KNOWLEDGE TRANSFER

ANNUAL REPORT 2023 | 2024

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The Hong Kong University of Science and Technology
Clear Water Bay, Kowloon, Hong Kong

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Executive Summary

At the mid-year stage of the triennium (2022-2025), HKUST has strengthened both its own distinctive holistic knowledge transfer (KT) ecosystem and leveraged the HKSAR government's innovation and technology (I&T) policies over 2023-2024 to synergistically supercharge the University's dynamic role as a driver of technological advancement locally, regionally, and internationally. Under the robust I&T leadership of President Prof. Nancy IP, the University has also looked ahead, with the release of the Strategic Plan 2031 and 3.0 vision providing the framework to continue to extend such endeavors.

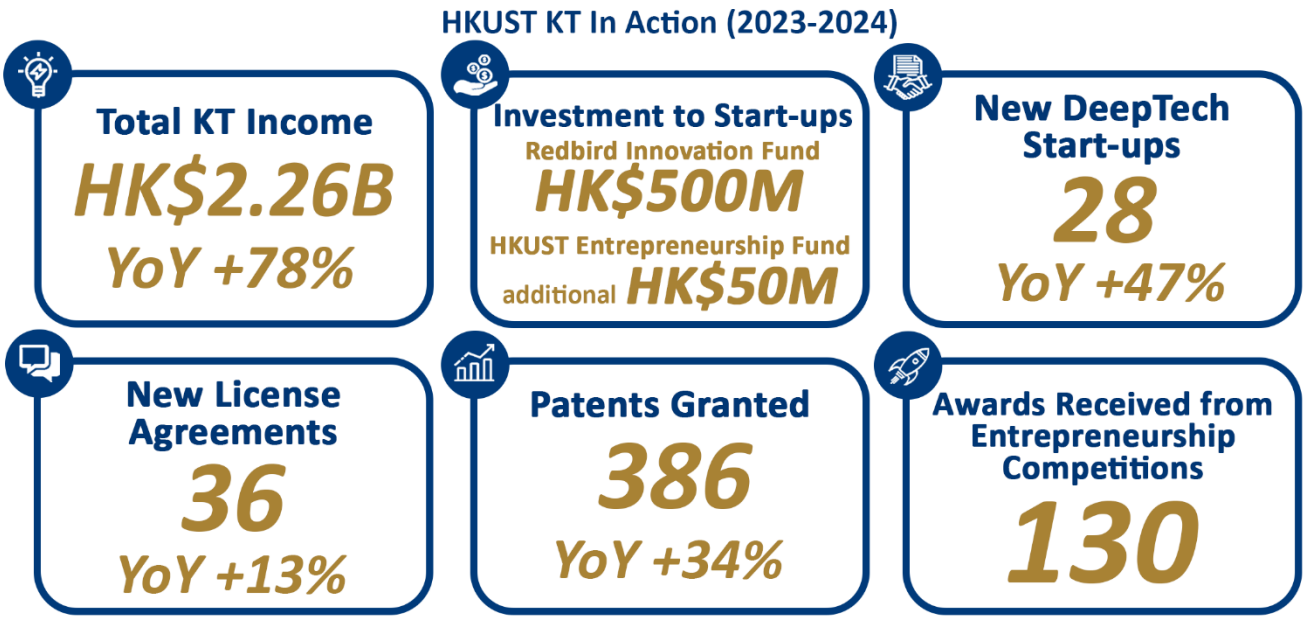
The year saw HKUST leap 13 places to enter the top 50 universities globally (QS World University Rankings 2025), reaffirming the excellence of its education, research, and knowledge transfer. Such excellence has long drawn the attention of fellow top-flight academics, industry movers, and investors. This facilitated two key KT initiatives over the year: the successful launch of the HK$500 million Redbird Innovation Fund, which aims to create multiple Venture Investment Funds (VIFs) worth HK$2 billion; and a second HK$50 million tranche for the established E-Fund. Both will fortify University start-up development, in particular DeepTech ventures. HKUST's entrepreneurial culture and connectivity also assisted five cutting-edge University research proposals to gain funding in the first round of the HKSAR government's HK$10 billion Research, Academic, and Industry Sectors One-plus (RAISe+) Scheme, the second highest acceptance rate for individual institutions.

Along with funding support, the University sought to spur innovation and commercialization through network building and partnerships. Over 2023-2024, KT units organized/co-organized more than 120 events and participated in flagship innovation and entrepreneurship activities locally and internationally. These included Unicorn Day 2024 – HKUST Innovation and Enterprise UNLIMITED, HKUST Industry Engagement Day Plus (IED+), the 49th International Exhibition of Inventions Geneva, and INNOTECH, showcasing HKUST innovators and start-ups and bringing them together with industry, government, and investors. In other moves, the Founders' Club is now providing a solid, on-going alumni connection between established HKUST entrepreneurs and start-up rising stars. In addition, a host of collaborative HKUST ventures established over the year are set to drive future research and KT opportunities with partners from different sectors in Hong Kong and beyond. Among them was the launch of the Hong Kong Generative AI Research and Development Center (HKGAI), the fourth HKUST-led joint-university R&D center under the Hong Kong government's InnoHK initiative.

Notable HKUST KT milestones over 2023-2024 include:

- **Strong Industry Engagement and DeepTech Commercialization:** A top scorer in the Times Higher Education (THE)'s 2024 industry index, adding to the No.1 in China under Nature Index's patent influence metric (2022) and No.2 in China for DeepTech unicorn incubation capabilities by New Fortune magazine (2022). Active license agreements now total 199, involving over 900 industry collaborators.
- **Proactive Entrepreneurship Development**: Record high of 36 new licenses signed and 28 DeepTech start-ups established, an increase of 47%. An additional 3 successful exits, making 14 in total, along with 10 unicorns and 1,815 active start-ups with HKUST DNA.
- **Strategic IP Management:** A record 261 Invention Disclosures and a high 31% IP utilization rate, in line with top global research institutions. Patents filed and granted rose by 21% and 34% respectively.
- **Local and Global KT Recognition:** Burgeoning participation in and outside Hong Kong, driving wider reach and impact. Accomplishments include receiving 130 local and international entrepreneurship awards; a record high number of accolades at the International Exhibition of Inventions Geneva; ground-breaking success at the US Consumer Electronics Show (CES); the successful listing of HKUST unicorn Googol Technology on the ChiNext Board of Shenzhen Stock Exchange; and partnerships established with top-tier institutes and industries in South Korea, Japan, Saudi Arabia, and the UK.

Thus, in a productive 12 months of initiatives and achievements, HKUST has deepened and widened its KT support in multiple ways, boosting its current societal impact and forging the pathways to improve people's lives further through its discoveries, technologies, and start-ups in the years ahead.



Impact Cases

HKUST-Developed Blood Test for Alzheimer's Disease Launched to Market, Opening New Treatment Pathways

Alzheimer's disease (AD) affects 55 million people worldwide. Furthermore, its prevalence is increasing due to population aging, with the global cost of AD and other forms of dementia is forecast to rise to US$2.8 trillion by 2030. Currently, AD is diagnosed by clinical observation, which can only identify late-stage symptomatic patients, costly brain imaging, or invasive procedures. However, as AD begins years before symptoms appear, early diagnosis and intervention are critical. To answer this pressing need, a groundbreaking AD blood testing service based on research conducted at HKUST was launched in July 2023. Offered by Cognitact Ltd., an HKUST DeepTech start-up, the AD blood test named PlasmarkAD™, is now available at five private hospitals and several clinics in Hong Kong. This launch is a remarkable demonstration of the synergy between HKUST and its collaborators, as well as the translation of discoveries into technologies and entrepreneurial innovation.

Cognitact Limited launches PlasmarkAD™ - a revolutionary blood test service for early detection of Alzheimer's disease (AD).

This blood test is a game-changing innovation, providing a convenient, accurate, less invasive, and cost-effective solution to the early detection and monitoring of AD. The test can detect AD with over 96% accuracy and identify early-stage AD, mild cognitive impairment, with over 87% accuracy. The test simultaneously measures 21 proteins involved in multiple biological systems, enabling clinicians to detect, comprehensively analyze, and closely monitor the disease. Moreover, its ease of use makes it an invaluable tool for AD research. Importantly, the test is also valid for people of diverse ethnicities, making it a potential global solution for AD diagnosis. Existing tests were typically developed based on research involving European-descent populations, limiting their applicability to other populations.

The blood test was developed by scientists from the State Key Laboratory of Molecular Neuroscience at HKUST and the HKUST-led Hong Kong Center for Neurodegenerative Diseases (HKCeND), working in collaboration with international and local researchers and clinicians. Both organizations are spearheaded by Prof. Nancy IP, President and the Morningside Professor of Life Science at HKUST. To bring the test to market, Cognitact was established in 2020 by the team members with assistance from the Office of Knowledge Transfer (OKT), which connected the researchers with investors and helped secure substantial private sector funding. In April 2023, the blood test technology won two prestigious awards at the 48th Inventions Geneva: the Prize of the Chinese Delegation for Invention and Innovation (CDII); and the Gold Medal with Congratulations of the Jury (GMCJ). In November 2023, PlasmarkAD™ received the Smart People Grand Award and Smart People (Smart Ageing) Gold Award at the Hong Kong ICT Awards. Efforts are also underway to make PlasmarkAD™ available to the public health sector worldwide, further expanding the reach and applicability of the test.

Beyond PlasmarkAD™, HKUST continues to advance understanding and management of AD through local and global collaborations and programs. Biomarkers discovered from research conducted by HKUST are being utilized in Hong Kong to assess AD risk, while HKUST-developed AD screening methods benefit patients and research in Mainland China. Two other HKUST-affiliated start-ups were also launched in 2023-2024. Editact Therapeutics Ltd. is developing a gene-editing approach for treating familial Alzheimer's disease and, which garnered a Gold Medal at the 49th Inventions Geneva in April 2024. Plasmotact Therapeutics Ltd. is devising an innovative strategy targeting the blood protein soluble, ST2, for AD treatment, which won the Prize of the CDII and a GMCJ at the 49th Inventions Geneva.

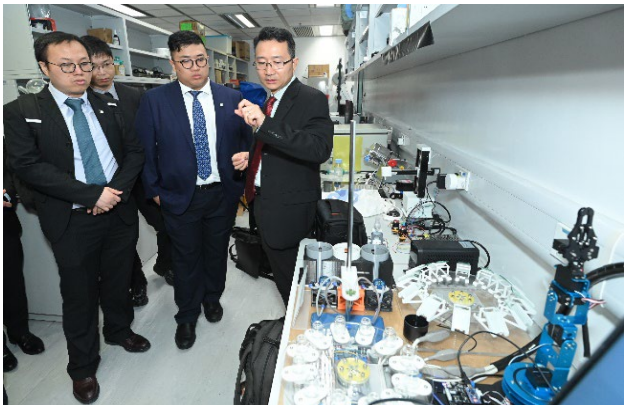
Moving Materials to The Forefront of Green Tech

Prof. YANG Jinglei, Department of Mechanical and Aerospace Engineering, and his team have been tackling engineering and ESG challenges for the past two decades, through cross-disciplinary innovation spanning chemistry, materials engineering, manufacturing, and mechanics. Prof. Yang, a Fellow of the Royal Society of Chemistry, Royal Aeronautical Society, and Hong Kong Institution of Engineers, has focused his DeepTech research on green coatings and materials that improve performance, save energy, and promote sustainable development in manufacturing and industry. Now, he is bringing many eco-friendly industrial solutions to market through start-ups and diverse industry collaborations.

Benefiting from the outset from the comprehensive assistance available through the University's KT ecosystem, Coalot Tech Ltd. (est. 2023) is developing a high-performance and durable multifunctional nanocoating with improved anti-reflection capabilities for products including photovoltaic glazing panels, curtain walls, and auto rearview mirrors. OKT's input for the start-up has ranged from patent filing and licensing of HKUST technologies to early-stage funding from the Bridge Gap Fund (BGF) and Lo Kwee Seong Technopreneurship (Tech-Ship) Fund. Coalot has also received seed funding support from the government-university Technology Start-up Support Scheme for Universities-O (TSSSU-O). Meanwhile a second company, Guangzhou Nano Micron Intelligent Tech Ltd (NMI Tech.) (est. 2019) incubated at HKUST-Fok Ying Tung Research Institute (FYTRI) in Nansha, is creating microencapsulation technologies for high-value-added industrial adhesives to increase productivity and reduce waste and contamination in the automotive and 3C sectors. NMI Tech drew a multimillion RMB investment in 2023-2024.

In collaborations with industry, a joint lab with home product design manufacturer and distributor King's Flair Development Ltd. is commercializing sustainable technologies to decrease the use of plastics and detergents in household goods. Other recent projects include: a solar heat-resistant coating to reduce air conditioning use and carbon emissions with building and management company Shui On Xintiandi; and solar panel-related sustainability collaborations with Hong Kong Disneyland, HAESL, and many others. Discussions with leading companies on materials ranging from recyclable green composites to desiccative technologies are also underway.

Looking ahead, Prof. Yang's quantifiable life cycle analysis method for green materials and AI+Robotics-empowered high throughput R&D platform are set to open the door to more novel technologies that can address sustainability and ESG issues in key industrial fields and take smart manufacturing to the forefront of the green tech revolution. Well-received participation in the 49th Inventions Geneva and HKUST Industry Engagement Day Plus (IED+) 2023 drew wide attention to Prof. Yang's work, with the University-organized event focused on enabling technologies for achieving Hong Kong's dual carbon targets of carbon neutrality by 2050 and 50% reduction in emissions by 2035.



A King's Flair delegation visits Prof. Yang Jinglei's lab and its AI + Robotics empowered high-throughput autonomous R&D platform, which can design, manufacture, and characterize green and sustainable materials and structure.

Seeing The Future through Novel Biomaterials and Patient-Friendly Drug Delivery of Eye-Disease Treatments and More

Exciting HKUST healthcare innovations to advance treatment of devastating conditions, ranging from eye diseases to cancer, are now headed to market following ground-breaking DeepTech drug delivery and biomaterial discoveries and the launch of three spin-off companies by Prof. CHAU Ying, Chemical and Biological Engineering, and her researchers.

Hundreds of millions of people live with an untreated vision impairment, such as age-related macular degeneration or diabetic retinopathy, and other eye-related conditions. Those that can receive treatment often have to brave frequent and scary injections into the eye. HKUST start-ups Opharmic Technology (est. 2016) is determined to change this by providing patient-friendly ways to address the burgeoning global challenge as populations age and lifestyles change. Through Opharmic's novel use of ultrasound technology for eye care, the company is developing the world's first non-invasive ocular drug delivery platform, MeticTouch®, effective across conditions and able to integrate with existing and new products without formulation.

The prevalence of dry eye diseases is 11% worldwide, 20% in Asia, and is on the rise due to increasing screen time. Yet, 1 out of 3 patients are feeling dissatisfied with the current treatment. Pleryon Therapeutics (est 2017) is using Chau team-created polymer technology to trailblaze gel-like liquid topical drops for prolonged relief of dry eye symptoms. The over-the-counter dry eye-drop market alone is valued at around US$3.4 billion, and is growing. The company is also set to utilize its hydrogel technology expertise to develop polymer therapeutics for chronic diseases, aiming for first-in-human clinical trials in 2025.

Innovation projects by Prof. Chau Ying (second left) have evolved into successful start-ups, Pleryon Therapeutics and Allegrow Biotech, attracting significant investment. The researchers also received acclaim for their work at the 48th and 49th International Exhibition of Inventions in Geneva.

In addition, Allegrow Biotech (est.2022) is translating a third Chau team therapeutic advance to widen patient accessibility to cutting-edge immune-cell therapy as a cure for cancer and other autoimmune diseases. The current ex vivo therapy relies on complicated and expensive cell manufacturing processes using living feeder cells or sub-optimal beads. Through Allegrow's patented AimGel cell-mimicking biomaterial platform in combination with machine learning, the start-up is providing industry with superior tools to boost cell production and control cell properties. Beyond lowering the cost of cell manufacturing, Allegrow is positioned to accelerate the development of future cell therapy, with the launch of AimGel research reagent grade products, due in 2024-2025, followed by GMP materials once funding is secured.

Comprehensive OKT support has sustained all three DeepTech endeavors on their entrepreneurial journey from lab to commercialization. Such assistance has included patent applications, technology licensing, and acquisition of business and presentation skills. It has also involved seed-funding support (TSSSU-O), industry connection-building by participation in HKUST start-up showcases (Unicorn Day, Industry Engagement Day [IED], and IED+), and sponsorship to join prominent overseas exhibitions. Validation has included recognitions at the flagship HKUST-Sino One Million Dollar Entrepreneurship Competition and International Exhibition of Inventions Geneva (Pleryon, Allegrow), inclusion in the Forbes Asia 100 to Watch 2022 list (Opharmic) and winning the Jumpstarter 2023 Global Pitch Competition against 1,000 competitors (Allegrow). External fund-raising has been equally productive, with the three start-ups securing HK$150 million from private investors.

Based in Hong Kong and Shenzhen, all three are effectively spurring the Greater Bay Area's innovation economy and talent development as they ready their technologies for global distribution. Among other moves, this has seen collaborations and partnerships established with Mainland and international biotech and pharmaceutical companies (all), product launches and revenue generation scheduled for 2024 or 2025 (all), and ISO 13485:2016 certification achieved for commercialization (Opharmic). With their collective commitment to improving the therapeutic experience for patients around the world, the future for aging populations and individual healthcare clearly looks brighter.

First University Satellite in Hong Kong Propels Forward Mitigation of Extreme Weather

In line with the University's Strategic Plan 2031 to solve real-world challenges through KT, HKUST powered forward Hong Kong's contribution to the pressing global climate change quest for better forecasting, disaster response and management of rising rainstorm intensity and severe typhoons over 2023-2024 with the University's milestone launch of the HKSAR's first higher education satellite. Since the high-resolution optical civilian satellite soared aloft in August 2023, HKUST researchers have opened up a new era of remote sensing and environmental monitoring, data analysis, and modeling for the city and further afield. The satellite is the most advanced of its kind, capable of collecting remote sensing images with a spatial resolution of 0.5 meters and swath (image width) of 150 kilometers.

Celebrating the successful launch of the high-resolution optical satellite "HKUST-FYBB#1".

The dynamic HKUST-industry-community collaboration that rocketed the launch successfully ahead was initiated by Civil and Environmental Engineering researchers and students, co-led by former NASA scientist Prof. SU Hui, an expert in weather, climate research, and satellite data analysis, and Chair Professor ZHANG Limin, a globally renowned specialist in disaster assessment and management, and the HKSAR's only higher education scholar honored in China's inaugural 2024 National Engineer Awards. Support to take HKUST-FYBB#1 skyward came from donors Mr. Francis YIP Chi-Hung and his wife, Mrs. Catherine YIP NG Bun-Bun, after whom the satellite was named. Just six months after discussions within the University began, HKUST-FYBB#1 soared aloft. The event generated 400 related news items.

Since then, partnerships leveraging the satellite's high-resolution data have grown equally fast. A collaboration with the largest power company in Hong Kong in January 2024 aims to identify electrical substations vulnerable to flooding, and a joint effort with a leading reinsurance company in early 2024 is set to digitalize urban structures and include them in flood risk models for insurance pricing and underwriting. Other projects are seeking to boost farming efficiency and crop yields in China and Southeast Asia, aiding national and global food security; and to identify carbon-intensive stationary sources, such as power plants and cement plants, to estimate emissions and help with carbon capture and storage. Meanwhile, around 1,000 school students have benefited from seminars

led by satellite team members and jointly arranged in conjunction with the New Territories School Heads Association and satellite donors' FC & Yip Foundation Limited. More lectures and summer camps on satellite technologies are under planning to foster wider talent development.

Among exciting future developments is Prof. Su and Prof. Zhang's co-led High-Resolution Global Greenhouse Gas Observatory, mentioned at the national launch of Shenzhou-18 spacecraft in April 2024. The project indicates the close collaboration between the HKSAR and Mainland in technological innovation to address carbon neutrality. The goal is to monitor carbon and methane emissions, providing valuable data to help combat climate change.

Enterprising E-Fund Draws Investment Community Into HKUST Start-up Ecosystem

Celebrating its fifth anniversary in 2024, the HKUST Entrepreneurship Fund (E-Fund) has productively driven forward the University's formative lab-to-market ecosystem through its next-step funding role that connects University start-ups with the wider investment community and vice versa. While early-stage internal and government funding schemes, such as the Bridge Gap Fund (BGF) and Technology Start-up Support Scheme for Universities (TSSSU), focus on preparing entrepreneurial teams to commercialize R&D findings and form enterprises, HKUST's E-Fund expedites University start-ups toward growth and market launch by filling the enterprise development funding gap through pre-A, seed, or angel support.

Seeking to identify and fund start-ups with high-growth potential, the E-Fund has reviewed more than 200 HKUST companies and approved 21 start-up investments totalling HK$42.5 million since its launch in 2019. This has led to a further HK$400 million being raised by portfolio companies, a nine-fold-plus multiplier effect. The aggregate valuation of E-Fund portfolio companies was estimated at more than HK$2 billion, as of 30 June 2024. They generated revenue of close to HK$25 million in 2023 and employed over 200 full-time staff. In addition, five E-Fund companies were among a total of nine HKUST start-ups selected for the Forbes Asia 100 to Watch list in 2022 and 2023. HKUST was the only university in Asia to have start-ups included in the list in 2022.

HKUST Entrepreneurship Fund portfolio companies.

Under the E-Fund's Co-Investment Model, there were 41 Co-Investment Partners as of June 2024, covering key areas of University focus (including electronics, AI, and smart cities; materials, energy, and sustainability; and biomedical and healthcare) and investing approximately HK$123 million in E-Fund portfolio companies. The business model raises investor awareness of HKUST's emerging DeepTech companies and expedites start-ups in connecting with industry partners. Funded companies leverage innovative technologies or business models spanning AI, blockchain, Fintech, healthcare, 3D printing, among others. They receive advice on wider entrepreneurial know-how, networking, and investment opportunities from the University's knowledge transfer units and Co-Investment Partners. Meanwhile, numerous innovation and entrepreneurial platforms and events provide further exposure and experience. These include the DeepTech Playbook, Industry Engagement Day Plus (IED+), HKUST Unicorn Day, and HKUST Founders' Club, the US Consumer Electronics Show (CES), and International Exhibition of Inventions Geneva. All have added further to the University's sophisticated KT ecosystem, which to date has helped generate over 1,800 active HKUST-related start-ups and 10 unicorns.

Moving forward, the success of the E-Fund has paved the way for HKUST's new Redbird Innovation Fund (RIF), planned and readied over 2023-2024, to further boost the University's lab-to-market lineup. Another HK$50 million in capital has also been added to the E-Fund to fortify both support for HKUST start-ups, and participation in promotional events and activities to boost fund brand-building. With the E-Fund now positioned to accelerate investments, strengthen post-investment services, and work in synergy alongside the RIF as well as TSSSU, its next five years look set to be even more fruitful, propelling Hong Kong ahead as a global innovation center.

KT Strategic and Infrastructure Development

Boosting Intellectual Property Management

HKUST once again achieved pace-setting Intellectual Property (IP) and licensing outcomes over 2023-2024. The year saw a historic high 261 invention disclosures received, 462 and 386 IP filed and granted, and 90 new IP utilized. The University has continuously demonstrated strong leadership in innovation and entrepreneurship development. HKUST was a top scorer in the Times Higher Education (THE)'s 2024 industry index, adding to its No.1 position in China under Nature Index's patent influence metric (2022). By June 2024, 585 patents had been utilized out of a total of 1,894 owned by HKUST Clear Water Bay (31%). Nearly one-third of HKUST's patents were utilized by third parties, a proportion in line with top global research institutions. In addition, HKUST achieved a record 199 active license agreements, resulting in an IP income of HK$11.7 million in 2023-2024.

Policy Move Facilitates Expansion of KT Activities

HKUST's IP Policy 3.1 was approved by the University Council in October 2023, aligning the University's policy with the laws and regulations of both the HKSAR and the Mainland as HKUST expands its knowledge transfer activities to both jurisdictions. IP Policy 3.1 forms the basis for an IP policy for the University's Mainland units with appropriate adaptations for local operations. The revision of the IP policy for the Mainland units was approved in Q2 2024.

Streamlining IP Management via Digitalization

Digitalization of the IP disclosure and management process successfully launched in Q2 2024, enhancing efficiency by streamlining workflows and reducing administrative tasks. Centralized digital repositories assist easy retrieval of information that can promote collaboration and decision-making. The systems enable better organization and tracking of IP-related data, facilitating analysis and strategic planning. They also offer reporting and analytical capabilities that can provide insights into IP management effectiveness.

Workshops Build IP Knowledge

To better equip the HKUST community on IP matters, OKT organized a series of insightful seminars with government and community stakeholders over 2023-2024. Four workshops covered invention disclosure, IP landscaping, patent management and strategy, alerting attendees to the importance of protecting the IP rights of their innovations as well as empowering participants to maximize the usefulness of their IP.

Learning more about IP protection and its importance in innovation.

Accelerating Innovation Through InnoHK Centers

In a move to fast-forward innovation, the three established HKUST-led Centers under the HKSAR Government's InnoHK Clusters initiative were joined by a fourth University-led center in October 2023. Along with the **AI Chip Center for Emerging Smart Systems (ACCESS**), **Hong Kong Center for Neurodegenerative Diseases (HKCeND)**, and **Hong Kong Center for Construction Robotics (HKCRC),** the **Hong Kong Generative AI Research and Development Center (HKGAI)** is now advancing KT of its pioneering research. **HKGAI**, steered by HKUST Provost Prof. GUO Yike, fosters local generative AI achievements and technologies. It made its public debut at the InnoEX exhibition in April 2024 where it showcased its latest AI research achievements. The same month, the new Center entered into two strategic partnerships, with Phoenix Intelligent Media, a subsidiary of Phoenix TV and Tsinghua University's Institute for AI International Governance (I-AIIG). In other developments, **ACCESS** introduced its accelerators and design automation for AI chips, among other breakthroughs, at the Guangzhou IC Industry Innovation and Development Summit (ICCAD 2023), InnoHK Summit, and InnoEX 2024. The Center also jointly organized the "Frontiers of AI Accelerators: Technologies, Circuits and Applications IV" international symposium in June 2024 with HKUST and Hong Kong Science Park, attracting experts from around the world. **HKCeND** participated in the Asia Summit on Global Health 2023 and Gerontech and Innovation Expo cum Summit 2023, among other major forums, spotlighting its research breakthroughs and fostering collaborations with industry leaders and investors. Meanwhile, **HKCRC** signed an MoU with the Housing Bureau to enhance

public housing construction and property management. Goals include innovative construction technologies to address large-scale housing production, shortage of labor, site safety, and other key issues.

Prof. Guo Yike and the HKGAI team.

Prof. Nancy Ip and members of HKCeND.

Prof. Tim Cheng and the ACCESS team.

Prof. Li Zexiang and researchers at HKCRC.

Wide-Ranging Mission-Oriented Research Units and Joint Labs Inspire Discovery and Applications

HKUST's robust research infrastructure encompasses a diverse range of research institutes, centers and joint labs that facilitate interdisciplinary collaborations and boost the transformation of discovery to impact. Over 2023-2024, 11 new research units were approved, including seven joint labs with industry or research institutions. These units address key societal challenges, including public health, AI, supply chain management, and sustainable living. An eco-friendly anti-pest spray against bedbugs and Hong Kong's first AI-powered tourism index are among the applications developed. As of 30 June 2024, the University had a total of 13 research institutes, 38 research centers, and 23 joint labs.

Joint Supply Chain Institute to Tap Opportunities Amid Changing Business Dynamics

In May 2024, the University teamed up with Li & Fung, a member of the Fung Group, to establish the HKUST Li & Fung Supply Chain Institute. The new institute will focus on innovative research and practices in global supply chain management. This will enable it to contribute to Hong Kong's development into a multinational supply chain management center, a strategic objective highlighted in the city's 2024-2025 Budget. It will also strive to drive impact in the Greater Bay Area, regionally, and globally. To achieve such goals, the institute will engage in collaborative research, develop business intelligence through industry research and policy studies, and deepen the talent pool through customized executive education and partnership programs.

HKUST President Prof. Nancy Ip (fourth left), together with Acting Financial Secretary of the HKSAR Mr. Michael Wong Wai-Lun, Fung Group Chairman Dr. Victor Fung, and Fung Group Deputy Chairman Dr. William Fung, officiate at the launch ceremony of the HKUST Li & Fung Supply Chain Institute.

HKUST Co-Develops Hong Kong's First Digital Twin-Based Property Management Platform

HKUST's BIM Lab launches Hong Kong's first digital twin-based property management platform.

HKUST's Building Information Management (BIM) Lab, led by Prof. Jack CHENG, Civil and Environmental Engineering, is cooperating with Modern Proptech Limited, to jointly develop Hong Kong's first digital twin-based ESG platform for property and facility management. The platform integrates BIM, Internet of Things, robotics, and AI to support ESG initiatives. These include capturing indoor air quality, advanced prototype software for facility management, and digital-twin software for decision-making and ESG reporting. The platform is funded by the Hong Kong government's Innovation and Technology Fund and is a milestone in the use of innovative technology and government-industry-academia collaboration for the city's property management sector. A pilot in selected shopping malls began in March 2024, with the platform's official launch due in Fall 2024.

Joint Lab Safeguarding Public Health and the Environment

A Joint Laboratory was established by HKUST and Absolute Pure EnviroSci Ltd. (APEL), an affiliated subsidiary of listed company Yee Hop Holdings, to develop and translate novel health and environmental discoveries. One avenue of impact is an eco-friendly pest-repellent against bedbugs that can also inactivate viruses, bacteria, and spores. The anti-pest spray is set to be adopted by Hong Kong athletes during the Paris 2024 Olympic Games in response to the bedbug issue in Europe. Organoids, miniature systems that mimic the structure and function of organs, are another area of investigation to help quantify pollution risks on human health and provide data for establishing a health-monitoring system in Hong Kong and the Greater Bay Area. Overall, the joint endeavor will center its efforts on four major areas: environmental hygiene and sanitation; air and water purification; net-zero and circular resource utilization; and energy-saving decarbonization processes.

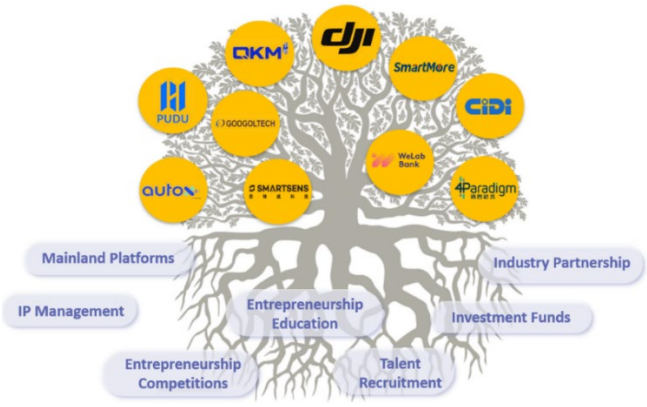
Joint Center for Sports Science and Technology Races Forward

The University joined up with the Hong Kong Sports Institute (HKSI) to launch the HKUST-HKSI Joint Center for Sports Science and Technology in 2023 to enhance sports performance through the integration of research and technology. The collaboration between HKUST's researchers and HKSI's sports scientists, engineers, and coaches focuses on developing new technologies, sensors, test protocols, and analysis tools for sports aerodynamics, advanced training equipment, and race simulations. Thirteen projects are now being supported through the HKUST Sports Science and Technology Research Grant.

Impactful Research Projects Draw over HK$350 Million in Funding

In 2023-2024, HKUST secured HK$355 million in research funding from local, Mainland, and overseas schemes for 180 collaborative projects. Support from the Hong Kong Research Grants Council included HK$87 million under its prestigious **Areas of Excellence Scheme** to create a regional earth system framework to assist with climate change and HK$73.9 million under the **Theme-based Research Scheme** to fortify landslide risk management in Hong Kong. Two initiatives received HK$58 million in total from the new **Strategic Topics Grant** while six **Collaborative Research Fund** projects were collectively awarded HK$29.7 million. **Research Impact Fund** support resulted in two projects each receiving HK$6.9 million. Meanwhile, the **National Natural Science Foundation of China/Research Grants Council Collaborative Research Scheme** brought the University and its Mainland partners a total of HK$10.3 million for three projects. HKUST's applied research proposals also attracted backing from numerous **Innovation and Technology Commission** schemes, receiving HK$104 million for 27 projects. Further afield, a collective academic-industry undertaking spearheaded by HKUST faculty received RMB20 million from **Guangdong Province's Department of Science and Technology.**

Strengthening Entrepreneurship Development



Robust HKUST entrepreneurship ecosystem nurturing unicorns from the roots up.

As Hong Kong's first university to invest in entrepreneurship, HKUST has successfully made the development of start-ups a core component of its KT strategy, cultivating an innovative environment and entrepreneurial culture on campus through its tailored pipeline of programs. Heading into HKUST Entrepreneurship 2.0, the University had nurtured 10 unicorns by 2024 and was ranked No.2 in China for DeepTech unicorn incubation in 2022 by Chinese financial magazine *New Fortune*. In 2024, a total of 1,815 active start-ups with HKUST DNA were at work, with 14 successful exits by June 2024 and HK$400 billion of economic impact. In addition, 2023-2024 saw several exciting strategic advances to enable HKUST to keep setting the entrepreneurial pace.

REDBIRD INNOVATION FUND READY TO EXPAND DEEPTECH START-UP SUPPORT AND VC PARTNERSHIPS

Striving to nurture and incubate more unicorns in the decades ahead, HKUST initiated the formation of the HK$500 million HKUST Redbird Innovation Fund to invest in University start-ups. The initiative, launched in April 2024, seeks to create multiple Venture Investment Funds to the value of HK$2 billion in collaboration with investment partners to drive forward high-potential HKUST DeepTech start-ups. Funding will cover early stage to scaling up phases of novel enterprises in areas such as AI, semiconductors and robotics, new materials, energy and sustainability, and biomedical and healthcare. The Fund will concentrate on start-ups established by HKUST community members and companies that commercialize HKUST IP, adding significantly to the University's KT ecosystem in scale, coverage, and investment community connectivity.

HKUST kicks off the HK$500 million Redbird Innovation Fund that will support HKUST DeepTech start-ups.

FIRING UP ENTREPRENEURIAL ENTERPRISES THROUGH E-FUND 2

Meanwhile, the established Entrepreneurship Fund (E-Fund) received a further capital injection of HK$50 million as it entered its second phase in 2023-2024, bringing total funding to HK$100 million. The move will extend and strengthen the University's entrepreneurship pipeline at the pre-seed and seed stages. Both the E-Fund and Redbird Innovation Fund leverage HKUST's own resources as well as venture capital input. They will also assist HKUST in leveraging the opportunities arising from the Hong Kong government's new HK$10 billion RAISe+ Scheme (see below).

RAISE+ FUNDING APPLICATIONS OFF TO A FLYING START

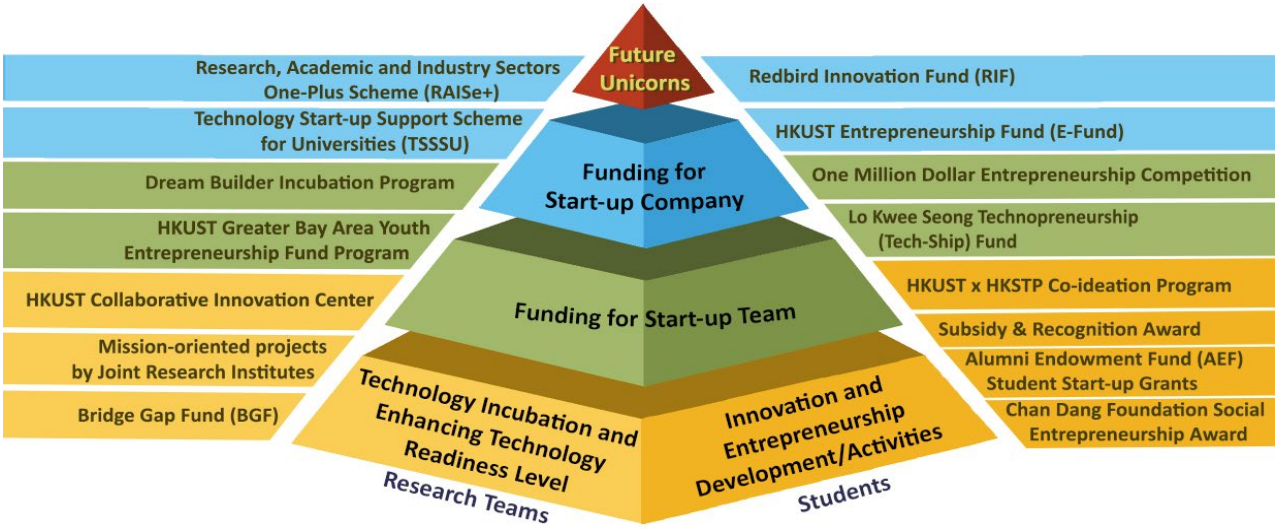
HKUST secured funding for five of its applications in the first round of the Research, Academic, and Industry Sectors One-Plus (RAISe+) Scheme, ranking second city-wide for the number of proposals supported. The RAISe+ Scheme was Initiated by the Hong Kong Innovation and Technology Commission to drive academic and industry collaboration, realize R&D outcomes, and kickstart commercialization. HKUST provides all-round backing for its research teams to take forward their fund applications. This ranges from proposal preparation to engaging with key partners and consultants. It also incorporates IP and industry landscaping analysis, formulating a legal framework, contract templates, and equity management plans. To attract industry and investors for RAISe+ collaborations in the second round of funding, OKT released the HKUST DeepTech Playbook 2024, featuring over 50 key University-related technologies. The 100+ technologies and start-ups on display at HKUST Unicorn Day 2024 also drew attention to potential partnership opportunities. RAISe+ investment pitching workshops in February and March 2024 sought to further enhance the quality of University research teams' applications.

Five HKUST projects will receive funding in the first round of the RAISe+ Scheme.

COMPREHENSIVE KT PIPELINE SYNERGIZES UNIVERSITY AND GOVERNMENT SUPPORT TO KEEP START-UPS ON THE MOVE

HKUST's unique entrepreneurship pipeline is strategically designed to support the different stages of innovation and start-up development, with a series of University tailor-made funding opportunities synergized with relevant government schemes and investment community interest into a holistic KT ecosystem. At the outset of the journey to market, HKUST's **Bridge Gap Fund** encourages researchers to focus on applied research with strong IP and commercialization potential. Prototype, proof-of-concept, and entrepreneurship skills training support is available through the **Dream Builder Program** while the **Lo Kwee Seong Technopreneurship (Tech-Ship) Fund** assists start-ups using HKUST technologies with the purchase of essential equipment and development of proof-of-concept products or services. The HKUST community contributes through **Alumni Endowment Fund Student Start-up Grants**, while the **Chan Dang Foundation Social Entrepreneurship Award** supports student proposals for creating solutions to social challenges. Backing for student teams to join

innovation and technopreneurship-related competitions or programs in or outside Hong Kong is available from the **Subsidy & Recognition Award** to widen students' exposure. Meanwhile, the government-supported **HKUST Greater Bay Area Youth Entrepreneurship Fund Program** offers funding and mentoring opportunities for start-up product and business development in the GBA, along with talks, engagement events, and exchange tours. HKUST has leveraged the Hong Kong government-initiated **Technology Start-up Support Scheme for Universities (TSSSU)** that assists the formation of technology-focused start-ups. TSSSU was strengthened over 2023-2024 with the addition of dollar-to-dollar matching fund opportunities under **TSSSU+** for start-ups that demonstrate good growth potential by securing investment from the private sector. The University's KT pipeline has also recognized the need to draw in the investment sector, with the **E-Fund** covering early-stage to scaling-up phases of high-potential novel enterprises and reaching out to investors. To reinforce and extend support, a second tranche of HK$50 million, **E-Fund 2**, was launched over the year. Additionally, HKUST's new **Redbird Innovation Fund** and the Hong Kong government's recently launched **RAISe+ Scheme** now pave the way for the University's start-ups to sustain their entrepreneurship journey and energize their transformation into unicorns.



The strategic KT activation structure that enables HKUST faculty, students, and alumni to embark on and continually build up their entrepreneurial endeavors.

Ready to Navigate the DeepTech Incubation Journey

With the addition of 28 new DeepTech start-ups over the reporting year, a record 116 DeepTech HKUST start-ups are now actively utilizing and commercializing innovative University technologies. Among key support provided for such challenging and often lengthy journeys from research to product is the HKUST R and D Corporation Ltd (RDCHK)'s pioneering HKUST Entrepreneurship Program, which has incubated start-ups that bring to market DeepTech breakthroughs in diverse areas since 1999. Over this time, the program has admitted a total of 68 companies. Two are now listed in Hong Kong, one in Shenzhen, and another preparing to apply for a listing in 2024. RDCHK also sharpens HKUST start-ups' competitive edge, with assistance ranging from company secretarial services to legal advice, professional advice to accounting matters. On the accommodation front, the HKUST Start-up Zone had provided office space to 122 DeepTech start-ups in total, as of 30 June 2024.

HKUST Unicorn Googol Technology Listed in Shenzhen

Googol Technology, co-founded by academic-entrepreneurs Prof. LI Zexiang and Prof. KO Ping-Keung, both Department of Electronic and Computer Engineering, was successfully listed on the ChiNext Board of the Shenzhen Stock Exchange in August 2023. The company was established in 1999, becoming an early member of the HKUST Entrepreneurship Program, introduced the same year to incubate University-related enterprises. Googol was the first hi-tech company in Asia-Pacific dedicated to motion controllers and controller-based systems. Its products and systems are used in industry sectors ranging from microelectronics to electronic processing, robotics to testing, printing, and packaging. Since the company's launch, Googol has deployed over 600,000 sets of advanced motion control systems for more than 2,000 equipment manufacturers.

Second HKUST Unicorn Day Signs Partnerships and Showcases 100-plus Innovation

The University's annual Unicorn Day expanded its scope and scale for its second edition in May 2024, with over 100 HKUST cutting-edge technologies spanning electronics, AI and smart systems, materials, energy and sustainability, and bio-medical and healthcare on display. Over 1,300 guests attended the flagship KT event, including legislators, consulates-general representatives, business leaders, government officials, investors, and other stakeholders. Partnerships were signed with incubator Caohejing Hi-Tech Park in Shanghai and Beta Lab, a venture capital firm in Saudi Arabia while three local enterprises, Lee Kum Kee Group, Nan Fung Life Sciences Holdings Ltd. and Sun Hung Kai & Co. Ltd., signed MoUs to explore opportunities with HKUST's new Redbird Innovation Fund. HKUST applicants funded in the initial round of the Hong Kong government's RAISe+ Scheme and the latest TSSSU call were also celebrated. Five received support in the former scheme and 34 in the latter.

More than 1,300 business, government, and investment community representatives attend the second annual HKUST Unicorn Day.

HKUST One Million Dollar Entrepreneurship Competition

First launched in 2011, the University's flagship entrepreneurship competition encompassed six regions across China in 2023. The winning teams from each region later competed in a Grand Final, with HKUST start-up Guangdong Guna Technology Co. Ltd. becoming the 2023 champion overall. The company's leading-edge technologies center on polymer nanofilm and battery separators. By 2023, over 9,000 teams had participated in the contest since it began. With the competition's continuously evolving scope, an ESG category and awards were added to the Hong Kong region 2023 HKUST-Sino One Million Dollar Entrepreneurship Competition. To raise further interest in entrepreneurial activities at HKUST, participation was also encouraged through a Q&A activity on videos introducing competition entrants' products. In 2024, the Hong Kong contest widened its reach again by introducing an international student track for nominated teams from HKUST global partner universities to join the event.

HKUST start-up Guangdong Guna Technology Co. Ltd. receives the first prize of RMB1 million in the Grand Final of the 2023 HKUST One Million Dollar Entrepreneurship Competition for its innovative battery separator technologies.

Founders' Club Invigorates HKUST Entrepreneurial Community Bonds

Support is also provided beyond funding and contests. The Founders' Club, established in 2023, creates bonds between the University's dynamic graduates-turned-entrepreneurs and aids their start-up journeys. Dedicated to building a robust entrepreneurship ecosystem at HKUST and in Hong Kong, the club helps foster a culture of entrepreneurship and bridges the gap between HKUST founders and industry, government, and investors. In 2023-2024, more than 160 fellows and members joined the club. Events included a kick-off fellow dinner, fellow-member networking happy hour, and the first cross-border Shenzhen dinner.

The first HKUST Founders' Club fellow-member happy hour event in March 2024.

Tackling Global Challenges Through Novel Social Enterprises

HKUST student teams set out to create social enterprises that offer solutions to worldwide challenges in the Hult Prize 2024.

Numerous HKUST students were inspired to address pressing global issues through innovative social enterprises that align with the UN's Sustainable Development Goals by participating in the University's 2024 edition of the Hult Prize. The competition attracted 28 teams, with InsectX, comprising members of the School of Science and HKUST Business School, emerging as champion. The team's project merges natural insect behaviors with advanced genetic engineering to provide cost-effective solutions for food waste management and sustainable biodiesel. InsectX went on to represent HKUST at the international Hult Prize Summits in Thailand. In addition, the QualiFly Education team was selected to join the Hult Prize Summits in Kenya.

Enhancing Start-Up Skills and Mindset

The Entrepreneurship Center (EC) forms a core part of the University's KT ecosystem by activating entrepreneurial skills and building connections with the business world. In August 2023, the EC's mentorHUB@HKUST was renamed the **Mentorship Network** to reflect the scheme's distinctive emphasis on linking up mentors and mentees anytime, anywhere. Twenty-eight mentors from diverse industries and over 150 mentees from nearly 80 start-ups took part over the reporting period. With renovation completed, **The BASE** effectively provided a physical hub for aspiring student entrepreneurs and start-ups to meet like-minded individuals. More opportunities were fostered through The BASE workshops, training sessions, and networking, with over 1,000 visitors welcomed during the year. EC's participation in eight exhibitions also brought wider exposure, especially to venture capitalists, to over 40 teams to fuel business growth.

HKSAR Chief Executive Mr. John Lee visits the BASE with government officials to learn about innovation and entrepreneurship at HKUST.

Well-attended Mentorship Network event at The BASE in September 2023.

Energizing Greater Bay Area Tech Hub

HKUST's Mainland platforms are highly engaged in powering up Greater Bay innovation through knowledge transfer in multiple ways. In September 2023, **Guangzhou HKUST Fok Ying Tung Research Institute (FYTRI)** added to its numerous innovation and entrepreneurship activities by supporting the RMB200 million Guangzhou Redbird Set-Sailing Fund, jointly established with alumni company Midas Capital to step up commercialization of HKUST technologies in Nansha and Guangzhou. The fund assists early-stage start-ups involved in IT, advanced manufacturing, new energy, and advanced materials, among others. In addition, FYTRI's Nansha Guangdong-Hong Kong-Macao (International) Youth Entrepreneurship Hub, a co-working tech incubation platform set up earlier, continued to thrive, benefiting a total of 189 start-ups by May 2024. Since opening in Nanhai, Foshan in 2022, the **HKUST Foshan Center for Technology Transfer and Commercialization**, an incubator, has fruitfully assisted HKUST faculty, staff, students and alumni, as well as other entrepreneurial teams to base their start-ups in the area, introducing more than 30 young companies to Foshan to date. In Shenzhen, HKUST's **Blue Bay Incubator Program 2.0** was launched to nurture start-ups at different stages of development, with 59 companies joining the program over 2023-2024 and six securing over RMB100 million in external investment. More than 30 entrepreneurial events were also organized, attracting attention from government, industry, and capital funds.

Official launch of Blue Bay Incubator Program 2.0 Program.

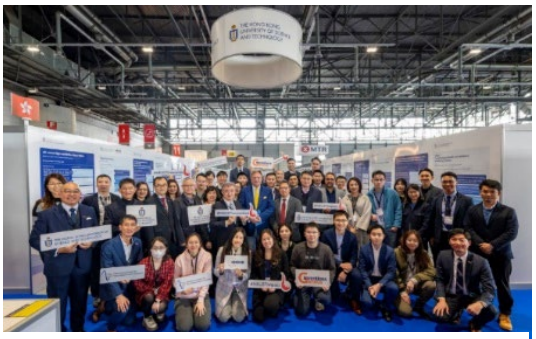
Commercialization and Industrial Collaboration

Start-Ups Garner Recognition Internationally

HKUST start-up AI Guided receives a visit from Microsoft CEO Satya Nadella at the US Consumer Electronics Show.

HKUST's social impact and globally competitive hi-tech talent hit the spotlight at the major 2024 Consumer Electronics Show (CES) in the US, where three HKUST start-ups received Innovation Awards. **AI Guided Limited** focuses on accessibility and aging-related devices, attaining its accolade – and attracting attention from Microsoft's CEO – for its GUIDi™ Smart Belt that serves as a navigation system to increase the mobility of the visually impaired. **Sitan Semiconductor International** was recognized for its 0.13-inch micro-LED display module, which provides a super-quality immersive experience for augmented/extended reality display units. **Zuvi** received its commendation for the Airlight Pro, a next-generation hair dryer co-developed with L'Oreal and showcased by L'Oreal's CEO at CES. A total of eight HKUST start-ups, the highest number among Hong Kong Tech pavilion exhibitors, showcased the University's drive to innovate across industrial sectors.

Record-Breaking HKUST Teams Wow Geneva Inventions Exhibition



President of the Jury at the International Exhibition of Inventions Geneva Mr. David Taji-Farouki with HKUST delegation members.

A total of 36 HKUST teams joined the 49th International Exhibition of Inventions Geneva in April 2024, winning 36 awards for their groundbreaking research and innovations and setting new University records. Recognitions included the Prize of the Chinese Delegation for Invention and Innovation, four Gold Medals with Congratulations of the Jury, and a host of gold, silver, and bronze medals. University-related projects on display spanned biomedical and health, IT and AI, smart construction, and sustainable and new energy, among others. The inventions involve collaboration with top research institutions worldwide and were propelled forward through joint endeavors with government and industry players. Twenty-four of the inventions have generated HKUST-supported start-ups. To share the achievements with the University-wide community, a post-event showcase of the award-winning projects took place on campus in May and early June 2024.

Engaging with Industry to Drive Solutions to Global Grand Challenges

Panel discussion among key industry players of the new energy sector.

Two HKUST Industry Engagement Day Plus events with different strategic technology focuses brought together hundreds of participants from academia, industry, and start-ups to explore HKUST innovation in leading-edge sectors. In October 2023, OKT collaborated with the Hong Kong Applied Science and Technology Research Institute (ASTRI) to hold **HKUST Industry Engagement Day Plus (IED+) – Strengthening Hong Kong's Electronics Industry via Microelectronics Innovation**. The day's line-up included four industry-sharing sessions and a display of 16 research projects. In December 2023, OKT teamed up with the HKUST Energy Institute to co-organize **HKUST Industry Engagement Day Plus (IED+) – Enabling Technologies for Achieving Dual Carbon Target**. The event looked at the intersection of technology and policy in achieving the dual carbon target of reduced carbon emissions and carbon neutrality to help address global challenges posed by climate change, with University research teams and their industry partners showcasing 20 projects.

Second INNOTECH Showcase Revs Up GBA Innovation

HKUST teams participate in the INNOTECH.

The second annual INNOTECH event took place at HKUST(GZ) in June 2024, fostering industry-university-research collaboration and serving as a valuable platform for the commercialization of scientific achievements that can drive innovation in the Greater Bay Area. On display were 120-plus leading projects and start-ups by HKUST(GZ), HKUST, and their alumni. A RMB1 billion fund to support commercialization of next-generation technologies in areas such as IT, intelligent and new energy vehicles, and biomedicine and health was announced by Guangzhou Industry Investment Group and HKUST(GZ). In addition, five fund management firms entered into partnerships with HKUST(GZ), while a cooperative agreement was signed with China Unicom's Guangdong branch to establish two joint labs on cutting-edge computing, and digital low altitude and smart marine industries respectively. An overseas exhibition area was also introduced.

DeepTech Project Roadshow Inspires Investors

The HKUST DeepTech Project Roadshow & Investment Matching Tour, organized in Shenzhen in August 2023, productively widened awareness of the exciting research being carried out at the University. During the event, 20 research teams participated in an investment pitching session, drawing over 30 Shenzhen investors.

Research teams and investors at the DeepTech Project Roadshow & Investment Matching Tour.

Hong Kong-Shenzhen Innovation and Technology Park Collaboration

HKUST signed a strategic MoU with Hong Kong-Shenzhen Innovation and Technology Park (HSITP) centered on start-up incubation and talent development. The collaboration will leverage opportunities brought by the launch of HSITP at the Lok Ma Chau Loop. Some 60 world-class enterprises, academic institutions, and research organizations from nine economies around the world have formed partnerships with the park, 45% from its pillar industries of life & health technology, new energy, and microelectronics and the rest consisting of top universities, scientific research institutes, accelerators, incubators, and global investors.

Shenzhen Collaborative Platform Increases Industry Partnerships

SHCIRI is developing R&D collaborations with XTai.

To foster the development of HKUST and the Greater Bay Area, HKUST's Shenzhen-Hong Kong Collaborative Innovation Research Institute (SHCIRI) has forged several collaborations with diverse companies, including Superdry and Moruo. At the 25th China Hi-Tech Fair, SHCIRI also signed an agreement with XTai, a technology innovator that accelerates biopharmaceutical research. The collaboration aims to address technical challenges and industry requirements in new materials. Delegations from 105 countries and regions and over 4,000 companies attended the Fair in November 2023.

Robotic and AI-Based Early-Warning Inspection System for High Structures at MTR Stations

A research team from HKUST's Smart Manufacturing Center, led by Prof. Molong DUAN, Department of Mechanical and Aerospace Engineering, is developing a robotic-based automated inspection system for high structures and equipment at MTR stations. It includes hardware comprising a mobile robot, elevation system, and sensor hub, as well as AI software for data analysis. The system will provide early warnings and potential failure detection through machine learning algorithms and sensor fusion technology.

Working with Suochen Technology to Tackle Engineering Flow Challenges

A far-sighted collaboration with Shanghai Suochen Information Technology Co. Ltd., a computer-aided design engineering software developer, will see Prof. XU Kun, Department of Mathematics, integrate the powerful gas-kinetic scheme (GKS) algorithm into Suochen's fluid simulation software to provide greater precision and tackle engineering flow challenges. The algorithm is used in computational fluid dynamics (CFD) for handling complex fluid flows in aerospace engineering and weather prediction. The company is the first CFD-focused hi-tech firm listed on the Shanghai stock market.

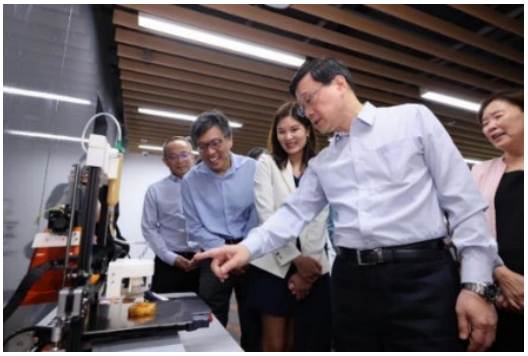
HKUST and Shanghai-listed Suochen Technology sign an agreement in April 2024 to pursue engineering flow solutions.

Addressing Energy Conservation and Emission Reduction at Data Centers

An interdisciplinary collaboration between researchers led by Prof. GUO Xinzhou, Department of Mathematics, and Guangdong Kepler Communication Technology Co. Ltd. (Kepler) is boosting sustainability by developing and adapting a series of novel statistical and computational methods to predict and evaluate power usage effectiveness at data centers. These include integrative analysis methods to identify important environmental factors in predicting power usage effectiveness and to select the best individualized controlled strategies for different sites; and resampling methods to understand the significance of identified features and assess replicability of the selected strategies. In 2023, Kepler successfully applied the new methods to energy conservation, advancing eco-friendly data center management.

Social Impact and Support for Community

3D Printing Food Technology Prepares the Way for Personalized Food



HKSAR Chief Executive Mr. John Lee gets a taste of HKUST's hi-tech food technology after sampling a 3D-printed mooncake.

HKUST start-up Elevatefoods has formed an industrial partnership with Vtech, a well-known contract manufacturing service provider, to commercialize its patented 3D food printing technology and produce ready-to-use prototypes for market trials at hospitals, restaurants, and sports clinics, among others. Following a pre-Mid-Autumn Festival 2023 visit to HKUST, Hong Kong Chief Executive Mr. John Lee lauded the taste of the team's 3D-printed mooncake on his Facebook page. Participation at the Hong Kong Science Museum's VIP Day, attended by 600 visitors, raised further awareness of the technology, which enables customization of the shape, size, and texture of food. In addition, Elevatefoods has met with Haven of Hope Hospital's catering unit to explore the possibility of adapting their technology to the needs of elderly patients on a soft meal diet. Elevatefoods is a beneficiary of HKUST's integrated KT ecosystem, receiving HKUST Tech-Ship Award and government-funded TSSSU funding support.

AI Nursing Chatbot Helps Alleviate Loneliness among Elderly

Researchers led by Prof. Kani CHEN, Department of Mathematics and Department of Industrial Engineering and Decision Analytics, and Prof. Yang WANG, Department of Mathematics, have pioneered a technology for generating high-quality synthetic data that mimics character-specific language and style. In partnership with Luoyang Dajia Hospital Management Co., Ltd., an AI nursing chatbot has now been developed to enhance the quality of life for the elderly. A trial involving 100 elderly participants at Dajia Health Wisdom Medical Care Center indicated the chatbot effectively alleviated loneliness and enriched social interactions, exemplifying the positive impact that AI can have on elderly care.

Mainland and International Collaboration

DeepTech KT Collaboration with Saudi Venture Capital Firm

In a milestone move for the University's DeepTech knowledge transfer and Middle East partnerships, Beta Lab, a prominent Saudi Arabian venture capital firm, has signed an MoU with HKUST. The agreement covers Beta Lab support for the University's DeepTech Incubator and collaborations in start-up investment, pitching, and product development. The signing ceremony took place at HKUST Unicorn Day 2024 in May.

Signing ceremony for an MoU between HKUST and Beta Lab at HKUST Unicorn Day 2024.

Strengthening Ties with South Korean Institutions and Industries at Seoul Forum

In May 2024, HKUST President Prof. Nancy IP joined distinguished scholars from other leading international research universities, such as MIT and Caltech, industry leaders from major companies including IBM and Samsung, and policymakers and experts from different sectors at the Seoul Forum. HKUST was the sole university from Hong Kong at the event. During the forum, Prof. Ip gave a speech at a special session. Prof. Ip met Prof. LEE Jung Ho, South Korea's Minister of Science and ICT, to discuss potential collaboration between HKUST and South Korea in innovation and technology. There are currently six active HKUST start-ups based in South Korea, collectively attracting funding of more than US$110 million. The University has also established academic exchange and research collaborations with nearly a dozen leading Korean institutions while Korean students constitute the largest international undergraduate student body at HKUST.

HKUST is a significant presence at the Seoul Forum.

Connecting up with Asia

Singapore reception after TechInnovation.

Industry leaders, experts, innovators, and HKUST alumni gather at the HKUST Reception following BioKorea 2024.

The University's participation in other regional events also helped Asian connections to flourish. In **South Korea**, HKUST representatives joined the 23rd International Meeting on Information Display (iMiD 2023) in Busan. Attendance facilitated interaction with leading enterprises and partners, including LG Display, Samsung Display, and Korea Institute of Industrial Technology. Separately, seven HKUST start-up teams showcased their biotechnology and medtech innovations at the large-scale BioKorea 2024. The HKUST Reception following BioKorea productively brought together industry leaders, experts, and innovators from China, the US, and South Korea, reconnecting frontrunners in the biomedical field and providing an opportunity to engage with HKUST alumni start-ups. In **Japan,** the University boosted its international presence and potential partnerships with government, industry, and academia at BioJapan**.** The exhibition and matching event focused on biotechnology and regenerative medicine, drawing over 35 countries and regions. Six University projects were also showcased

during TechInnovation in **Singapore**. After the technology-industry brokerage gathering, a cocktail reception for the HKUST community in the Lion City provided an excellent platform for networking and fostering connections.

University of Strathclyde Partnership Extended

After successful joint projects between the University of Strathclyde in Scotland, HKUST, and HKUST(GZ), the three institutions are strengthening the collaboration further. The second phase of the research and academic exchange is expected to involve early career researchers and interdisciplinary research areas, among others. A joint-university symposium and a conference on innovation and technology will also be held.

Teaming Up with Wuxi to Foster Collaboration

The January 2024 launch of the Wuxi-Hong Kong Collaborative Innovation Center, operated by HKUST and the Wuxi Economic Development Zone, will provide more support for HKUST innovation and incubation. In addition, the two parties established the Wuxi Exchange Fund, which is set to enhance innovation and entrepreneurship exchange by providing support to students, faculty and staff, travelling to Wuxi for collaborative projects or visits. The fund's goal is to foster and explore collaboration with Wuxi to boost growth and development of individuals and HKUST.

Official launch of the Wuxi-Hong Kong Collaborative Innovation Center.

Global Sustainability Leadership Recognized in Impact rankings

HKUST was ranked No.36 in the world and first in Hong Kong and Mainland China in its debut appearance in the Times Higher Education (THE)'s Impact Rankings, recognizing the University endeavors to become a global sustainability leader. The rankings assessed over 2,100 universities worldwide for their impact in helping to achieve the United Nations' 17 Sustainability Development Goals (SGS). HKUST's contributions to SDGs 9, 11, and 12, were particularly commended. These goals focus respectively on building resilient infrastructure and industries with innovation, promoting sustainable cities, and ensuring responsible consumption and production.

HKUST and Fung Group to Set Up AI-for-Fashion Center in Shanghai

The University signed an MoU with Hong Kong's Fung Group to establish an AI-for-Fashion Center in Shanghai. The strategic partnership will jointly drive innovation and in-depth integration of AI technology in the global fashion industry. The two parties will work together to build a high-quality incubator, innovation and entrepreneurship ecosystem, and provide financial support for start-ups and projects formed through the cooperative agreement. The Center will also strive to offer joint courses with top international design and art schools, nurture creativity, and produce eco-friendly and socially responsible products.

Guangdong Provincial-level University S&T Park

The expansion of facilities, equipment, and incubation services at Guangzhou HKUST Fok Ying Tung Research Institute to assist start-ups from both HKUST in Hong Kong and HKUST(GZ) in Nansha has proved highly effective, leading to recognition as a provincial-level university science and technology park (S&T Park) by Guangdong Province's Science and Technology Department and Education Department in April 2024. The HKUST(GZ) S&T Park, focused on deep integration between Guangdong and Hong Kong, is the first of its kind nationwide.

Partnership with Shanghai Hi-Tech Park to Establish AI Education Hub and Incubator

The University signed a partnership agreement with Caohejing Hi-Tech Park, based in Shanghai, to co-establish an AI education hub and incubator in the zone as part of the planned HKUST Shanghai Innovation Center. The arrangement will provide all-round support, fostering both new talents and potential start-ups. Caohejing is a state-level economic and technological development zone that houses over 14,000 national and international companies.

Looking Forward

Future-ready to Lead the Way to Innovation Locally and Globally

HKUST was the first university in Hong Kong to proactively support the transformation of leading-edge research discoveries into start-ups and societal impact through a strategically designed KT system. As demonstrated by this report and the new springboards provided in HKUST's recently launched Strategic Plan 2031 and 3.0 vision, such a pioneering lab-to-market outlook remains intact, ensuring the University is future-ready to escalate its KT achievements and Hong Kong as a global innovation hub in the years ahead.

In line with Strategic Plan 2031's three-fold vision, further critical innovation infrastructure and strengthening of the University's KT framework are on their way with a DeepTech Incubator planned for the new Innovation Building at the Clear Water Bay campus. The incubator is set to increase HKUST's participation in business planning and commercialization of DeepTech projects, fostering pipeline companies for TSSSU, RAISe+, HKUST Entrepreneurship Fund (E-Fund), and the Redbird Innovation Fund (RIF), and assisting targeted creation of potential HKUST unicorns. The Entrepreneur-in-Residence Scheme will also be extended to drive University start-up and DeepTech commercialization.

To enhance HKUST's reach and the significance of its impact, the University will leverage its cross-campus knowledge transfer and IP framework with HKUST(GZ) in Nansha to capture the accelerating opportunities for deeper integration in the Greater Bay Area. Stronger linkage of the Clear Water Bay campus with other University platforms in Shenzhen, Nansha, Foshan, along with its Beijing Center and planned Shanghai Innovation Center, will create an HKUST Innovation Belt that can widen engagement with the Mainland and contribute to rapid and sustainable growth. At the same time, international KT endeavors in locations as diverse as South Korea, Saudi Arabia, and the UK, indicate HKUST's widening reach and aspirations as a worldwide engine of innovation.

To foster entrepreneurs and innovators, the University plans to advance and further synergize its entrepreneurship education programs, training, and activities to maximize effectiveness. The valuable input of alumni as role models and collaborative partners will also be expanded through the HKUST Founders' Club, an Entrepreneurship Center Mentoring Network, and a DeepTech Incubation Program, encouraging support for the University's start-ups from their earliest days onward.

It all adds up to a dynamic step up to the next level for the University's KT. Bridging research, market, and society and Hong Kong, Mainland China, and the world, HKUST is now positioned to drive forward the three futures of work, living, and people and improve lives everywhere.

Appendix A – Key Performance Indicators

Performance Indicators	2022/2023 (Achieved)		2023/2024 (Achieved)	
Inventions, Patents, Licenses, IP, Contracts, and Services				
Number of invention disclosures received [Note 1]	226		261	
Number of patents filed in the year [Note 1 & Note 2]	345 [Note 3]		462 [Note 4]	
Number of patents granted in the year [Note 1 & Note 2]	288 [Note 5]		386 [Note 6]	
Number of patents used based on new contracts (according to contract date) [Note 7]	85		90	
Number of active patents used (by the end of the reporting year) [Note 8]	553		605	
Number of new intellectual property (IP)/license agreements signed in the year [Note 9]	32		36	
Number of total active IP/license agreements signed [Note 9]	173 [Note 10]		199 [Note 11]	
Income (on a cash basis) generated from IP rights [Note 12]	$13.1M		$11.7M	
Number of collaborative researches, and income thereby generated [Note 9 & Note 13]	176	$351.3M	231	$1,290.4M
Number of contract researches (other than those included in "collaborative researches" above), and income thereby generated [Note 9]	309	$103.3M [Note 14]	245	$100.7M [Note 15]
Number of consultancies, and income thereby generated [Note 9]	98	$26.5M [Note 16]	72	$11.6M [Note 17]
Number of equipment and facilities service agreements, and income thereby generated [Note 9]	424	$3.2M	455	$4.8M
Sub-total Income	$497.4M		$1,419.1M	

The figures reported for 2023-2024 are subject to year-end adjustments. Figures may not add up to the corresponding totals owing to rounding.

Note 1 Starting from 2013-2014, the number reported also includes invention disclosures, and patents filed, granted and used by Mainland platforms and InnoHK.

Note 2 The numbers are counted based on the definition laid down by the University Grants Committee (UGC) under the Common Data Collection Format (CDCF) according to (1) the number of countries where patents are filed, and (2) the number of patent types, defined in accordance with the international patent classification (i.e., technology area) of the patents.

Note 3 CDCF Table 65: The number of patents filed came to 345 and the number of inventions involved totalled 259 during 2022-2023.

Note 4 CDCF Table 65: The number of patents filed came to 462 and the number of inventions involved totalled 336 during 2023-2024.

Note 5 CDCF Table 66: The number of patents granted came to 288 and the number of inventions involved totalled 124 during 2022-2023.

Note 6 CDCF Table 66: The number of patents granted came to 386 and the number of inventions involved totalled 183 during 2023-2024.

Note 7 Refers to the number of patents utilized by licensing during the reporting period, including rights granted as background intellectual property (IP) in newly signed contracts with value according to the contract date. All patents used are only counted once if included in more than one contract.

Note 8 Refers to the number of active patents utilized at least once by means of licensing in the current and past reporting periods, including rights granted as background IP in all signed contracts (both active and inactive contracts) with value. All used patents only counted once even if it is included in more than one contract. Only active patents/pending patents are counted, expired patents before or end of a specific year will not be counted.

Note 9 Starting from 2017-2018, the number reported also includes the number of new IP/license agreements signed, total active IP/license agreements signed, collaborative researches, contract researches (other than those included in "collaborative researches"), consultancies, equipment and facilities service agreements, and income thereby generated by Mainland platforms.

Note 10 The number reported comprises 155 patents and software license agreements, and 18 assignments on technology transfer managed by HKUST R and D Corporation Ltd. (RDC).

Note 11 The number reported comprises 181 patents and software license agreements, and 18 assignments on technology transfer managed by RDC.

Note 12 Includes licensing income from patents via RDC and Mainland platforms as well as copyright of courseware via the University. The reporting period for copyright of courseware via the University is 1 April to 31 March of the respective financial year, as data for 1 July to 30 June of the respective financial year are not available by the date of submission for the Knowledge Transfer Annual Report.

Note 13 The number reported comprises the number of InnoHK projects and income thereby generated.

Note 14 The total number of new contracts and contract value of contract research agreements signed in the 2022-2023 period are 104 and $77M respectively.

Note 15 The total number of new contracts and contract value of contract research agreements signed in the 2023-2024 period are 101 and $137.6M respectively.

Note 16 The total number of new contracts and contract value of consultancy agreements signed in the 2022-2023 period are 66 and $18.4M respectively.

Note 17 The total number of new contracts and contract value of consultancy agreements signed in the 2023-2024 period are 39 and $7.2M respectively.

Performance Indicators	2022/2023 (Achieved)	2023/2024 (Achieved)
Entrepreneurial Education and Culture		
Accelerator: number of teams/start-up companies [Note 18]	159	133
Number of students engaged in start-ups and entrepreneurship [Note 19]	3,418	4,969
Start-up and Spin-off Companies		
Number of start-up companies [Note 20 & Note 21]	232	257
Number of spin-off companies [Note 20 & Note 21]	312	376
Total number of start-up and spin-off companies	544	613
Contributions to the Public		
Number of student contact hours in short courses or e-learning programs specially tailored to meet business or Continuing Professional Development (CPD) needs	1,784,869 hours [Note 22]	1,927,707 hours [Note 23]
Income received from Continuing Professional Development (CPD) courses	$775.8M [Note 22]	$844.7M [Note 23]
Number of public lectures/symposiums/exhibitions and speeches to a community audience	628	601
Number of performances and exhibitions of creative works by staff or students	68	41
Number of staff engaged as members of external advisory bodies including professional, industry, government, statutory or non-statutory bodies	525	551

Total KT Income	$1,273.1M	$2,263.8M

The figures reported for 2023-2024 are subject to year-end adjustments. Figures may not add up to the corresponding totals owing to rounding.

Note 18 Accelerator includes funding programs and co-working space programs for HKUST start-up teams and companies, such as the HKUST Dream Builder Incubation Program, Lo Kwee Seong Technopreneurship Fund (Tech-Ship), Chan Dang Social Entrepreneurship Award and HKUST X HKSTP Co-Ideation Program and entrepreneurship training programs.

Note 19 Student participation in Entrepreneurship Center (EC) entrepreneurship events over the reporting year (by headcount).

Note 20 Includes economically active start-up and spin-off companies being funded or incubated by HKUST entrepreneurship programs at the Clear Water Bay campus and via Mainland platforms. Programs include: the HKUST Entrepreneurship Program (EP), Technology Start-up Support Scheme for University (TSSSU) Program, U*STAR Award, Yeung Wing Yee Entrepreneurs Fund (YWYEF), HKUST Entrepreneurship Acceleration Fund (EAF), Alumni Endowment Fund (AEF) Student Start-up Grants, HKUST One-Million-Dollar Entrepreneurship Competition (regional competitions inclusive), Mentorship Network, HKUST Dream Builder Incubation Program, Entrepreneurship Development Fund, HKUST Greater Bay Area Youth Entrepreneurship Fund, other entrepreneurship programs such as Tech-Ship Program, Chan Dang Foundation Social Entrepreneurship Award, HKUST x HKSTP Co-ideation Program, The BASE facility user, HKUST Entrepreneurship Fund (E-Fund), companies under InnoHK; programs under the Blue Bay Incubator, Blue Bay X of HKUST R and D Corporation (Shenzhen) Limited (RDCSZ) and HKUST Shenzhen – Hong Kong Collaborative Innovation Research Institute (SHCIRI) in Shenzhen; programs under Guangzhou HKUST Fok Ying Tung Research Institute (FYTRI) in Nansha; and programs under HKUST LED-FPD Technology R&D Center at Foshan (FSC) in Foshan. Companies funded or incubated by more than one program or with offices in more than one location are only counted once.

Note 21 The reporting period is 1 January to 31 December of the calendar year, as per UGC under the CDCF requirement.

Note 22 Starting from 2017-2018, the number reported includes taught postgraduate programs (including EMBA, MBA, MSc, MA, PgD) with reference to the definition of Continuing Professional Development (CPD) courses laid down by UGC under the CDCF. As the compiled income of the programs above for 2022-2023 was not yet available by the date of submission for the Knowledge Transfer Annual Report, 2022-2023 data reported is based on data collected in 2021-2022.

Note 23 As the compiled income of the programs above for 2023-2024 was not yet available by the date of submission for the Knowledge Transfer Annual Report, 2023-2024 data reported is based on data collected in 2022-2023.

Appendix B – Other Activities Highlights

1. *Strategic Alliance and Collaboration with Industrial and Institutional Partners*

First-of-its-Kind Zero-Knowledge Blockchain Technology Research in Hong Kong

A dynamic joint research partnership between HKUST and leading global Web3 technology company and virtual asset exchange OKX was established in April 2024. The collaboration seeks to implement zero-knowledge proofs and new cryptographic protocols to enhance scalability and efficiency of ZK decentralized exchanges. In line with the Hong Kong government's emphasis on Web3, and to impact blockchain development locally and globally, the academic-industry project is seeking to support Hong Kong's Web3 ecosystem and accelerate overall Web3 innovation by converting cutting-edge blockchain technologies into commercial applications.

HKUST-SUSTech Collaboration Enhances Oceanographic Studies

In October 2023, HKUST's Department of Ocean Science and Southern University of Science and Technology (SUSTech)'s Department of Ocean Science and Engineering signed an MoU to enhance collaboration in oceanography and fluid dynamics. The partnership aims to strengthen academic and student exchanges by advancing research initiatives and educational opportunities, fostering deeper cooperation between the two institutions, and enriching the experience of students and faculty members.

Partnership with Guizhou Medical University State Key Lab Looks to Biosensors and Pharma Breakthroughs

HKUST representatives visit Guizhou Medical University.

A go-ahead collaboration between HKUST and Guizhou Medical University's State Key Laboratory of Functions and Applications of Medicinal Plants was established in September 2023. The partnership involves the innovative application of analytical chemistry technologies to achieve breakthroughs in pharmaceutical analysis for jointly developed biosensors. The partnership facilitates the integration of chemistry, biology, medicine, and pharmacy-related disciplines in developing technical platforms and methods for whole-chain innovation in drug research, product development, and therapeutics. The two institutions are also looking to establish cooperation on medical innovation and therapeutic chemistry, and potential partnerships with industry, academia, and technology companies.

Global Conference Explores Central Bank Digital Currencies

HKUST Business School hosted the "International Conference on Central Bank Digital Currencies and Payment Systems" in partnership with the Hong Kong Monetary Authority and Hong Kong Institute for Monetary and Financial Research under Hong Kong Academy of Finance. The conference brought together experts from international financial institutions, central banks, and universities across Asia, Europe, and North America to shed light on related policy implications, technological innovations, operational challenges, and industry dynamics. Over 100 participants attended.

HKUST Busines School Dean Prof Kar Yan Tam shares his expertise during a panel discussion at the International Conference on Central Bank Digital Currencies and Payment Systems.

Digital Pathology Conference Draws Global Experts

The HKUST Big Data Institute, in collaboration with the HKUST(GZ) Information Hub and Zhejiang Cancer Hospital, co-organized the "International Conference on Digital Pathology and Data Intelligence" in November 2023. The two-day conference offered a valuable platform for participants from Hong Kong, Mainland China, and overseas, to share innovative digital pathology research and explore novel approaches to the field. Speakers also introduced practical use cases and applications of AI technologies in hospitals. Those attending included faculty, students, researchers, computer science specialists and medical practitioners.

Advancing AI and Big Data Technology

In March 2024, HKUST hosted a "Joint Symposium on Informatics" with Kyoto University, Japan, with experts in AI, data analytics, and mathematics from both universities attending the event. The symposium highlighted the role that informatics plays in advancing innovation while fostering academic exchange and interdisciplinary collaboration. It also helped establish a strong foundation for future partnerships between the two institutions.

The Joint Symposium on Informatics with Kyoto University.

Gaining Insights into UAE Economic Strategies

United Arab Emirates (UAE) Minister of Economy Abdulla bin Touq Al Marri gave an insightful talk titled "Economic Approach to a Changing World: UAE Perspective" at HKUST in September 2023. The event provided an engaging opportunity for students to gain greater understanding of the UAE's economic strategies and perspectives, with the Minister discussing UAE's forward-looking economic approach and focus on technology-driven sustainability.

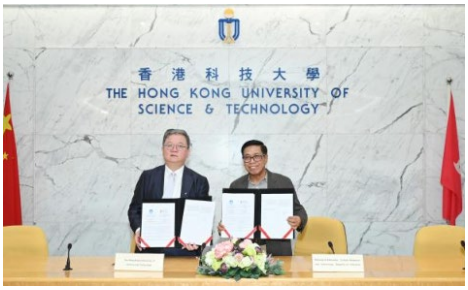
Strengthening Ties with South China University of Technology

The University entered its first undergraduate student exchange agreement with South China University of Technology (SCUT) to enhance students' understanding of the Greater Bay Area. As leading technology universities, HKUST and SCUT both have important roles to play in the development of higher education in the Greater Bay Area and beyond. The two institutions are committed to learning from each other and exploring novel educational approaches, with the shared goal of establishing the Greater Bay Area as a global hub for innovation.

HKUST and SCUT agree their first undergraduate exchange.

Pioneering Scholarship Scheme Nurtures Top Indonesian Students

HKUST signed a landmark agreement with Indonesia's Ministry of Education, Culture, Research, and Technology, making HKUST the first university in Hong Kong to nurture outstanding Indonesian undergraduates through the Indonesia Education Scholarship for Degree Program. The first batch of 12 top Indonesian students will join HKUST at the start of the 2024-2025 academic year, following a rigorous selection process. The Ministry will provide full scholarships, covering tuition fees, living expenses, and other allowances for the duration of their programs.



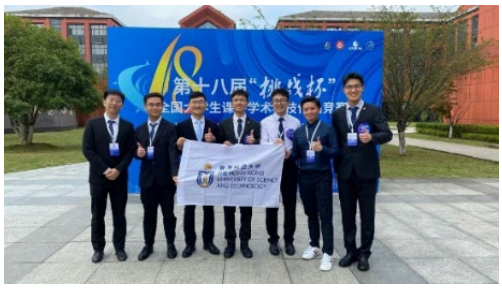
Signing ceremony for the Indonesia Education Scholarship for Degree Program.

2. ***Powerhouse of Entrepreneurship***

ENTERPRISING TALENTS SHOW COMPETITIVE EDGE

HKUST start-up teams clinched top honors at numerous high-profile contests and award events. At *the* **2023 JUMPSTARTER Global Pitch Competition**, organized by Alibaba Entrepreneurs Fund*,* HKUST spin-off Allegrow Biotech, a developer of immune cell therapeutics for research and clinical applications, secured the competition's top prize. AI Guided and Vidi Labs' advanced AI technologies received the Social Impact Award for enhancing mobility for the visually impaired and the Diversity & Inclusivity Award for promoting independent living respectively. Three HKUST teams also led the way at the **18th "Challenge Cup" National College Students' Extracurricular Academic Science and Technology Contest**, receiving top, first, and third prizes. HKUST was the only Hong Kong university to receive top and first prizes at the competition, sponsored by the Ministry of Education.

Allegrow Biotech Limited wins the JUMPSTARTER Global Pitch Competition 2023.



Award-winning HKUST teams at the prestigious 18th "Challenge Cup", a competition sponsored by the Ministry of Education.

In other competitive events, the HKUST community secured 14 accolades, including one Grand Award and four Gold Awards, at the **Hong Kong ICT Awards 2023**, 13 honors at the **Asia International Innovative Invention Award 2023**, 13 awards at the **9th Hong Kong University Student Innovation and Entrepreneurship Competition**, and seven awards at the **Hong Kong Social Enterprise Challenge 2023-2024 Grand Final**. Two student teams received champion and first runner-up prizes at the **IoT Data Hackathon 2024**, organized by GS1 Hong Kong, while three HKUST start-ups were recognized with **2023 Deloitte Hong Kong Technology Fast and Rising Star** awards.

In June 2024, the **Startup World Cup 2024** Hong Kong Region held its finals at HKUST for the first time, providing a valuable opportunity to highlight the University's entrepreneurial culture. Following a closely fought contest, University-related start-up PanopticAI was crowned Hong Kong Region champion. The company, which has developed a cutting-edge personal health monitoring app, will now compete in the grand final in San Francisco. The globally organized Startup World Cup brings together top young companies, venture capitalists, and world-class tech CEOs to foster the next generation of leading entrepreneurs. It hosts over 100 regional competitions across six continents.

Celebrating the Hong Kong regional finals of the Startup World Cup, held at HKUST for the first time.

3RD ASIA EXHIBITION OF INNOVATIONS AND INVENTIONS HONG KONG

All three HKUST-related companies taking part in the 3rd Asia Exhibition of Innovations and Inventions Hong Kong in December 2023 received gold medals for their products and services, namely **Tranquility Acoustronics (HK) Limited** (acoustic metamaterials-based ventilation silencers), **Confo Quanta** (direct laser patterning nanofabrication), and **Digital Continents Limited** ("Ezpie" platform to unlock data values). The exhibition, steered by the Hong Kong Exporters' Association, featured over 110 inventions from Hong Kong, Mainland China, Russia, Korea, and Thailand.

First Asian Universities Alliance Entrepreneurship Bootcamp Draws International Students

The first Entrepreneurship Bootcamp, co-organized by the HKUST Entrepreneurship Center, Office of the Vice-President for Institutional Advancement, and Asian Universities Alliance, attracted 34 participants, comprising 15 students from HKUST and 19 from other leading international universities. The bootcamp provided a series of workshops, mentorship sessions, and hands-on activities to enable attendees to gain valuable insights into ideation, market research, business planning, pitching, and further aspects of entrepreneurship. The diverse mix of participants fostered a rich learning environment, encouraging collaboration and the exchange of innovative ideas.

The Entrepreneurship Bootcamp at HKUST brought together students from top universities across Asia.

HKUST Entrepreneurial Spirit on Display at Hong Kong Techathon 2024

HKUST teams celebrate their Hong Kong Techathon 2024 success.

HKUST members demonstrated their strong entrepreneurial capabilities at Techathon 2024, constituting 22% of the 1,420-plus participants. The event, co-organized by HKUST, Hong Kong Science Park, and nine other local universities, inspired programmers, engineers, designers, marketers, and entrepreneurs to collaborate, develop ideas and prototypes, and pitch for seed funding and incubation support. Results also showed the University's high-achieving creativity, with 17 HKUST teams winning a total of 18 awards, including five gold awards, one silver award, six bronze awards, five merits, and one best presentation.

Greater Bay Area Youth Entrepreneurship Exchange Tour

In 2023-24, HKUST's Entrepreneurship Center organized two exchange tours to Greater Bay Area cities: a two-day study tour to Zhuhai and Jiangmen in October 2023; and a four-day study tour to Guangzhou, Shenzhen, and Hong Kong in February-March 2024. Over 40 HKUST students from Clear Water Bay and 15 from HKUST(GZ) joined the tours. Through on-site visits and exchanges, the students gained deeper understanding of emerging industries and business development processes in the Greater Bay Area.

Exchange tour members visit Zhuhai Yunzhou Intelligence Technology Ltd. in Zhuhai.

Blue Bay Start-up Receives 2024 iF Design Award

Changyao Innovation's intelligent robotic lawn mower robot.

Blue Bay-incubated start-up Changyao Innovation Technology (Shenzhen) Co. Ltd. received the prestigious international 2024 iF Design Award for its intelligent outdoor robotic lawn mower, Airseekers Tron One, and accompanying app. Changyao Innovation distinguished itself from numerous counterparts with its innovative product concept and unique design language, earning recognition from a jury comprising over 100 international experts. The competition drew 10,800 product and project submissions from 72 countries and regions.

Prize-Winning Appearance at ICDT 2024

HKUST start-up Photon Dynamics Limited received first prize in the Start-Up Achievement Award at the International Conference on Display Technology (ICDT) 2024 in Hefei. The company specializes in photo-alignment technology, advanced displays, and optoelectronics. At ICDT 2024, a major technology conference and trade show, the company displayed a demo unit of its photo-aligned multi-domain vertical alignment liquid crystal display (VA LCD) in the start-up zone.

Photon Dynamics Limited wins the Start-up Achievement Award at ICDT 2024.

HKUST Alumna's Audio Brand Success Story

MSc in Global Operations graduate TANG Hong has successfully established the Konex Audio brand, dedicated to producing best-in-class loudspeakers based on superior audio performance. Using patented designs, Konex Audio has developed products for the professional audio and consumer markets. The products are now on sale on global e-commerce platforms.

3. ***Leader in Sustainability Innovation***

Green Finance Experts Explore Way Ahead

The University hosted the HKUST x France Panel “Green Finance: The Way Forward” in March 2024, attracting over 160 students, alumni, and industry practitioners. The event, organized in collaboration with the Consulate General of France in Hong Kong and Macau, French Chamber in Hong Kong, and Société Générale, showcased the latest trends in green and sustainable finance in the region. In addition, attendees had the opportunity to connect with industry professionals from major French financial institutions. Interactions provided valuable insights into studying in France and career prospects within green finance.

Moving on to the Next Eco-Frontier in Transportation

Alumnus Li Yunfei, BYD's General Manager (Brand and Public Relations Division), shares ideas about tomorrow's transport at a HKUST Business School lunch gathering.

At a lunch gathering in January 2024, HKUST Business School EMBA alumnus and General Manager (Brand and Public Relations Division) at BYD LI Yunfei explored the latest developments in green transportation and how innovation and unique electric vehicle technologies can drive the Chinese auto industry forward. The occasion also provided a forum for discussing the influence of green energy development on sustainability. Alumni from various programs, School Advisory Council members, guests, and practitioners attended.

Operations and Opportunities in a World of Sustainability

HEC Paris and HKUST Business School held a panel event on “Sustainability in a Changing World: Navigating Challenges and Opportunities”, examining the complexities of sustainability in a rapidly evolving world, current challenges, and promising opportunities. A panel of experts, innovators, and enthusiasts examined a range of topics including changing consumer behavior, the impact of digitalization and B Corp certification, the rise of ESG investing, and ever-changing governance.

A sustainability-focused panel event organized by HKUST Business School and HEC Paris.

Workshop Seeks Roadmap for Maritime Industry Carbon Neutrality

To assist the maritime industry in moving toward sustainability, the Hong Kong Branch of the Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), Greater Bay Area Carbon Neutrality Association, and other related groups, co-organized a workshop on a carbon neutrality roadmap for the maritime industry in November 2023. At the workshop, green finance and marine experts shared their perspectives on shipping development trends and decarbonization technologies and discussed solutions and pathways to achieve maritime industry carbon neutrality.

Evaluating Universities' Green Initiatives

Participants at HKUST's international leadership forum on "Collaborating for a Sustainable Future".

HKUST hosted an international leadership forum centered on "Collaborating for a Sustainable Future" and bringing together more than 50 leading figures and scholars from 22 universities across 15 Asian economies. The forum sparked lively discussions on the role of university collaboration in sharing data for achieving the UN's Sustainable Development Goals (SDGs) and on measuring the impact of universities' sustainability Initiatives. The importance of partnerships for data collection and effective evaluation of sustainability initiatives was also emphasized.

Showcasing Net-Zero Commitment on Campus

Sustainable Smart Campus as a Living Lab (SSC) Week was held in October 2023. With "Net-Zero Journey" as its theme, the event helped to demonstrate HKUST's commitment to reaching net-zero carbon emissions by 2045. SSC is a major HKUST initiative to transform the campus into a living laboratory that showcases the University community's sustainability research, applications, and operations. During SSC Week, living lab projects were highlighted in displays, campus tours, and a sharing session. Academic, government and industry participants joined the activities, providing an excellent platform for knowledge exchange and collaboration opportunities.

4. ***Widening Engagement with the Community***

Adding Asian Focus to Precision Medicine and Pharmacogenomics, Focusing on Asian Populations

Novel machine learning methods, developed by Prof. YANG Can, Department of Mathematics, are now contributing to the hi-tech economy by advancing cutting-edge fields such as precision medicine and pharmacogenomics, with a specific emphasis on Asian populations. Prof. Yang's work has also spurred the growth of WeGene, a direct-to-consumer DNA ancestry testing platform and personalized healthcare testing provider, which has demonstrated the methods' effectiveness in large-scale genetic and genomic data analysis. Company scientists and collaborators are now delving into drug response prediction and drug repurposing within Asian populations, leading to presentations at major international conferences and global media attention.

WeGene uses innovative machine learning methods developed at HKUST to analyze genetic data of Asian populations.

HKUST Ocean Day Widens Awareness of Marine Challenges

HKUST Ocean Day 2024, organized by the Department of Ocean Science, took place in March 2024, successfully connecting up the University, wider community, and marine world. State-of-the-art marine laboratory instruments, including an acoustic Doppler current profiler and underwater glider were on show at the event, along with information boards on topics ranging from ocean warming to marine molecular ecology. Challenges and mitigation strategies for Hong Kong and the Greater Bay Area were also featured. Additional highlights included interactive game booths that effectively combined fun with education.

Fostering Environmental Stewardship Through Service Learning

A service-learning trip to the Integral sustainable development garden in Guilin was organized by the Department of Ocean Science in collaboration with the Dean of Students' Office and Office of the Dean of Science. The project involved environmental assessments of a freshwater pond in January 2024 by Ocean Science and Technology undergraduates and a follow-up visit in June 2024. The students also engaged in community outreach by teaching Guilin students how to collect and analyze ecological data, fostering environmental awareness and stewardship. The initiative was funded by the Y.L. Yang Foundation.

Library Exhibition Expands Understanding of Maps

A student docent leads a guided tour of the China in Maps exhibition at HKUST Library.

HKUST Library organized the large-scale "China in Maps: 500 Years of Evolving Images" exhibition from September 2023 to June 2024, with diverse activities organized to help students and visitors understand more about maps. These included serving as student docents to assist guided tours and daily operations, and development of a mobile app. In December 2023, the Library co-organized the "Mapping East Asia in Context Symposium" with École française d'Extrême-Orient, the Institute of Chinese Studies, CUHK, and the Division of Humanities, HKUST. During the symposium, map scholars from around the world also gave public talks on the field.

7th Value Investing Challenge Organized

HKUST's Department of Finance and Chartwell Capital Limited (H.K.) continued to co-organize the 7th Chartwell Value Investing Challenge for the University's undergraduates. The contest encourages students to perform fundamental stock research in the Asia-Pacific region, with a range of activities and sessions for contestants to get hands-on experience and investment perspectives from Chartwell analysts.

Introductory workshop by Chartwell Capital representatives.

5. ***Inspiring Next-Generation I&T Dynamos***

HKUST Fintechstic 2023 Broadens Knowledge of Green Finance and Digital Assets

Tertiary students and community members were able to deepen their understanding of green finance and digital assets at 2023 HKUST Fintechstic, organized by HKUST Business School. The annual series of Fintech education activities forms a satellite event of Hong Kong FinTech Week. In a new move in 2023, the Fintechstic Student Competition was integrated with the Student Track of the Tokenized Assets and Digital Securities (TADS) Awards, drawing more than 70 teams and involving over 250 local university students. Meanwhile, over 3,600 members of the public tested their knowledge through the "Green Finance 100 Online Trivia" quiz.

The winning team of HKUST Fintechstic 2023 Student Competition, comprising three HKUST students.

Robotics Activities Promote iSTEAM Education

The HKUST Underwater Robot Competition. A record number of 86 schools took part in 2023.

Over 600 students and teachers from 86 primary and secondary schools boosted their hands-on robotics know-how while embracing cross-school teamwork and diversity in the Underwater Robot Competition 2023. The annual contest is one of the main activities of the HSBC/HKUST Robotics For Youths Programme, providing experiential learning in iSTEAM (inclusion, Science, Technology, Engineering, Arts and Mathematics) education through robotics. School students include the underprivileged, ethnic minorities and those with special educational needs or disabilities. In November 2023, around 160 students and teachers from 19 primary and secondary schools joined the "HKUST-ExxonMobil iSTEAM Program 2023 – Spider Robot STEAM Challenge" gaining robotics experience while developing teamwork skills and leadership capabilities.

Helping Young Global Leaders Unlock AI's Potential

World Economic Forum Young Global Leaders explore AI technologies in a hands-on environment at HKUST.

As an AI research leader, HKUST welcomed around 40 members of the World Economic Forum Young Global Leaders leadership development program in September 2023 for an immersive five-day education program exploring AI's role in tackling global issues. Activities included a presentation on the intersection of AI and art, discussions on web3 and AI, and a session on policy and regulatory frameworks. Over 10 HKUST faculty members shared their perspectives. The evolving economic landscape in the Greater Bay Area and beyond was also highlighted, with participants visiting tech giants and start-ups in Shenzhen and engaging with industry leaders.

Empowering Data-Driven Innovation in Risk Management

HKUST Business School's Center for Business and Social Analytics (CBSA) collaborated with Wisers Information Limited to organize the third CBSA-Wisers Analytics Challenge @HKUST in November 2023. The contest drew 37 teams and more than 120 tertiary students. Teams were tasked with mining a massive media dataset to identify critical issues relevant to government, businesses, and industry, and developing predictive models or research projects to drive risk management development in Hong Kong. Five teams were selected to present their proposals to a panel of judges in the finals, with the top three teams awarded prizes.

CBSA-Wisers Analytics Challenge @HKUST finalists and members of the judging panel.