, recognising startups from Malaysia, Vietnam, Singapore, and Thailand for their technological excellence and societal impact. More than an award, it signalled the region's readiness to compete globally.

VIP Booth Tour

As TVMU continues to evolve, the 2026 edition reaffirmed a clear message: meaningful progress in deep tech is built through open collaboration, regional trust, and opportunities that extend well beyond borders.

INSIDE THE MIND OF A SPACE ENGINEER-TURNED AGRITECH STARTUP FOUNDER

By Neil Clarence Diaz, BSc

Ms. Lorilyn Daquioag, Founder and CEO of Green Visions PH, an agritech company that focuses on promoting sustainable farming in the Philippines.

Before becoming a founder, she was among the engineers behind one of the first locally-made satellites in the Philippines, the Maya 3 and Maya 4. Her work focused on fault detection, isolation, and recovery to ensure that systems could anticipate failure and remain fail-safe under any condition. As a quality control engineer, she carried the discipline of precision, accountability, and responsibility towards making an impact in agriculture through entrepreneurship.

Between Space Engineering and Agricultural Solutions

For Ms. Daquioag, the move from satellites to soil was not a change of mindset, but a change of setting. Space engineering trained her to think long-term by creating safety nets, anticipate breakdowns, and solve problems at their root. "Once a satellite is launched, you cannot fix it," she shared. That same responsibility guides her decisions as a founder.

In agriculture, she saw a lack of precision. Many farming decisions are based on generalized recommendations or satellite data that may not fully capture ground realities. From her perspective, this was a critical gap because there are several problems that arise from not identifying the root cause, especially in farming.

This thinking led Green Visions PH to adopt what she refers to as a "hospital for farms" model. Farms are first diagnosed, then provided with tailored recommendations, soil amendments, and monitoring support. This way, she is positioning her startup as a long-term partner in restoring soil health and farm productivity.

Green Visions PH

Green Visions PH, formerly Waste4Good Technologies (W4G), an agri-tech and social enterprise delivering full-cycle, science-based solutions for precision and sustainable farming.

Green Visions PH's products and community that reflects Ms. Daquioag's movement towards a sustainable and healthy environment for the future generation.

Innovation as a Movement: A Visionary Founder's Philosophy

Innovation should be a movement towards sustainability and a future that is safe and ready to be enjoyed by the generations to come. Ms. Daquioag is living out this advocacy as her inspiration for establishing Green Visions PH and her stakeholders as her family. "As a mother, the most important thing that you can pass on to your child is not the financial wealth, but the environmental wealth," she shared. To do this, she aims to be a "zebra" startup rather than a "unicorn" wherein quality, steady growth, and long-term partnerships are prioritized over rapid scaling. The objective is not merely financial growth, but creating better environmental conditions, improving farmers' mindsets, and encouraging more sustainable farming practices.

She believes that founders should be responsible for ensuring that technology addresses root causes and empowers communities rather than exploiting them. Thus, her advice to young scientists and technopreneurs is to maintain "sanity" and laser focus. They should not be pressured by peers and must have the courage to follow their goals and dreams, especially in realizing a sustainable future.

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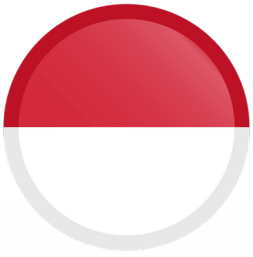

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