



## **JOINT NEWS RELEASE**

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### **NTU Singapore and Alibaba Group launch Corporate Lab to advance green digital technologies**

- *Research projects designed to drive Green Technologies and Sustainable Lifestyles*

**Nanyang Technological University, Singapore (NTU Singapore)** and **Alibaba Group** have established the **Alibaba-NTU Global e-Sustainability CorpLab (ANGEL)**, which aims to unlock the potential of smart technologies and solutions, to accelerate innovation towards a better and greener society.

ANGEL was officially launched today by Guest-of-Honour **Deputy Prime Minister and Chairman of National Research Foundation, Mr Heng Swee Keat**.

The new corporate lab supported by NRF's **Research, Innovation and Enterprise (RIE) 2025 plan**<sup>1</sup> aims to advance collaboration between industry and public sector researchers to address real-world challenges.

Industry-academia partnerships allow businesses to gain access to a wider talent pool and draw on the strong technological expertise from Singapore's universities and research institutions to solve complex problems. Meanwhile, researchers can enhance the industry relevance of their R&D and see their work translated into practical impact.

Also unveiled at the launch today is the ANGEL Green AI white paper by NTU and Alibaba Group researchers, which outlines 10 sustainable Green AI challenges that ANGEL will address.

The white paper aims to advance eco-friendly research, innovation, and development across various sectors, and champion a shift towards broader sustainability practices.

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<sup>1</sup> The Research, Innovation and Enterprise (RIE) 2025 plan by the National Research Foundation is a strategic roadmap shaping Singapore's research and innovation activities over a five-year period. The RIE2025 aims to enhance Singapore's scientific foundation, broaden its innovation and enterprise ecosystem, as well as scale up technology translation and strengthen enterprise innovation capabilities.

With the global use of AI technologies expected to increase exponentially, estimated to drive up the power demand of data centres by 160 per cent by 2030<sup>2</sup>, there is a need to ensure that AI-powered technologies are power-efficient and readily accessible to the population.

ANGEL will develop and trial novel digital technologies that prioritise sustainable ecosystems and lifestyles. These efforts align with Singapore's Smart Nation initiative and Green Data Centre Masterplan.

Projects will include tackling key environmental issues such as reducing carbon emissions in supply chains, promoting environmentally friendly behaviour, and advancing healthcare models for personalised and precise interventions for an ageing population.

This collaboration, set to span over five years, will see a joint team of up to 200 experienced scientists and engineers from both NTU and Alibaba Group working together to advance global research efforts in ten areas, including energy-efficient AI algorithms, green cloud computing, sustainability standards and metrics, sustainable living and digital technologies for ageing and health.

The new corporate lab partnership builds on the earlier success of **Alibaba-NTU Singapore Joint Research Institute**, launched in 2018.

**NTU President Professor Ho Teck Hua** said the partnership combines the University's world-leading expertise in AI, computing and sustainability with Alibaba Group's industry-leading digital platform capabilities and innovative cloud and AI solutions.

"Our new Corporate Lab will pave the way for users to gain access and benefit from AI-powered applications at lower costs while ensuring sustainable computing growth for future generations. The partnership further demonstrates NTU's strong and deep ties with the industry, having forged many impactful collaborations with international corporate partners across the globe. Under Singapore's Corporate Lab scheme alone, NTU has set up joint labs with global industry leaders such as Rolls-Royce, Continental, HP and Delta Electronics, as well as leading Singapore MNCs like Singtel and ST Engineering."

**Mr Wu Zeming, Chief Technology Officer of Alibaba Group**, said: "Global demand for green technologies provides ample business opportunities. We are honored to

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<sup>2</sup> Goldman Sachs. (2024, May 14). *AI poised to drive 160% increase in power demand*. Goldman Sachs. <https://www.goldmansachs.com/insights/articles/AI-poised-to-drive-160-increase-in-power-demand>

continue our long-standing partnership with NTU, a trailblazer in building a robust industry collaboration ecosystem, in this important endeavour. Looking ahead, ANGEL will play a pivotal role in driving technological breakthroughs for sustainable digital innovations and unlocking commercialisation opportunities with innovative business models, bringing value beyond business — ultimately contributing to a better, more sustainable world.”

### **Greener pillars of research**

With its key research pillars in **Green Technologies** and **Sustainable Lifestyles**, the Corporate Lab will help position Singapore as a hub for sustainable digital technologies.

In **Green Technology**, ANGEL will focus on developing technologies that are more sustainable, such as lightweight computational models with a low carbon footprint. The solutions will enable businesses to develop green AI solutions with decreased computational requirements, resulting in a smaller environmental impact.

ANGEL will make smart digital technologies readily available to businesses, including small and medium-sized enterprises (SMEs), thereby facilitating the adoption of advanced technologies.

Research projects will also include developing next-generation energy-efficient data centres that enable greener cloud computing, and a new modelling platform to deliver accurate simulations for more efficient urban planning.

In **Sustainable Lifestyles**, ANGEL will seek to use digital technologies to engage with and empower consumers and SMEs to adopt more sustainable options.

Research projects will create digital systems and tools to educate and incentivise sustainable consumer choices, to provide health interventions for an ageing population, and help SMEs integrate sustainability into operations.

For example, e-commerce platforms can incentivise consumers and promote eco-conscious behaviours by suggesting energy-efficient appliances, reusable products, or green delivery options.

AI-powered health systems can further support ageing populations by predicting health risks and providing personalised health interventions like tailored exercise regimes and diet plans for long-term care.

### **Developing a talent pipeline**

ANGEL plans to establish a collaborative ecosystem involving all industry and public sector stakeholders. This ecosystem can facilitate the exchange of knowledge, ideas, and resources, fostering innovation and creating a supportive environment for project outcomes.

The corporate lab will also focus on nurturing a pipeline of talents for Singapore. The trained personnel will be proficient in technical skills and in good sustainable development practices.

This close partnership between industry and academia will enhance the industry relevance of the University's research and development activities, while enabling innovative enterprises to stay globally competitive by providing insights into new application possibilities.

**NTU Vice President (Industry) Professor Lam Khin Yong**, added: "Industry-academia collaborations are vital for driving innovation, and sustainable development. Our partnership with Alibaba represents a shared commitment to transforming innovative ideas into practical, sustainable solutions. This collaboration prepares our students to tackle 21st-century challenges. We are excited to combine our strengths in research and technology, with a particular focus on green technologies and the promotion of sustainable lifestyles, all aimed at fostering a healthier, greener society."

**Mr Chris Tung, President of Alibaba Group, Strategic Development**, said: "Our partnership with NTU Singapore embodies our shared objective to emphasise technology's role in promoting sustainability. We look forward to advancing Alibaba's expertise in smart technologies through collaboration with Singapore researchers. Together, we aim to enhance our smart technology solutions and collaboratively create innovative, future-ready solutions that will make a significant impact."

ANGEL's focus on advancing green digital technologies also aligns with NTU's sustainability manifesto, as the University aims to develop sustainable innovations and achieve carbon neutrality by 2035.

**NTU Professor Miao Chunyan, President Chair Professor in Computer Science and Associate Vice President (Capability Building)**, will helm ANGEL as its Director.

This partnership will support Singapore's journey towards becoming a global AI hub while maintaining its commitment to sustainability. By successfully balancing rapid AI development with stringent sustainability standards, Singapore can set a precedent that could reshape the global tech landscape.

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***About Nanyang Technological University, Singapore***

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 35,000 undergraduate and postgraduate students in the Business, Computing & Data Science, Engineering, Humanities, Arts, & Social Sciences, Medicine, Science, and Graduate colleges.

NTU is also home to world-renowned autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Earth Observatory of Singapore, Nanyang Environment & Water Research Institute and Energy Research Institute @ NTU (ERI@N).

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

Ranked amongst the world's top universities, the University's main campus is also frequently listed among the world's most beautiful. Known for its sustainability, NTU has achieved 100% Green Mark Platinum certification for all its eligible building projects. Apart from its main campus, NTU also has a medical campus in Novena, Singapore's healthcare district.

For more information, visit [www.ntu.edu.sg](http://www.ntu.edu.sg)

### ***About Alibaba Group***

Alibaba Group's mission is to make it easy to do business anywhere. The company aims to build the future infrastructure of commerce. It envisions that its customers will meet, work and live at Alibaba, and that it will be a good company that lasts for 102 years.