



Press Release

Shaping Tomorrow's Cities: SMU's 12th Lee Kuan Yew Global Business Plan Competition Spotlights Global Deep Tech Innovators in Sustainability

- *The Grand Finals winners are ChemT Biotechnology, representing Singapore and the US, and Zhejiang Polar Code Technology representing China and the US.*
- *ChemT Biotechnology emerged winner of the Chancellor's Cup for Beta Innovation and Zhejiang Polar Code Technology was awarded the Chancellor's Cup for Infinity Impact.*
- *Chairman of National Research Foundation, Mr. Heng Swee Keat, reiterates Singapore's role as a global innovation & entrepreneurial hub, well-exemplified by the success of the 12th LKYGBPC*



The 60 Global Grand Finalists and Student Ambassadors of the 12th Lee Kuan Yew Global Business Plan Competition by SMU IIE

SINGAPORE, 03 OCTOBER 2025: ChemT Biotechnology, a biotech startup from Singapore, and Zhejiang Polar Code Technology, an energy tech startup from China were declared Grand Final winners of the 12th Lee Kuan Yew Global Business Plan Competition (LKYGBPC) yesterday (2 Oct). Organised by the Singapore Management University Institute of Innovation and Entrepreneurship (SMU IIE) from 29 September to 02



October 2025, LKYGBPC is one of Asia's largest university-led deep-tech startup competitions, with this edition setting new records for global participation.

ChemT Biotechnology, whose founders graduated from the National University of Singapore and Harvard University, emerged winner of the Chancellor's Cup for Beta Innovation. China-based **Zhejiang Polar Code Technology, whose founders graduated from Tianjin University and Toledo University**, clinched the Chancellor's Cup for Infinity Impact.

The competition has two categories: 'Beta' for pre-revenue startups and 'Infinity' for revenue-generating early-stage startups up to Series A. ChemT Biotechnology's achievement marks the first time in the 23-year history of the competition that a Singapore-US startup has clinched the top prize of either category.

Ms Shirley Wong, Chief Judge and Chairperson of the 12th LKYGBPC Advisory Committee, remarked, "This reflects a level of trust in the biennial competition for startups to showcase their work, gain visibility, raise funds and receive expert feedback on their innovative and entrepreneurial models. The LKYGBPC is more than a competition—it's a vibrant celebration of bold ideas and fearless founders shaping a better future. This year's unprecedented participation and exceptional innovation, from climate tech to sustainable materials, reflect the grit and vision of young entrepreneurs tackling humanity's most pressing challenges."

Both winning startups beat a tremendously competitive field of 60 global finalists – the winner of the Chancellor's Cup for Beta Innovation was awarded S\$237,500 worth of prize value and the winner of the Chancellor's Cup for Infinity Impact secured S\$287,500. Both teams also earned exclusive access to mentorship by some of the most notable venture capitalists (VCs) and C-suite Executives.

What the Winners Say

Chancellor's Cup for Beta Innovation (0 to 1 Category – Pre-revenue Start-ups) - ChemT Biotechnology, whose founders graduated from NUS and Harvard University.

Sun Jie (孙洁), Co-founder, said:

"The spark I had, that made me decide to turn my idea into a venture, was when I was working in a corporate pharma company. We had touched on AI technology to solve a specific question that had been puzzling scientists for almost 20 years. And then, all of a sudden, AI solved it within a year. That was the moment I felt, 'this is the time'. We are excited that we are ready to start something very new that could fundamentally change the industry and give patients more access to modern medicines."

"Winning the competition is a great recognition to our startup. We are thrilled and will focus on scaling the business as a next step, this includes upgrading the current product, launching new products for antibody production, and scale our virtual cell AI platform to more customers."

About ChemT Biotechnology



ChemT Biotechnology transforms bio-manufacturing with AI-designed small molecules that precisely modulate cell behaviour—boosting biologics production yields and optimizing cell performance.

Chancellor's Cup for Infinity Impact (1 to Infinity Category – Early to Series A-stage Revenue-generating Start-ups) - Zhejiang Polar Code Technology (浙江极码电子科技有限公司), whose founders graduated from Tianjin University and University of Toledo

Wang Zhu (王柱), Co-founder, said:

"We didn't expect to win, and we plan to move our headquarters to Singapore. We are excited to promote our solution globally. What we do is provide a way to make high-level renewable penetration possible. Our advice and learning is, just do it, and always be grateful for the support from family, coworkers, and everyone around you. "

About Zhejiang Polar Code Technology

Zhejiang Polar Code Technology delivers smart micro-grids powered by AI to optimise performance in renewable-rich power networks.

Another 15 university-affiliated start-ups were also declared winners across various categories, including **MicroMelt Ltd** and **SynMetabio** which won the Indorama Ventures Future of Sustainable Materials Award; **Photoncore**, **Dunia Innovations** and **Luxtelligence** which won Zhang Fan Global AI Initiative Award, in first, second and third place respectively; and **QarboTech** which was awarded the Wavemaker Sustainability Investment Prize And the YIT Global Exploration Prize. *(Please refer to the Annex)*

Pioneering AI-Driven Start-up Evaluation

This year, LKYGBPC also introduced the DueAI™ Challenge, a novel initiative leveraging artificial intelligence to augment the efficiency and objectivity of start-up screening. Developed by Dr Sze Tiam Lin, Senior Licensing Advisor at SMU IIE, this AI-driven platform reflects global trends in venture capital, streamlining data collection and enabling data-driven investment decisions while empowering human judgment.

Universities as a Crucible of Innovation

In his closing address for the 12th LKYGBPC, Mr Heng Swee Keat, Chairman of the National Research Foundation (NRF), emphasised that the 12th LKYGBPC honours the legacy of Mr. Lee Kuan Yew, whose visionary spirit continues to inspire and fuel innovation. He highlighted the competition's success as a global magnet for innovation and learning, drawing 1,500 applications from over 1,200 universities across 91 countries and reinforcing Singapore's status as an international gateway to Asia's ecosystems.

Commending SMU as a "crucible of innovation" with a "pivotal role in fostering innovation and entrepreneurship among students", Mr Heng noted that the LKYGBPC, co-created with student leaders, is a prime example and a necessary convening platform.

Concurring with Mr Heng, SMU President Professor Lily Kong acknowledged the role of over 100 such students participating in the organizing of the competition with SMU. "What began



as startup scouting and international roadshows grew into supporting mentors and judges and buddying next-gen founders, forging friendships and partnerships along the way,” she said. “The student-pitch showcase from our local tertiary institutions reflects how SMU contributes to Singapore as a national launchpad—connecting global deep-tech startups with our student talent, opening direct pathways to internships, career opportunities and hands-on experiences.”

Universities are also in good stead to partner with and gather stakeholders to amp up the knowledge flow within the ecosystem. The inaugural Chief Sustainability Officer (CSO) Conversations, organised in collaboration with the Singapore Green Finance Centre and SMU Urban Institute, sponsored by Climate Impact X, DBS and Google, took place during the LKYGBPC Finals Week where it convened 30 leading corporates; heads of sustainability, forward-thinking policymakers, and next-gen innovators to drive candid dialogue and strengthen cross-sector alignment. (See [CSO Conversations | Lee Kuan Yew Global Business Plan Competition](#) for more details)

The Road Ahead

Looking to the future, Mr. Heng emphasised that Singapore’s collective and coordinated Research, Innovation and Enterprise (RIE) efforts remain critical to Singapore’s progress.

He described SMU’s Urban Sustalnnovator, which National Development Minister Chee Hong Tat launched just a few days ago, as a key initiative in commercialising research into globally competitive and impactful solutions. The deep tech accelerator programme will also serve as a teaching accelerator, to expose the local workforce to global best practices, informing important stakeholders in the consortium of developments in the fields and expanding Singapore’s deep tech talent pool, thereby strengthening the nation’s innovation agenda.

“Supported by a founding consortium of private and public partners, the USI aims to nurture high-potential deep tech start-ups with a ‘Singapore Inc. Advisory Board’ to accelerate and multiply positive impact on the world. This strong nexus between academia and industry sharpens our academic research edge and enables enterprises to be at the forefront of innovation.” All participants of LKYGBPC will get an exclusive opportunity to apply for the Urban Sustalnnovator, advance their technology and grow their business.

About LKYGBPC (李光耀全球创新创业大赛)

Organised by SMU’s Institute of Innovation and Entrepreneurship, the Lee Kuan Yew Global Business Plan Competition (LKYGBPC) is a biennial university-led start-up challenge, named after Singapore’s founding Prime Minister, Lee Kuan Yew, whose visionary leadership propelled Singapore onto the global stage. Since 2002, LKYGBPC has fostered a global youth innovation village, launching countless ventures addressing real-world challenges. The 11th edition attracted over 3,600 participants from 1,000+ universities across 77 countries, with 53 finalists selected for their innovation, commercial viability, and execution potential. For more information: smu.sg/lkygbpc

About SMU IIE (新加坡管理大学创新与创业研究院)

SMU’s Institute of Innovation and Entrepreneurship (IIE) nurtures changemakers and founders dedicated to creating positive impact. Through customised training programs, an equity-free incubation



program, and vibrant community-building events like LKYGBPC, IIE empowers entrepreneurs to innovate and scale. For more information: ie.smu.edu.sg

About SMU (新加坡管理大学)

Established in 2000, Singapore Management University (SMU) is renowned for its world-class research and innovative teaching. SMU's mission is to generate impactful research and cultivate creative, entrepreneurial leaders for the knowledge-based economy. Collaborating with global researchers, businesses, and public sector partners, SMU drives innovation with global relevance. For more information: www.smu.edu.sg

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Annex A - List of Grand Finalist Teams

Beta Grand Finalist Teams		
Start-up	Description	University
Arculus Solution	Arculus repurposes natural gas transmission pipelines for bulk transportation of either CO ₂ or hydrogen, thanks to a patented barrier coating applied on the internal surface of the pipe.	Massachusetts Institute of Technology
Helix Carbon	Helix Carbon delivers electrolyzers tailored for the steel industry that upcycle CO ₂ directly from waste gas to produce drop-in syngas,— eliminating the need for separate carbon capture process.	Massachusetts Institute of Technology
Luxtelligence	Luxtelligence develops energy-efficient photonic circuits for Quantum computing and AI, using thin-film lithium niobate chips to double bandwidth and cut power consumption in half for data centers.	École Polytechnique Fédérale de Lausanne
ChemT Biotechnology	ChemT Biotechnology transforms bio-manufacturing with AI-designed small molecules that precisely modulate cell behavior—boosting biologics production yields and optimizing cell performance.	National University of Singapore, Harvard University
Infinity Grand Finalist Teams		
Start-up	Description	University
Genia	Genia builds Generative Design CoPilots for engineers in construction helping them design permit-ready drawings 10 times faster with 20% material savings.	University of Pennsylvania, Carnegie Mellon University
Aerologix	Aerologix is a drone technology platform connecting clients with 40,000+ pilots, delivering on-demand aerial data, mapping, and AI insights for infrastructure, environment, and industry.	UNSW Sydney, Macquarie University
Zhejiang Polar Code Technology (浙江极码电子科技有限公司)	Zhejiang Polar Code Technology delivers smart micro-grids powered by AI to optimize performance in renewable-rich power networks.	Tianjin University, Toledo University
Macrocycle Technologies	MacroCycle creates circular plastics and textiles at cost parity and with zero emissions using SolvoGenesis™ technology for high-quality, closed-loop PET recycling.	Massachusetts Institute of Technology

Annexe B - List of 12th LKYGBPC Prizes and Winners



For more details on startups, pls refer to [12th LKYGBPC Finalists | Lee Kuan Yew Global Business Plan Competition](#)

Sponsor Prizes	Start-Up	University	Country of University
Chancellor's Cup for Beta Innovation S\$100,000 in cash and S\$137,500 in-kind prizes <ul style="list-style-type: none"> APRW Public Relations Prize JTC Launchpad Prize Lee & Lee Resource Prize YIT Global Exploration Prize 	ChemT Biotechnology	National University of Singapore, Harvard University	Singapore, United States Of America
Chancellor's Cup for Infinity Impact S\$100,000 in cash and S\$187,500 in-kind prizes <ul style="list-style-type: none"> Startup SG Grant Prize APRW Public Relations Prize JTC Launchpad Prize Lee & Lee Resource Prize YIT Global Exploration Prize 	Zhejiang Polar Code Technology	Tianjin University, University of Toledo	China, United States Of America
Indorama Ventures Future of Sustainable Materials Award (Beta) S\$50,000 cash prize awarded to the most promising breakthrough innovations in the Beta Category, for sustainable materials that can reshape industries	MicroMelt Ltd	University Of Oxford	United Kingdom
Indorama Ventures Future of Sustainable Materials Award (Infinity) S\$75,000 cash prize awarded to the most promising breakthrough innovations in the Infinity Category, for sustainable materials that can reshape industries	SynMetabio	ShanghaiTech University, University of Copenhagen	China
Zhang Fan Global AI Initiative Award In partnership with Zhang Fan — formerly Co-founder of Sequoia Capital China and a four-time Forbes “Midas List” honouree VC – the award recognises breakthroughs that push the frontiers of artificial intelligence, with \$35,000 going to third place, \$40,000 to the second and \$50,000 to the first	PhotonCore (1 st place)	Tsinghua University, Southeast University	China
	Dunia Innovations (2 nd place)	University of Glasgow	Scotland
	Luxtelligence (3 rd place)	École Polytechnique Fédérale de Lausanne	Switzerland
The GEAR by Kajima's Built Environment Accelerated Commercialisation Award Powered by Kajima, the prize awards \$60,000 to a startup which showcases deployment-ready solutions to tackle real-world challenges in sustainability, productivity, wellbeing, and resilience	Mimicrete Ltd	University of Cambridge	United Kingdom



raiSE Social Impact Grant Prize Awarded to ventures aiming to address pressing social needs in Singapore with sustainable, scalable impact, the winning team will receive funding of \$60,000 to help scale solutions that deliver meaningful change to society	Seamless XR	National University of Singapore	Singapore
YIT Global Exploration Prize Four prizes will be awarded in-kind, valued at \$25,000 per prize, to four globally oriented ventures offering incubation support and access to world-class research facilities. The four focus areas will include Advanced Manufacturing, AI, Robotics, New Energy, and New Materials	OmniPath H ₂	Harvard University	United States Of America
	MacroCycle Technologies	Massachusetts Institute of Technology	United States Of America
	Qarbotech	University of Cambridge, Wageningen University & Research	United Kingdom, Netherlands
	UniversalLab	École Polytechnique Fédérale de Lausanne, RWTH Aachen University	Switzerland, Germany
People's Choice Award A S\$10,000 prize that reflects the voice of the audience and has captured the imagination of the community. This award is determined by community votes at both the Beta and Infinity stages	ReZinc (Beta)	VinUniversity	Vietnam
	SpaceFields (Infinity)	Veer Surendra Sai University of Technology, UCE Burla	India
Wavemaker Sustainability Investment Prize S\$100,000 in investment awarded to champion companies which drive sustainable solutions and create meaningful impact in climate tech, renewable energy, the circular economy, and sustainable infrastructure	Qarbotech	University of Cambridge, Wageningen University & Research	United Kingdom, Netherlands
Best Professor-Student Team Prize S\$20,000 in cash awarded to one finalist team comprising a faculty member with an exciting and revolutionary solution	Nephrogen	Stanford University	United States Of America
DueAI Challenge This first-of-its-kind global award challenges how startups are evaluated and funded with AI.	PufferAI, Singapore (1 st place)		
	Evalyse, Canada (2 nd place)		
	Shensu AI, India (3 rd place)		



Annexe C – Quotes from A Growing Ecosystem of Visionary Partners

The 12th LKYGBPC welcomed the Agency for Science, Technology and Research (A*STAR) as its first Scientific Knowledge Partner, providing world-class expertise and mentorship to drive deep-tech innovation. New collaborator Indorama Ventures introduced the Future of Sustainable Materials Award, spotlighting breakthroughs in sustainable materials. The Zhang Fan Global AI Initiative Award continued to support AI-driven start-ups, while venture capital firms Antler, TRIREC, and Wavemaker Partners bolstered funding for enterprise, deep-tech, and sustainability-focused ventures.

Mr. Amiru Merican, Founder of Qarbotech, Winner of Wavemaker Sustainability Investment Prize and YIT Global Exploration Prize

“It’s a step up in credibility for all of us, especially in the regions that Wavemaker Partners, are backing our technology. This investment shows the great potential for us to expand further beyond our markets that we are in now.”

Note: Qarbotech develops patented photosynthesis-enhancing solutions that boost crop yields sustainably, helping farmers grow more food with fewer resources while combating climate change.

Mr. Yash Lohia, Executive President of Petchem and Chairman of the ESG Council, Indorama Ventures, Visionary Partner of the 12th LKYGBPC

“At Indorama Ventures, sustainability drives our innovation strategy. We collaborate with startups to develop recycling technologies and bio-based materials that can scale from lab to industry, supporting the transition to a more circular economy. We recognize that startups hold the key to breakthrough solutions that provide a competitive edge. Through initiatives like the LKYGBPC, we connect entrepreneurial talent with our global platform to accelerate solutions that create long-term value for society and our business.”

Ms. Choo Oi Yee, Chief Executive Officer of Climate Impact X, Lead Sponsor for the Chief Sustainability Officer (CSO) Conversations

“Markets are only as strong as the trust and collaboration behind them. That’s why we’ve partnered with SMU, Google and DBS Bank to convene sustainability leaders from business, finance and policy—fostering candid dialogue and turning innovation into impact.”