香 港 大 學
THE UNIVERSITY OF HONG KONG

KNOWLEDGE TRANSFER

ANNUAL REPORT 2024/25

July 2025

Shaping Tomorrow Together:

HKU's Cross-Disciplinary Innovations and Societal Impact

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EXECUTIVE SUMMARY

In the past year, the University of Hong Kong (HKU) has demonstrated exemplary leadership in an array of strategic fields, from public health to artificial intelligence (AI), achieving significant societal impact through a mix of interdisciplinary innovation, collaborative research, technological advancement, and extensive community engagement. This report details how HKU has cultivated partnerships across academia, industry, and the local and international communities, fostering entrepreneurship and empowering its scholars and students to change the world.

The initiatives highlighted here reflect this collaborative, impact-driven approach. In the field of public health, HKU is pioneering breakthroughs like innovative **'dual immunotherapy' for liver cancer patients** and **the world's first AI model for thyroid cancer diagnosis**. Researchers at the University have developed **revolutionary needle-free live-attenuated influenza vaccines** (LAIV) and **new diagnostic tools** for everything from childhood caries to autism spectrum disorder (ASD).

In engineering, **the inaugural range of antiviral stainless-steel products**, based on HKU research, debuted this year on the Chinese mainland and Hong Kong, setting new standards in health-conscious design and offering consumers heightened protection. HKU researchers are also working on a **wearable in-sensor computing platform** for improved health outcomes, and **new drone technologies featuring avian-like autonomous flight** for micro air vehicles.

These and other pioneering innovations have garnered significant accolades internationally, including **34 distinctions at the 50th International Exhibition of Inventions in Geneva** (IEIG 2025), reaffirming the University's stature as a paragon of research excellence.

As part of its mission to become a centre of international academic collaboration and innovation, HKU is expanding its partnerships with research institutions around the globe. S**trategic alliances with Andong National University** (ANU) and the **Walter and Eliza Hall Institute of Medical Research** (WEHI) promise substantial advances in clinical immunology. The **Hong Kong Quantum AI Lab** (HKQAI)—a collaboration between HKU and the California Institute of Technology (Caltech)—is already producing tangible results. And impact-oriented partnerships like that with Tohoku University in Japan are resulting in award-winning, market-ready innovations.

Looking beyond the ivory tower, HKU continues to engage with key industry leaders to turn its research excellence into accessible, life-changing inventions and engines of economic growth. In the past year, the university has signed agreements with industry titans like **China Merchants Group**, **Gotion High-Tech**, **TCL**, and **China Mobile** to explore new advances in everything from stem cell research and pharmacology to lithium battery solutions and low-altitude aviation. The efforts of HKU researchers to bring inventions to market were recognised by the Research, Academic and Industry Sectors One-plus (RAISe+) Scheme, which awarded funding to three HKU projects, including a **data-driven AI supply chain management platform**, **wearable robotic systems for the elderly, and advanced imaging technologies**.

In 2024/25, HKU made significant strides in strengthening its entrepreneurial culture, building upon the momentum from the 2023 launch of its Techno-Entrepreneurship Core (TEC). Participation increased markedly, with applications rising by 62% and 135 newly supported startups, reaching 445 active ventures. A key factor in this growth was the new **Techno-Entrepreneurship Academy** (TEA) in Qianhai, Shenzhen. Hosting 45 events with over 2,300 participants and supporting 60 startups. TEA doubled the University’s incubation capacity and increased activity engagement fivefold.

HKU also enhanced its educational offerings through the new **School of Innovation** (I-School), offering a BSc in Innovation & Technology, the interdisciplinary **LITE Lab** that includes GenAI, and the **Arts Tech Lab** dedicated to fostering creative ventures. Outreach efforts included school talks, major competitions such as the Inter-University **GenAI Hackathon** with 251 students and 71 teams, and the Entrepreneurship Academy, which attracted over 1,400 registrations. Student start-up programmes such as **SEED** expanded opportunities, accepting 140 applications and launching 41 startups.

HKU intensified its efforts to turn innovation into market impact. The **DeepTech100** initiative supported nearly 100 research startups, with 40% advancing to HKSTP incubation. The **MedTech Hackathon GBA** helped over 70 teams overcome the initial "first-mile gap." Critical to this progress were strong funding mechanisms: the **Entrepreneurship Engine Fund** mobilised HK$1 billion of investment, and the new **Super Angel Network** connected alumni with startups. The **Tech-Up GBA Innovator Programme** provides HK$600k seed funding and enhanced support, including mentorship and subsidies, helping ventures expand regionally and globally.

All of this work is made possible by contributions from HKU departments dedicated to translating research into real-world outcomes, including the **Technology Transfer Office** (TTO), **Versitech Limited**, the **Knowledge Exchange Office** (KEO), and the **Techno-Entrepreneurship Core** (TEC). These entities facilitate knowledge transfer, protect researchers' intellectual property, and help them translate it into commercial ventures—all while connecting the university to the broader community, aligning HKU research with the public interest, and fostering a spirit of entrepreneurship on campus. By educating the public and empowering the next generation of innovators to transform scientific discoveries into life-changing inventions, they exemplify HKU's dedication to nurturing talent and stimulating innovation with real-world impact.

In summary, HKU stands at the forefront of academic advancement, industry innovation, and community engagement. By embracing interdisciplinary paradigms and remaining focused on socially impactful research, the University will consolidate its reputation as a global pioneer in innovation while bringing its benefits from the lab to everyday life.

1. INNOVATIONS TO SAVE LIVES AND CHANGE THE WORLD

On 19 June 2025, Quacquarelli Symonds (QS) named HKU 11th in its 2026 QS World University Rankings. This marked the second consecutive year HKU's ranking hit a record high—a reflection of HKU's dedication to excellence in pedagogy and impact-oriented research. HKU continues to uphold its reputation as a global leader in innovation, with its powerful interdisciplinary approach resulting in numerous impactful innovations in 2024/25.

1.1 Life-Saving Lab Research

'Dual Immunotherapy' Offers Hope To Liver Cancer Patients Around The World

HKU's cutting-edge **'dual immunotherapy'**—combining nivolumab and ipilimumab (NIVO+IPI)—has shown significant efficacy in treating advanced hepatocellular carcinoma (HCC). Since 2016, extensive multi-national Phase 3 trials involving 668 patients across 25 countries have demonstrated that NIVO+IPI extends median survival to 23.7 months (compared to 20.6 months with traditional treatments) and achieves a tumour response rate of 36%, nearly three times higher than conventional therapies. The treatment, which works by blocking immune-inhibiting proteins and enhancing immune response, has received approvals from the FDA, EMA, and NMPA, offering new hope for liver cancer patients and marking a significant advancement in the fight against cancer (https://www.hku.hk/press/news_detail_28418.html).

Making Medicine More Affordable For All

Another HKU team, led by Prof. Tak Mak, has identified choline acetyltransferase-expressing T cells (ChAT) that can protect against hepatocellular carcinoma, opening new avenues for T cell therapies. Their discoveries, alongside Prof. Alan Wong's development of advanced genome editing tools—which have already led to a spin-off company—are propelling the immunotherapy field forward. Combining high-throughput genomics, patient-derived models, innovative immunotherapies like CAR-T, and multi-omics approaches, HKU aims to bring life-saving treatments closer to clinical reality, making cancer treatment radically more affordable, improving patient outcomes and addressing unmet medical needs in oncology and beyond.

World's First AI Model For Thyroid Cancer Diagnosis

HKU has developed a groundbreaking **AI model for thyroid cancer diagnosis**, achieving over 90% accuracy in staging and risk classification. Developed by Prof. Joseph Wu and Dr. Matrix Fung, the model utilises four advanced large language models to analyse clinical documents, reducing diagnostic preparation time by nearly 50%. Thyroid cancer, a common malignancy, requires precise staging for effective treatment—traditionally a manual and time-consuming process. The AI's impressive testing results include up to 100% accuracy in risk stratification and nearly 98% in staging, with secure offline deployment making it suitable for local healthcare settings. This innovation

promises to enhance diagnostic efficiency and patient care, in alignment with Hong Kong's strategic push for AI integration in medicine (https://www.hku.hk/press/press-releases/detail/28291.html).

Preventing Stomach Cancer Through Early Detection

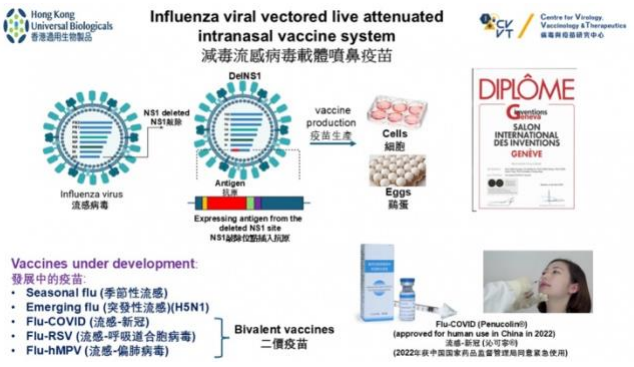
Despite the stomach's harsh acidic environment, the stomach lining possesses protective mechanisms that prevent significant mutations. In an investigation, an HKU team explored intestinal metaplasia (IM), where stomach cells transform into something resembling intestinal cells—a process that significantly increases the risk of stomach cancer. Led by Prof. Helen Yan and Prof. Suet Yi Leung, the team developed a **3D organoid model from tissue samples of 47 patients**, spanning normal tissue to advanced IM, to better understand the progression to cancer. This remarkable work, involving the culture of 70 organoids from patients at Queen Mary Hospital, offers valuable insights into early mutations and risk factors, and paves the way for new prevention strategies (https://www.nature.com/articles/s41586-025-08708-6).

1.2 Preparing For Pandemic X

Needle-Free, Live-Attenuated Influenza Vaccines Offer Broad Protection

An HKU and Centre for Immunology & Infecton (C2i) team, led by Prof. Leo Poon, have developed innovative **needle-free live-attenuated influenza vaccines** (LAIV) that provide broad protection against multiple human and avian virus subtypes. This breakthrough, facilitated by gene modifications and silent mutations to safely adapt the virus, addresses the limitations of seasonal vaccines that require annual updates and often struggle against new strains. They also help reduce fears associated with injections, especially in children, potentially lowering vaccine hesitancy. The team's advancements have resulted in several patents, as well as two Gold Medals and the Saudi Innovation Excellence Prize at IEIG 2025. They plan further collaboration with the Hong Kong Jockey Club Global Health Institute, bringing the world closer to universal influenza protection.

A Nasal Spray-Delivered H5N1 Avian Influenza Vaccine



Researchers at HKU, supported by the Hong Kong Special Administrative Region (HKSAR) Government's Information and Technology Commission (ITC), have made a major breakthrough: producing **a nasal spray vaccine for H5N1 avian influenza**. Building on their successful COVID-19 platform developed with Wantai BioPharm, this vaccine uses an influenza virus vector to trigger strong mucosal immunity at the viral entry point, crucial for stopping transmission. Animal studies show that a single dose offers robust, long-lasting protection, marking a significant step toward better pandemic preparedness and exemplifying the team's commitment to

public health innovation and rapid vaccine deployment against future H5N1 outbreaks (https://www.hku.hk/press/news_detail_28235.html).

1.3 Early Care, Better Care

World's First AI System For Single-Tooth Prediction Of Early Childhood Caries

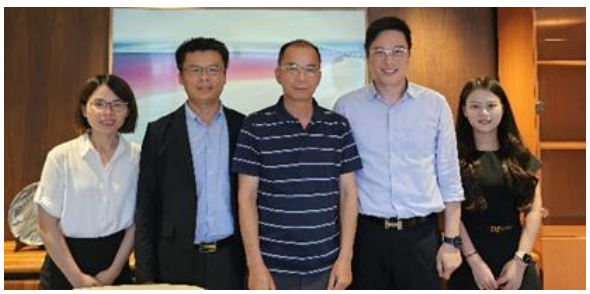
HKU researchers have developed Spatial-MiC, **the world's first AI system for the early, tooth-specific detection of childhood caries**, achieving 93% accuracy months before visible signs appear. Led by Prof. Shi Huang, this innovation addresses Early Childhood Caries (ECC), a prevalent condition affecting over 70% of five-year-olds in China, by analysing microbial patterns across 2,504 plaque samples. Unlike traditional methods that treat teeth uniformly, Spatial-MiC identifies microbial gradients indicative of decay risk, enabling targeted preventive care with 98% accuracy for existing cavities. Prof. Huang is driving the shift towards proactive, precision dentistry, aiming to extend its benefits globally and improve long-term dental health for children (https://www.hku.hk/press/news_detail_28419.html).

A Promising Screening Tool For Young Children With Autism Spectrum Disorder

An interdisciplinary research team from HKU has made **significant strides in early ASD detection** by linking oral microbiota to the condition. The team, combining the expertise of Prof. Cynthia Yiu, Prof. Rory Watt, Dr. Charles Hau, and Prof. Kathy Shum, introduced a prediction model with 81% accuracy based on simple oral samples from 25 children with autism and 30 neurotypical peers aged 3 to 6. ASD, a neurodevelopmental disorder affecting communication and behaviour, requires early diagnosis for effective intervention. Current methods are subjective, but this research suggests that microbiome biomarkers can serve as objective screening tools (https://www.hku.hk/press/news_detail_28242.html).

1.4 Engineering The Future

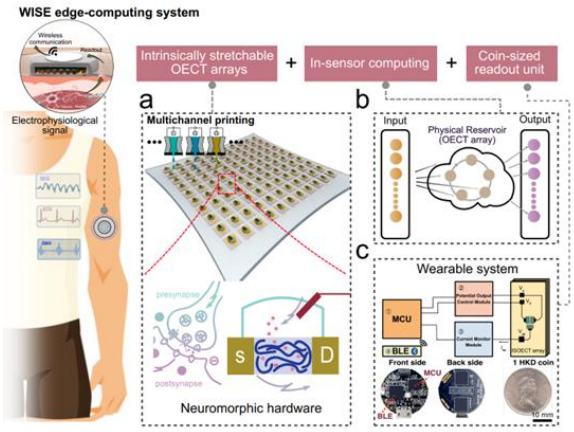
Antiviral Stainless Steel Comes To Everyday Life



Prof. Mingxin Huang, Chair Professor of Materials Technology, has successfully **brought his innovative antiviral stainless steel technology from the laboratory to the market**. This advanced material, designed to inhibit viral growth, attracted industry interest for its potential to improve hygiene standards in everyday items. During the early stages of product development, Versitech played a key role by facilitating communication between the research team and the licensee, ensuring a smooth transition from concept to consumer-ready products. Between March and April 2025, the licensee launched the first range of items featuring this technology in both China and Hong Kong, setting a new standard for health-conscious design and offering consumers enhanced protection. This milestone demonstrates how cutting-edge materials research can address public health needs and may

lead to broader applications worldwide, illustrating the transformative potential of academic innovation in everyday life.

Staying Active With Wearable AI



Researchers at HKU, led by Prof. Shiming Zhang, have made a significant breakthrough in digital health with a new wearable in-sensor computing platform. This innovative device uses stretchable organic electrochemical transistors (OECTs) to merge sensing and computing into a single, flexible form, overcoming issues like motion artefacts and limited on-device processing faced by current wearables. By enabling local data processing, it offers real-time feedback, enhances privacy, and reduces reliance on external equipment, with promising applications in health monitoring and activity tracking. The team has also developed a scalable manufacturing process for these microelectronics, facilitating multi-channel printing and easier production. Published in Nature Electronics, their work positions HKU at the forefront of wearable technology, and the team plans to refine the platform and extend its application across diverse healthcare settings to enhance users' quality of life. (https://www.hku.hk/press/news_detail_27807.html)

Bird-Like Autonomous Flight Promises New Generation Of Micro Air Vehicles

Researchers from HKU's Department of Mechanical Engineering, led by Prof. Fu Zhang, have developed the Safety-Assured High-Speed Aerial Robot (SUPER), **a revolutionary micro air vehicle (MAV) inspired by bird flight**. Capable of speeds over 20 metres per second, it uses advanced onboard sensors—including a 3D LIDAR that detects obstacles up to 70 metres away—to navigate complex and cluttered environments, even in darkness. Unlike traditional drones, SUPER employs real-time obstacle avoidance, making it suitable for applications such as search and rescue, autonomous exploration, and environmental monitoring, with transformative implications for the future of drone technology (https://www.hku.hk/press/news_detail_28334.html).

1.5 HKU Innovations Shine at The 50th International Exhibition of Inventions in Geneva

At IEIG 2025, **HKU's groundbreaking research earned 34 awards**, including one esteemed Special Grand Prize, seven Golds with Jury Congratulations, eight Golds, eleven Silvers and seven Bronze medals. The showcased innovations—developed by HKU researchers and supported by international industry leaders—addressed

critical societal challenges, showcasing the University's commitment to creating impactful solutions through cutting-edge research.

Full details of the awarded projects can be found in Appendix 7.1.

2. ACADEMIC COLLABORATION WITH AN IMPACT

HKU is forging impactful collaborations with elite institutions and research partners around the world. By deploying its resources strategically, the University is generating life-changing innovations and making them accessible to the broader public.

2.1 Global Biotechnology Partnerships Advance Immunology

The **HKU Centre for Immunology & Infection Limited (C2i) and ANU in South Korea have signed an MoU to co-develop vaccines and biotech research**. Led by Prof. Leo Poon of C2i and ANU's Prof. Sun Woo Yoon, the partnership aims to leverage each institution's strengths to accelerate breakthroughs in vaccine development and biotechnology. C2i also partnered with the HKU-Pasteur Research Pole and the Institute Pasteur in Paris to bring together participants from around the world for a course featuring everything from practical sessions in R programming to seminars from esteemed experts, including Prof. Javier Pizarro Cerda, Dr. Wuji Zhang, and Prof. Lluis Quintana-Murci, who shared valuable insights into current advances in immunology.

Similarly, **HKU's Centre for Translational Stem Cell Biology (CTSCB) and WEHI in Australia are working together** to enhance stem cell and clinical immunology research while developing innovative therapies that benefit society. Meanwhile, the Centre for Oncology and Immunology is

collaborating with the University Health Network (UHN) in Toronto and the Technical University of Munich (TUM) on groundbreaking projects in immuno-oncology, including CAR-T therapies and patient-derived organoids.

Collectively, these initiatives reflect HKU's dynamic approach to fostering cutting-edge research, cultivating international partnerships, and achieving societal benefits in health, immune therapies, and the biomedical sciences. The products of this work were showcased at the **Asia Summit on Global Health** (ASGH) in May 2025, which saw HKU-affiliated InnoHK centres and companies showcase their cutting-edge medical technologies. The Summit underscored the importance of global partnerships in driving advances in precision oncology and immunotherapy, while reaffirming HKU's mission to deliver transformative solutions and make a meaningful difference for those affected by cancer.

Details on participating HKU-affiliated companies can be found in Appendix 7.2.

2.2 HKQAI Pioneers Sustainable Energy And Technology Solutions

HKQAI, **an InnoHK Centre for collaboration between HKU and Caltech**, is rapidly becoming a hub of innovative research that is positioning the city as a global AI powerhouse.

Since its establishment, HKQAI has amassed a team of 137 talented researchers from 12 diverse economies, generating 65 patents and fostering the emergence of seven startups that promise to contribute to the region's economic dynamism. In September 2024, HKQAI celebrated another milestone by hosting the Hong Kong New Energy Ecosystem Forum and the Hong Kong Future Technology Roadshow, which brought together over 500 investors, researchers, and entrepreneurs to highlight pioneering advancements in artificial intelligence, quantum chemistry, and energy technologies. The forum—which featured a global roster of speakers, including HKU's Prof. Guanhua Chen and Prof. William Goddard from Caltech—showcased breakthroughs such as solid-state batteries and AI-driven energy solutions, emphasising HKQAI's crucial role in engineering a sustainable future (https://mp.weixin.qq.com/s/GSNkxCiBx1kk515PG39Jkw).

2.3 TransGP Named Top 10 Emerging Clothing Technologies to Watch in 2025

Since its establishment in 2020, **the Centre for Transformative Garment Production** (TransGP), a collaborative initiative between HKU and Tohoku University of Japan within the InnoHK research cluster, has been at the forefront of HKU's efforts to bring academic innovation to bear on real-world manufacturing challenges. At the 2024 Japan International Apparel & Non-Apparel Manufacturing (JIAM) Technology Trade Show, TransGP showcased its latest technological breakthroughs, including an

award-winning 3D sewing system developed by its spin-off SewingDX, which enables automated sewing of fabric panels into three-dimensional shapes—an advancement that caught the attention of both the garment and automotive sectors. The event facilitated key connections with industry leaders from over 60 countries, leading to a series of factory visits to major automotive seat manufacturers across Europe.

Recognised as one of the “Top 10 Emerging Clothing Technologies to Watch in 2025 and Beyond" by StartUs Insights—the only awardee outside the US, UK, and Europe—TransGP exemplifies how collaborative, impact-oriented alliances between universities can address the evolving challenges of modern industry (https://www.startus-insights.com/innovators-guide/clothing-technology/).

3. BEYOND THE IVORY TOWER: PARTNERING WITH INDUSTRY LEADERS

3.1 A Strategy For Industry Engagement and Innovation

In the past year, HKU marked major milestones in technological and scientific innovation as it entered into a series of strategic partnerships with industry leaders. On 5 September 2024, HKU inaugurated **the China Resources-HKU Joint R&D Centre for Intelligent Technology** with the China Resources Research Institute, aiming to advance research in intelligent technologies and cement HKU's role at the forefront of this field. Meanwhile, collaborations with the China Technology and Scientific Innovation Biological (CTSCB) and the Greater Bay Area National Centre of Technology Innovation focus on stem cell research, diagnostics, drug development, and therapeutic applications. HKU's Versitech Limited also partnered with China Merchants Group to develop peptide drugs, while CTSCB and MGI Group are combining forces to push single-cell genomics forward. And in May 2024, HKQAI entered a strategic alliance with Gotion High-Tech to pioneer innovations in lithium battery technology, energy sustainability, and environmental solutions, including plans for a joint research centre.

Led by eminent figures such as Prof. Ning Xi, Prof. Fang Liu, and Prof. Pengtao Liu, these initiatives position HKU as a global leader in technology, biomedicine, and energy innovation.

In AI, HKU has partnered with GETECH and TCL to establish **a joint laboratory dedicated to Industrial Artificial Intelligence**, marking a significant stride in AI-driven innovation. This collaboration promises to address critical industrial challenges related to efficiency, productivity, and optimisation. By focusing on transformative AI technologies, the lab aims to bridge the gap between academic research and industry applications, while positioning itself as a leading research hub.

HKU and China Mobile Group also established **the China Mobile-HKU Joint Innovation Centre** on 21 May 2025, a significant initiative aimed at advancing research and development in key technological areas, including AI, 6G, and satellite communications. By promoting interdisciplinary collaboration and offering educational opportunities, the centre aims to address urgent societal challenges and boost technological innovation in Hong Kong, ultimately leading to substantial societal and economic benefits.

3.2 University-Industry Collaboration For Commercialisation

The **HKU Industry Forum 2025**—titled "Therapeutics Insights: Bridging Academia, Industry, and Investments"—was held on 7 May 2025. The forum brought together a diverse group of researchers, industry leaders, and investors to explore the latest developments and challenges in the therapeutic sector. Experts delivered presentations on cutting-edge university research, current market trends, and the vital role of collaboration between academia and industry. These talks emphasised successful partnerships that have led to major new discoveries, with one notable session featuring speeches from industry representatives, investors, and academics on the resources and strategies needed to transform innovative discoveries into impactful products. The forum also offered extensive networking opportunities, enabling research teams to connect with industry players and investors and laying the groundwork for future collaborations.

In April 2025, **HKU Li Ka Shing Faculty of Medicine** (HKUMed) **and ChiaTai TianQing Pharmaceutical** (CTTQ) convened a high-level symposium in Nanjing to strengthen collaboration in medical innovation. The discussions centred on advancing pharmaceutical R&D, technology transfer, and clinical application strategies. Delegates toured CTTQ's R&D and production headquarters, underscoring the shared goal of bridging academic research with industrial innovation to establish a strategic partnership platform for innovative drug development and global health initiatives. The industrial collaboration and visit by CHIP offered another unique opportunity for our HKUMed researchers to connect with medical companies from Mainland China, with around 50 participants actively engaging in the discussions and networking opportunities.

In addition to visits, the Faculty organised a " HKUMed Technology Transfer Education Series, " co-hosted a Project Pitching

Session with Fortera Capital, a leading venture capital firm, and facilitated knowledge sharing with CHIP Academy, a healthcare think tank. All initiatives received favourable responses from both academic and industry stakeholders.

The **Laboratory for Synthetic Chemistry and Chemical Biology (LSCCB) Conference 2025**, held from 17 to 19 March, served as a vital platform for interdisciplinary dialogue on anticancer drug discovery, showcasing cutting-edge research across synthetic chemistry, chemical biology, diagnostics, and multi-omics. Similarly, COI demonstrated its commitment to advancing cancer research through multiple key events: In July 2024, its flagship symposium **'From Bench to Bedside to Business'** brought together leading scientists and industry experts to discuss translating scientific discoveries into treatments and commercial products. And in February 2025, its partnership with HKSTP for the symposium **'Immunotherapy for Cancer Treatment'** featured renowned researchers such as Prof. Mark Davis (Stanford), Prof. Lisa Butterfield (Merck), Prof. Hai Qi (Tsinghua), and Prof. Qiang Pan Hammarström (Karolinska). These events underscored COI's role as a hub of pioneering cancer immunotherapy research, while pushing the boundaries of cancer treatment in the scientific community.

The Advanced Biomedical Instrumentation Centre (ABIC) bolstered its international connections by hosting the **"ABIC International Symposium on Biomedical Research Translation 2024"**, a key platform for sharing pioneering research on commercialisation. The event featured a keynote by Prof. Dong Sun, JP, Secretary for Innovation, Technology and Industry, and brought together leading academics, emerging talents, and innovative spin-off companies. By fostering a vibrant ecosystem linking government, academia, and industry, ABIC continues to translate interdisciplinary biomedical discoveries into societal benefits.

3.3 From Lab To Market With The Research, Academic And Industry Sectors One-Plus Scheme (RAISe+)

HKU secured funding for multiple groundbreaking research projects as part of **the second round of the ITC's RAISe+ initiative**.

Launched in October 2023, RAISe+ aims to build connections between academia, industry, and the research sector, leveraging the expertise of local universities to transform and commercialise research and development outcomes. HKU's most recent project awardees exemplify this union of academic and real-world priorities. They include a data-driven AI supply chain management platform led by Prof. Max Shen that was deployed on JD.com in 2023, saving the company over US$94.7 million in inventory costs and facilitating transactions worth US$3.21 billion. The platform is poised to have a global impact, especially in China, where intelligent supply chain planning remains underpenetrated at just 3-4%. Moving forward, the team aims to establish Hong Kong as a premier hub for AI-powered logistics, attracting cross-border e-commerce and logistics firms to the city.

Another HKU RAISe+ awardee, Prof. Ning Xi's team, is developing wearable robotics that use artificial muscles and neuro-signals to support older adults, with lab-validated results recognised at

conferences. The potential market for such devices is sizeable: Hong Kong's aging population is expected to surpass 22% of the city's overall population by 2024, and China's will reach 40% by 2050. With patents and a clear regulatory pathway, Prof. Ning Xi plans to launch the products in Hong Kong and expand into rehabilitation markets, positioning the city as a leader in next-generation assistive robotics.

Additionally, Prof. Hongjie Dai from HKU and Stanford was awarded RAISe+ support for his advanced imaging technologies, including the NIR-II fluorescence system and the OctopusProbe™ dye, which enable surgeons to identify tumours, blood vessels, and lymph nodes in real time with higher resolution. His team's molecular design has demonstrated clinical efficacy and is set for global adoption, promising to bolster Hong Kong's reputation as a centre for healthcare innovation and medical imaging.

4. ENGAGEMENT IN SERVICE OF THE COMMUNITY

4.1 A Community-First Approach To Healthcare

Community Care, Powered By AI

HKU has launched the **Dental AI Community Care Project**, an innovative initiative targeting the improvement of oral health among the elderly. This project seeks to alleviate some of the considerable strain on Hong Kong's dental healthcare system, which has been exacerbated by an ageing population leading to long wait times for dental services. Central to the effort is GUM AI, a mobile health tool harnessing artificial intelligence to facilitate rapid oral health screenings. The technology provides colour-coded results with over 90% accuracy, enabling early detection of dental issues and reducing reliance on traditional check-ups (https://www.hku.hk/press/news_detail_28009.html).

Hong Kong's First University Community Pharmacy

HKU has opened **Hong Kong's first university community pharmacy**, a pioneering move in healthcare delivery. Located near Queen Mary Hospital, the HKUMed Community Pharmacy aims to improve drug dispensing, provide comprehensive healthcare services to community members, and foster collaboration among pharmacists, doctors, and other professionals. At the opening, officials highlighted the pharmacy's role in meeting the increasing demand for healthcare resources, as well as the initiative's alignment with the 2024 Policy Address's emphasis on community pharmacies. (https://www.hku.hk/press/news_detail_27880.html).

4.2 Telling HKU's Story

The HKU Impact eNewsletter

The **HKU Impact eNewsletter** continued to provide insightful monthly overviews of the University's achievements from 2024 to 2025, highlighting projects like the Department of Civil Engineering's internationally recognized Duling Educational and Cultural Centre in Guangxi, which exemplifies sustainable design while taking inspiration from Hakka cultural

principles, as well as breakthroughs by HKU's engineering team like the Quantum-Enhanced Diamond Molecular Tension Microscopy (QDMTM). The newsletter delivers these stories and more to an average readership of approximately 55,000 (https://www.ke.hku.hk/about-ke/hku-impact).

Knowledge Exchange Videos

The **KEO flagship video series**, 10 years in the making, showcases cutting-edge research from experts across various fields, bridging the gap between academia and the wider public and inspiring a culture of collaboration and innovation on and off campus.

For instance, a previous feature on Danaid butterflies was updated in April 2025 to highlight some of their remarkable migratory journeys, including a record-breaking 3,000-kilometre flight from Japan to Hong Kong, garnering public interest and fostering a conservation ethos. Similarly, an earlier KE video highlighted efforts to develop resilient oyster strains. Aiming to protect Hong Kong's historic industry against climate challenges, it led to a HK$5.28 million grant from the HKSAR Government's Sustainable Fisheries Development Fund and the establishment of the Hong Kong Oyster Hatchery and Innovation Research Unit (HKO-HIRU) (https://www.youtube.com/@hkuknowledgexchange, https://www.instagram.com/hkuknowledgexchange).

Public Outreach at InnoCarnival 2024

HKU participated in **InnoCarnival 2024**, an exciting ITC-organised platform designed to showcase innovative research. This vibrant event highlighted cutting-edge projects across various fields, including technology, health, and sustainability. Through interactive exhibits and engaging presentations, HKU sought to inspire curiosity and foster a deeper understanding of how academic innovations can address real-world challenges.

HKU's project summary for InnoCarnival 2024 is listed in Appendix 7.3.

4.3 Celebrating Life-Changing Innovations And Encouraging Outreach

University-Level Knowledge Exchange Excellence Awards

The 2024 **HKU Excellence Awards** Presentation Ceremony, held on 27 March 2025, celebrated the remarkable contributions of HKU scholars in advancing community well-being through teaching, research and knowledge exchange. Among the distinguished winners, Prof. Michael Ni led a team whose project, “A Health and Wellbeing Barometer for Hong Kong: Translational Impact Attained over a Decade and Counting,” has had a profound influence on public policy, improving health

promotion and mental health services across the city. Similarly, Prof. Terry Lum spearheaded "JC JoyAge – Holistic Support Project for Elderly Mental Wellness," employing innovative community interventions and digital technology to support the city's ageing population. These initiatives exemplify HKU's steadfast commitment to knowledge exchange and societal impact, demonstrating how collaboration and innovation can drive meaningful change in our communities.

Full details of the awarded projects can be found in Appendix 7.4.

Faculty Knowledge Exchange Awards

HKU recognises outstanding contributions to knowledge exchange through its **Knowledge Exchange (KE) Faculty Awards**. Notably, Prof. Youngah Do was recognised for her project, "The Sound of Silence: A Journey Through Deaf Culture in Hong Kong," which employed innovative technology like an HKSL detection model and collaborative educational initiatives to promote inclusivity for the Deaf community. Similarly, Prof. Ollie Yu advanced oral health for older adults through community-based outreach programmes offering free dental care to over 877 elderly individuals, helping raise awareness and train dental professionals. And, Prof. Shelley Tong developed assessment tools to support Chinese-English bilingual children who struggle with reading comprehension, empowering educators and parents with vital resources to enhance young learners' skills.

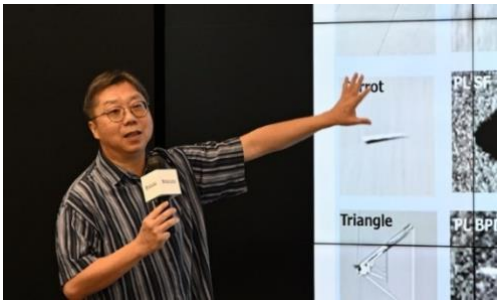
Full details of the Faculty KE awards are listed in Appendix 7.5.

Knowledge Exchange Funding Scheme

HKU's **Knowledge Exchange Funding Scheme** champions innovative projects that bridge research and societal needs, encouraging faculty to develop solutions to pressing challenges while fostering interdisciplinary collaboration. Notable awardees include Prof. Spring Kong, whose project, "A Holistic Approach on Cancer Prevention, Diagnosis and Treatment," utilises a multidisciplinary approach to enhance cancer education. Through online seminars, she has engaged over two million participants, increasing awareness and understanding of treatment options. Similarly, Prof. Edith Ngai was recognised for her project, "WaterWise Hong Kong," which harnesses IoT technologies and data analytics to monitor and reduce water waste in commercial buildings, introducing a Water Efficiency

Index to empower businesses in sustainability efforts. Together, these professors exemplify the scheme's potential to drive impactful research that benefits both local communities and global society.

Transformative Research: Strategic Planning To Effective Outreach



The **"Enhance Your Research Impact"** event at HKU brought together researchers, led by Prof. Francis Ling and Prof. Thiyagarajan Vengatesen alongside Dr. Hanwen Chang from iesResearch. Through engaging discussions and practical advice, the event spotlighted how strategic planning and effective outreach can maximise research impact, with an emphasis on real-world relevance and collaboration.

Knowledge Exchange Student Ambassadors

HKU unveiled the inaugural **KE Student Ambassador Programme** in 2024/25. This initiative aims to empower and engage students, enabling them to represent the University in various roles both on and off campus through a variety of projects and events. For instance, the KE Ambassadors visited a pearl farm in Sai Kung, where hands-on activities such as pearl harvesting demonstrated the real-world impact of cross-disciplinary collaboration. This immersive experience not only bridged the gap between theory and practice but also enabled students to forge vital industry links, inspiring them to become agents of change within their communities.

5. ACCELERATING CULTURAL CHANGE IN ENTREPRENEURSHIP

In 2024/25, HKU continued to grow the strong momentum it has built promoting an entrepreneurial cultural shift since the launch of its new Techno-Entrepreneurship Core (TEC) in June 2023. Participation in all major programmes increased significantly, with a 62% rise in applications and 135 newly supported startups, bringing the total number of active startups to 445, a 43.5% increase from last year.

The expansion of HKU's entrepreneurship support facilities, notably the addition of the **HKU Techno-Entrepreneurship Academy** in Qianhai, Shenzhen, has substantially enhanced the institution's incubation capacity and elevated its prominence in the field of innovation. This development has doubled the University's capacity to accommodate early-stage startups and resulted in a fivefold increase in associated activities and participant engagement.

As an increasing number of young innovators partake in these dynamic programmes, the potential for pioneering advancements by these teams is considerable, with significant prospects for contributing to Hong Kong's innovation landscape.

5.1 Developing Future Innovators

Established in November 2024, **HKU School of Innovation** (I-School) aims to educate tomorrow's innovators. Through its newly established Bachelor of Science in Innovation and Technology (BSc(I&T)) programme, I-School cultivates technology innovators far-reaching visions, an entrepreneurial spirit, and a broad intellectual capacity. The curriculum emphasises co-creating innovation projects with community partners to tackle real-world challenges.

Over 20 talks and visits to local secondary schools have been arranged during the past year. Multiple interviews with local and mainland media outlets were conducted to address the challenges of AI in higher education and how the new BSc(I&T) programme will prepare students as lifelong learners to turn AI challenges into co-designers who can make an impact on society.

Law, Innovation, Technology & Entrepreneurship (LITE Lab) by HKU Faculty of Law continues to innovate with its interdisciplinary and experiential programme in the AI era. In 2024/25, students across various LITE Lab courses learned to incorporate GenAI into their projects. Students also co-designed agentic workflows with their tech startup project partners. Additionally, LITE Lab students collaborated with law firms and legal departments to evaluate different large language models to address various legal use cases. LITE Lab's pioneering experiential learning pedagogy has led to the founding executive director, Brian Tang, being invited to speak at numerous international and Hong Kong academic and industry conferences about Generative AI in Higher Education.

The **Arts Tech Lab**, which opened at the start of the year, is set to incubate Arts Tech ideas from the Arts Faculty. It organised a series of workshops and seminars for students and staff. It also started the first **Digerati Competition**, where students create projects under teacher supervision; these may be potential startups, entrepreneurial ventures, or arts-tech installations. Teachers are encouraged to

display their research and recruit interns for their projects. Additionally, the Lab offers seed funding to faculty and students to support their startup, innovation, and entrepreneurship activities.

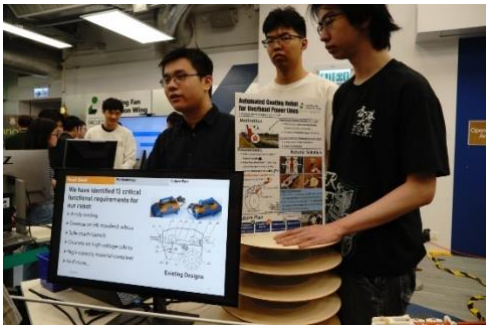
Centre for Innovation & Entrepreneurship (CIE) by HKU Business School implemented strategies and programmes to cultivate Innovators through Global Experiential Learning. These initiatives aim to equip students with skills and creativity for innovation and entrepreneurship, emphasising industry collaboration. Notable examples and impact from 2024/25 include:

- Global Entrepreneurial Experience in **Beijing, Shenzhen, and Ho Chi Minh City**: enhancing students' understanding of regional innovation and entrepreneurship landscape
- **"Creativity, Innovation & Entrepreneurship in China" Summer Programme:** connecting global students with industry leaders through online interactions and physical events
- **Innovation and Entrepreneurship Internship:** conducting project analysis and development across various sectors
- **HKU Yuan Valley:** embracing GBA opportunities with incubator space in Futian District, Shenzhen
- Credit-Bearing **Cloud Computing and Entrepreneurship Course** with Industry-recognised Qualification by Alibaba Cloud Academy
- **HKSTP Sandbox Collaboration on Startups from Thailand:** supporting 10 startups from Thailand on market validation using Design Thinking
- **Innovation and Entrepreneurship Research Symposium:** showcasing presentations by 13 speakers from Hong Kong and mainland China
- **NextGen Entrepreneur Bootcamp with HKU Summer Institute:** navigating the full entrepreneurial journey from ideation and prototyping to pitching.

In collaboration with City University of Hong Kong, Hong Kong University of Science and Technology, and Hong Kong Baptist University, **HKU Common Core Office** launched the second Inter-University **Generative AI Hackathon for the Sustainable Development Goals**. This competition challenged students to design GenAI-infused solutions to address pressing social issues in Hong Kong– poverty, social inclusion, waste, and ageing. 251 undergraduates and postgraduates formed 71 interdisciplinary teams, competing for 9 awards. Some teams advanced into incubation and seed programmes supported by HKSTP. The event was funded by UGC's Fund for Innovative Technology-in-Education. In addition, **"Games for Change Hong Kong Festival @ The University of Hong Kong"** showcased the power and impact of games for positive change related to the SDGs and was participated by 270 students, teachers, academics, industry, and the general public. In collaboration with village

communities in Mui Wo and indigenous Atayal communities in Yilan, Taiwan, **"Community-led Revitalisation in Hong Kong and Taiwan"** had students from diverse disciplines travel to and immerse themselves in local practices and ways of living, and then develop proposals and models to support the community's revitalisation.

Tam Wing Fan Innovation Wings, established in 2020 by the **Faculty of Engineering**, continues its vital role in promoting engineering innovation and interdisciplinary collaboration at HKU. In 2024/25, it hosted 156 visits, along with 57 events organised by Innovation Academy involving over 1,500 participants, 26 Tech talks by Innovation Wing Two with over 1,600 participants, as well as the Innovation Wing Exhibition "Innovation for impacts" with over 13,000 visitors.



The newly developed **"Student Development Projects"** is a series of development projects to provide students with opportunities to gain hands-on knowledge and real-life experiences in emerging technology topics such as Generative Artificial Intelligence, Robotics, and the Internet of Things. Through these projects, students can acquire knowledge and apply their ideas and learning to real-world settings.

HKU's **Entrepreneurship Academy 2024** attracted over 1,400 registrations for a 10-week series of lectures. Featuring industry leaders such as venture capitalists, startup founders, and domain experts, the programme provided participants with valuable insights into global trends, market strategies, and entrepreneurial skills. Throughout the series, attendees benefited from dynamic sessions that fostered a culture of innovation, equipping them with the knowledge and inspiration needed to thrive in a fast-changing business landscape.

The **SEED Programme** provides early-stage startup support for HKU members, including students, staff, and alumni, including structured entrepreneurship training and partnerships with HKSTP and a clear pathway to incubation. In 2024/25, to diversify beyond HKSTP's primary focus on the tech sector, HKU engaged with other organisations, such as Oxfam Grant for Good and Innovator Farm, to offer alternative pathways for startups focusing on ESG or social entrepreneurship. As a result, SEED received over 140 applications, 50% more than the previous year, and helped launch 41 new tech startups.

The 2024 **Cyberport University Partnership Programme** (CUPP) saw three teams from HKU showcase their remarkable innovation and entrepreneurial spirit: Meetalk, TeamFloat, and

RoundMedi. The University was the leading Hong Kong institution in terms of team representation within the programme, highlighting the creativity and ambition of HKU students.

Throughout the year, HKU facilitated more than 30 **Innovation and Entrepreneurship Competitions** with partners in various sectors, including co-hosting Techathon+ 2024 alongside HKSTP and supporting CUPP in collaboration with Cyberport. These initiatives have contributed to a notable increase in participation by HKU startups, including a 30% rise in applications from HKU members for large-scale cross-university competitions.

In an effort to further grow HKU startups' involvement in these competitions, HKU established a **mentorship system**, inviting industry experts to provide one-on-one coaching for participating teams. Additionally, HKU launched the **iDendron Subsidy**, offering financial support for HKU students to participate in top overseas competitions such as the HULT 2024 final in Nairobi and the National Challenge Cup in Xi'an.

The **HKU International Techno-Entrepreneurship Challenge 2024**, organised by HKU's Institute for China Business and TEC, promoted global tech innovation and industry growth through competitive platforms that foster international collaboration and entrepreneurial spirit. The 2024 Grand Finale showcased 19 finalists from 259 projects across six regions, including Hong Kong and multiple major Chinese cities. They were judged by government officials, academics, and industry leaders who offered expert guidance, inspiring participants to push the boundaries of innovation.

5.2 Navigating Future-Focused Innovations From Lab To Market

DeepTech100, a pioneering initiative organized in partnership with HKSTP, has helped transform nearly 100 research-driven startups over the past two and a half years through validation training and one-on-one mentorship. By May 2025, five cohorts comprising 98 startups and over 300 entrepreneurs,

including more than 100 PhD students and researchers, had participated in the **'Lean Launcher Programme'**. Early data shows a near 40% progression to HKSTP incubation, highlighting HKU's success in advancing Hong Kong's innovation ecosystem.

MedTech Hackathon GBA 2025 offered a six-month platform—from December 2024 to May 2025—for researchers to address the critical "first-mile gap" in medical technology transfer. Attracting over 70 teams, it included activities like the Lean Launcher Training Programme, a visit to HKU Shenzhen Hospital, and the MedTech Co-innovation Conference in Beijing. Ten finalists were selected to showcase their innovations through pitches and demonstrations at the Asia Summit on Global Health, fostering valuable industry-research connections and accelerating pathways for medical innovations to reach the market.

The **Technology Start-Up Support Scheme For Universities@HKU** (TSSSU@HKU) marked its 11th anniversary in the fiscal year 2024/25. A total of 116 applications were received, marking a record high. Of these, 16 teams were selected for the TSSSU-O sub-track to support early-stage startups, while seven teams were chosen for the TSSSU+ sub-track for relatively mature startups that have secured private investments to expand their tech businesses and commercialise their R&D efforts.

The HKU **Legal Day** initiative provides startups with insights into legal frameworks and intellectual property protection. By equipping entrepreneurs with legal knowledge, the initiative safeguards research spin-offs and amplifies their societal impact by fostering trust and sustainability in the entrepreneurial ecosystem. In the 2024/2025 period, six Legal Day events were held with top legal partners, attracting over 130 participants. Startups received over 30 hours of pro-bono legal consulting, gaining critical insights into incorporation, funding, IP, and compliance, empowering them to scale responsibly and navigate legal challenges with confidence.

HKU's **Demo Day** platform allows startups to pitch their business plans to venture capital investors, showcasing the University's interdisciplinary approach to innovation. By bridging technology, business, and societal needs, the initiative highlights HKU's commitment to driving impactful solutions for global challenges.

In 2024/2025, four Demo Day events were held, attracting 40 innovative projects to participate in pitching sessions. Startups showcased their ideas to venture capital investors and engaged in one-on-one consultations, as HKU helps bridge technology, business, and societal needs to drive real-world impact.

5.3 Attracting Patient Capital And 'Super Angels'

The **Entrepreneurship Engine Fund** (EEF) is HKU's flagship initiative aimed at empowering startups by investing in early-stage ventures and translating research into real-world applications.

By partnering with top-tier early-stage venture firms, the fund achieves an eight times' leverage on the capital contributed by the University. With a total contribution of HK$120 million from the University, the EEF mobilised over HK$1 billion in lead investment commitment into startups affiliated with HKU.

Meanwhile, HKU launched its **Super Angel Network** (SAN)—the first of its kind among Hong Kong universities—seamlessly connecting alumni with startups to foster an ecosystem featuring financial backing, mentorship, and vibrant networking. Led by Dr. Winnie Tang, MH, JP, Chief Convenor of HKU SAN, this initiative cultivates collaboration between alumni entrepreneurs and HKU-affiliated ventures, strengthening the entrepreneurship community, propelling startup growth, and ultimately creating a sustainable pipeline of innovation and leadership.

5.4 Go GBA And Go Global

The **HKU Techno-Entrepreneurship Academy** (TEA) in Qianhai is quickly becoming a hub of innovation and entrepreneurship within the GBA. Inaugurated by HKU, the Qianhai Authority, and the Shenzhen Government in 2024, the Academy is a centre for interdisciplinary education that will drive regional technological advancement. Since its launch, TEA has hosted 45 events with a total of

over 2,300 participants, and has supported 60 startup companies in establishing their presence within the Academy.

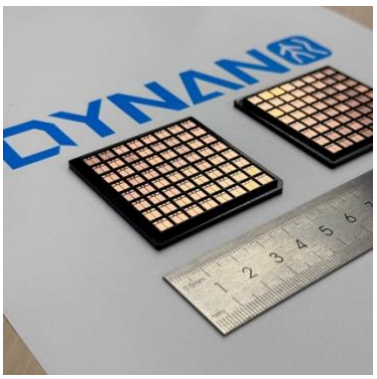
TEA in Qianhai is also a vital platform for fostering innovation and entrepreneurial thinking among HKU students. To date, over 150 students, including participants from the Centre of Development and Resources for Students (CEDARS), have visited TEA to engage directly with the region's dynamic startup ecosystem. These immersive experiences offer students invaluable insights into real-world innovation, inspiring them to pursue entrepreneurial pathways.

With over 25 delegations from both internal and external partners, TEA has reinforced its role as a strategic hub linking the University to the broader innovation ecosystem. It continues to serve as a catalyst for academic-industry collaboration and the cultivation of entrepreneurial growth.

The **HKU Tech-Up GBA Innovator Programme,** designed to empower youth entrepreneurship in the Guangdong-Hong Kong-Macao Greater Bay Area, will provide 14 selected startups with seed funding of up to HK$600k each. In addition to financial support, participants benefit from mentorship, co-working spaces, professional services, networking, and publicity opportunities. The launch ceremony attracted over 200 participants, reflecting strong public interest in the initiative. The programme has received nearly 100 applications, and shortlisted projects will advance to entrepreneurship training and final pitching rounds.

5.5 Startup Successes

In 2024/25, the HKU startup scene continued to thrive, with a selection of exemplary cases outlined below.



Founded by Prof. Mingxin Huang, Chair Professor of Materials Technology at HKU, **Dynano Semiconductor** specialises in advanced packaging for third-generation semiconductors (SiC/GaN).

This company has developed the world's exclusive solid-state copper sintering technology, which addresses the critical thermal management challenges of high-power semiconductors in the new energy sector. These challenges are driven by demands for long-range electric vehicles and high-voltage fast charging. Dynano has also overcome the core technological hurdle of applying ultra-thin copper

overlays atop chips. Presently, it stands as one of only two companies globally possessing proprietary technology in this domain.

Led by Dr. Grace Zhang and Prof. Jason Cheung, **CoNova Medical Technology** is revolutionizing musculoskeletal (MSK) care with its AI-powered platform, MSKalign®. The solution improves clinical efficiency by 99% and reduces treatment costs by 60%, earning a Gold Medal at IEIG 2022.

Supported by HK$1 million in government funding, CoNova's digital platform for lower back pain management has already been deployed in 10 tertiary hospitals and benefitted over 200,000 patients. The company achieved an HK$8.5 million valuation in its 2023 seed round and plans to target HK$30 million in future fundraising.

Founded in 2018 by Prof. Guanhua Chen and built around a core team of HKU graduates, **Hestia Technology Limited** is pioneering fully automated kitchen robotics to address global chef shortages and rising labour costs in the food and beverage industry.

Hestia's sixth-generation robotic kitchens handle end-to-end cooking processes—ingredient retrieval, preparation, serving, and cleanup—without human intervention. Their AI-driven system has already sold over one million dishes featuring more than 200 different recipes, including traditional Chinese cuisines, Asian cuisines, and Western cuisines, all with precise temperature and ingredient control. This innovation boosts efficiency by 80 dishes per hour, reduces labour costs by 66%, and cuts energy use by 50%.

Notable deployments include Nice Day in New York and Tasty Bowl in Chicago, where Hestia's robots expanded menu variety while maintaining quality. Moving forward, the company aims to produce 200 units annually and generate US$10 million in annual revenue.

A relative newcomer, **Saint Novel Biotech Limited** has achieved significant recognition in the biotech sector, winning a Merit Award and securing a place in the Top 10 at the Maker in China 2024 competition. Founded by HKU graduates, the company—which uses advanced spatial transcriptomics and AI to identify novel therapeutic targets—is committed to developing innovative solutions to today's most pressing health challenges.

Digitoe Limited—the creator of iWalk, an AI-powered smart insole promoting children's foot health—made waves in 2024–25 by winning top honours at four major competitions: Jumpstarter 2024, HKTDC Startup Express 2025, Samsung Solve for Tomorrow, and the Qianhai GBA Youth Competition. Another startup with origins on the HKU campus, the young company boasts a dual focus on health tech and AI and is positioning itself as a leader in socially impactful innovation.

Sodaz Limited aims to redefine sustainability with upcycled functional beverages made from surplus fruits and ethically sourced teas.

Awarded the Rosewood Foundation Entrepreneurship Award, we tackle food waste and promote responsible sourcing through our suite of proprietary technologies. From PTAEM (Precision Tea Aroma Extraction Modulation), which customizes tea aroma profiles with unmatched depth, to FructoOrganoleptic Engineering, which captures the authentic taste and texture of fresh fruit, and LactoVirens Synthetica, our dairy-like plant-based alternative — every drink we craft embodies innovation, low-sugar nutrition, and environmental care.

By partnering with local farmers and global tea estates, we deliver distinctive, nutrient-rich refreshments that are as good for the planet as they are for the palate.

Haykozé's Air Ring 49—a contactless biomedical cooling accessory for construction helmets—won the 2024 James Dyson Award (HK) and a Bronze Award at the Guangdong-Hong Kong-Macau-Taiwan Youth Competition. Now the co-founder and HKU graduate Jeff Li and his team are expanding their user base in the construction industry, and developing other widgets for all to enjoy agility and freedom in a warming world.

6. LOOKING AHEAD

This report highlights HKU's robust framework for fostering interdisciplinary collaboration while driving impactful research solutions for Hong Kong and the world. The University stands at the forefront of innovation, forging strategic partnerships across academia and industry while promoting societal well-being and entrepreneurship. Through its extensive network of alliances, groundbreaking research initiatives, and community engagement, HKU is addressing some of the most pressing challenges facing society today.

The successful projects showcased here, from advancements in cancer treatment to the engineering of cutting-edge new materials, exemplify HKU's commitment to innovations with real-world impact. The partnerships formed with esteemed institutions and industry leaders likewise reflect a strategic approach to harnessing expertise from all corners of society to augment the University's research capabilities and relevance.

Moving forward, HKU will cultivate the next generation of innovators in fields from biotech to AI. The establishment of innovation hubs and partnerships in the Greater Bay Area will also enhance the University's impact across the region by fostering a vibrant ecosystem for startups and research ventures.

Ultimately, HKU's ongoing efforts will not only strengthen its reputation as a global leader in research and education, but also ensure its essential role in shaping a sustainable and innovative future for decades to come.

HKU’s performance indicators in Appendix 8.

7. APPENDICES

7.1 Highlighted Projects Showcased at the International Exhibition of Inventions Geneva 2025

Award received	Project title	Faculty / Research Centre	Inventor(s)
Special Grand Prize - Saudi Innovation Excellence Prize & Gold Medal with Jury Congratulations	Live-attenuated Influenza Vaccine with Alpha-1,3-Galactosyltransferase Expression to Enhance Immune Response	Centre for Immunology & Infection	Prof. Leo Poon, Dr. Alex Chin
Gold Medal with Jury Congratulations	A Multimodal Medical Screening and Disease Monitoring Platform to Serve Healthcare Professionals, Patients, and Families in Primary Health Settings with Clinical Standard Readout, Environmental Versatility, and Accessibility	LKS Faculty of Medicine	Prof. Desmond Yap, Dr. Russell Chan, Dr. Eddie Wong
Gold Medal with Jury Congratulations	AI-Powered Blood Pressure Monitoring for Everyone	Laboratory of Data Discovery for Health	Mr. Nicholas Kwok, Prof. Joshua Ho
Gold Medal with Jury Congratulations	Circulating Thrombospondin-2 (TSP2) - A Novel Fibrosis Biomarker for Patients with Type 2 Diabetes and Metabolic Dysfunction-Associated Steatotic Liver Disease	LKS Faculty of Medicine	Dr. Paul Lee, Prof. Karen Lam, Prof. Aimin Xu
Gold Medal with Jury Congratulations	Compositions and Methods of Gamma-delta T Cell Extracellular Vesicle-based Tumor Vaccines	LKS Faculty of Medicine	Prof. Wenwei Tu, Dr. Yinping Liu, Dr. Xiwei Wang
Gold Medal with Jury Congratulations	Hypoxia-Primed Mesenchymal Stromal Cells and Their Derivatives Enhance Lung Injury Repair	Centre for Immunology & Infection	Prof. Michael Chan, Dr. Angel Ma, Dr. Rachel Ching

Gold Medal with Jury Congratulations	Methods to Prepare Vdelta2-T Cells Derived Exosomes for Treatment of Epstein-Barr Virus-Associated Cancers	LKS Faculty of Medicine	Prof. Wenwei Tu, Dr. Yinping Liu, Dr. Xiwei Wang
Gold	3D Biomimetic Personalized Drug Screening Platform for Acute Myeloid Leukemia (AML)	Advanced Biomedical Instrumentation Centre	Prof. Barbara Chan, Dr. Kalyn Cheung, Prof. Anskar Leung, Dr. Jessica Kabigting
Gold	AI-enabled Precision Healthy Longevity Medical System	Faculty of Science	Dr. Yuan Huang, Dr. Xin Wang, Dr. Nan Yang, Mr. Wenliang Wang
Gold	All-natural Self-driving Nanorobot for Precise and Rapid Colon Cancer Therapy	Advanced Biomedical Instrumentation Centre	Prof. Anderson Shum, Dr. Changjin Wu, Ms. Wenwen Liu
Gold	Broadly Protective Live-attenuated Influenza Vaccine by Codon Usage Bias	Centre for Immunology & Infection	Prof. Leo Poon Dr. Alex Chin
Gold	DeepDrug	Faculty of Engineering	Prof. Victor Li, Prof. Jacqueline Lam, Dr. Yang Han, Dr. Jocelyn Downey, Mr. Tushar Kaistha, Prof. Illana Gozes
Gold	Development of Safe and Effective Platform for Administration of Lutetium-177 DOTATOC Peptide Receptor Radionuclide Therapy for Neuroendocrine Tumours or Other Tumours Highly Expressing Somatostatin Receptors	LKS Faculty of Medicine	Prof. Victor Lee, Mr. Kam Man Tam, Mr. Nelson To
Gold	Innovative Applications of Propriety Respiratory Organoids: Novel Alveolar Organoids Derived from Nasal Cells, Cultivation of Previously Uncultivable Human Viruses, and Organoid-based Assays for Predicting Real-world Antiviral Efficacy	LKS Faculty of Medicine	Prof. Jie Zhou, Dr. Cun Li, Dr. Man Chun Chiu, Ms. Zhixin Wan, Dr. Yifei Yu, Prof. Kwok Yung Yuen, Dr. Yong Zhang, Dr. Lin Huang

Gold	Multiview, Markerless, Magnetic Location (3M) Surgical Navigation System	LKS Faculty of Medicine	Dr. Weichen Qi, Dr. Nan Meng, Dr. Pengfei Cheng, Dr. Grace Zhang, Prof. Jason Cheung

7.2 HKU-Affiliated Companies Exhibited in Asia Summit on Global Health 2025

Company/Project Name	Project/Product Title	Category
Advanced Biomedical Instrumentation Centre	Biomedical Instrumentation	Medical Devices & Diagnostics
AI and Life Sciences Institute (Hong Kong) Limited	An AI + first-principles–driven, end-to-end drug discovery platform enabling the next generation of breakthrough therapeutics	AI & Digital Health
Canthevac Limited	Interferon-integrated Vaccine Platform	Pharma & Therapeutics
Centre for Immunology & Infection Limited	Vaccine and therapeutic strategies	Medical Devices & Diagnostics
Centre for Oncology and Immunology Limited	Anti-cancer drugs and treatment	Pharma & Therapeutics
Centre for Translational Stem Cell Biology Limited	Stem cell technologies	Pharma & Therapeutics
Centre for Virology, Vaccinology and Therapeutics Limited	Practical applications for the control and prevention of infectious diseases	Pharma & Therapeutics
CoNova Medical Technology Limited	mskalign Intelligent Spine Management Solution	Pharma & Therapeutics
E-SENSE Innovation & Technology Limited	Portable non-invasive, high throughput medical grade EIT system	Medical Devices & Diagnostics
ExPo Biotech Co., Limited	Human Blood Cell iEPSC Reprogramming Technology	Pharma & Therapeutics
Genome Technologies Limited	High-Efficient Genome Editing Technologies	Pharma & Therapeutics
Laboratory for Synthetic Chemistry and Chemical Biology Limited	Molecular medicines and diagnostic tools for the analysis and treatment of cancer	Pharma & Therapeutics
L'Ord'Invent Limited	Development of a Safe and Effective Platform for Administration of Lutetium-177 DOTATOC Peptide Receptor Radionuclide Therapy for Neuroendocrine Tumours or Other Tumours Highly Expressing Somatostatin Receptors	Pharma & Therapeutics
MetAb Limited	Anti-Metadherin Blocking Antibody	Pharma & Therapeutics

Nordia Biotech & Pharmaceuticals HK Limited	Human Islet Organoids for Diabetes	Pharma & Therapeutics
Oncoimmunostics Limited	Liver-In-Cube: Novel Precise Theranostics for Liver Cancer & Disease	Pharma & Therapeutics
ReSmile	AGI for Smart Dental Manufacturing	Medical Devices & Diagnostics
Laboratory of Data Discovery for Health Limited	Vitogram®: AI-enabled Heart Health Monitoring on a Mobile Device	Pharma & Therapeutics

7.3 Projects Showcased in InnoCarnival 2024

Project Title	Researcher	Faculty
'Reduce and Remove' Trimodality Strategy for Advanced Liver Cancer - the START FIT approach	Prof. Albert Chan (Department of Surgery), Prof. Chi Leung Chiang (Department of Clinical Oncology)	LKS Faculty of Medicine
A Novel Cellular System for Anti-ageing Drug Discovery	Prof. Pengtao Liu, Dr. Zhen Feng, Prof. Fang Liu, Dr. Degong Ruan	Centre for Translational Stem Cell Biology (InnoHK)
Automatic AI Generation of Photorealistic Window Views and Openness Indexes using 3D City Information Models (CIM)	Prof. Anthony Yeh, Dr. Maosu Li (Department of Urban Planning and Design), Prof. Fan Xue (Department of Real Estate and Construction)	Faculty of Architecture
Ball Type Rolling Robot for Inspection and Rescue	Prof. Ning Xi (Advanced Technologies Institute, Department of Industrial and Manufacturing Systems Engineering)	Faculty of Engineering
Bionic Liver-in-Cube: Comprehensive Precise Theranostics for Liver Cancer and Diseases	Prof. Kwan Man (Department of Surgery)	LKS Faculty of Medicine
Deployment of a ROTA-based Screening Program for Prevention of Glaucoma Blindness	Prof. Christopher Leung (Department of Ophthalmology)	LKS Faculty of Medicine
Development of bismuth drugs for the treatment of microbial infections	Prof. Hongzhe Sun, Dr. Hongyan Li, Dr. Runming Wang (Department of Chemistry); Dr. Shuofeng Yuan (Department of Microbiology)	Faculty of Science, LKS Faculty of Medicine
Hybrid Pose Adjustment (HyPA) Robot for Assembly Process in Modular Integrated Construction (MiC)	Prof. Xiao Li, Mr. Ruiqi Jiang (Department of Civil Engineering)	Faculty of Engineering
Next-Gen Mg-ion battery: Low Cost and High Energy Density	Prof. Wending Pan (Department of Mechanical Engineering)	Faculty of Engineering

Passive Actuator-Less (PAL) Gripper for Fabric Picking	Centre for Transformative Garment Production	Centre for Transformative Garment Production (InnoHK)
Rural Sustainability Programme – Lai Chi Wo Rural Cultural Landscape	Prof. Wai Fung Lam (Centre for Civil Society and Governance)	Faculty of Social Sciences
Smart Toothbrush Navigated by Gum AI	Prof. Walter Lam	Faculty of Dentistry
SmartRehab – An Automated Telerehabilitation Solution	ReMobility Limited, a startup company founded by members from HKU Stroke, Department of Medicine, HKUMed and Sport AI Laboratory of the Department of Electrical and Electronic Engineering (Prof. Gary Lau)	LKS Faculty of Medicine, Faculty of Engineering
SpImage: Large-scale Spinning Imaging for Intelligent Rapid Cell Screening	Prof. Kevin Tsia (Department of Electrical and Electronic Engineering); Dr. Dickson Siu, Dr. Bob Chung, Dr. Kelvin Lee (Advanced Biomedical Instrumentation Centre)	Faculty of Engineering, Advanced Biomedical Instrumentation Centre (InnoHK)
Urban Ventilation Assessment and Wind Corridor Plan for Chinese Cities	Prof. Chao Ren (Department of Architecture), Prof. Yuguo Li (Department of Mechanical Engineering)	Faculty of Architecture, Faculty of Engineering
Vitogram®: AI-enabled Heart Health Monitoring on a Mobile Device	Prof. Joshua Ho (School of Biomedical Science)	LKS Faculty of Medicine, Laboratory of Data Discovery for Health (InnoHK)

7.4 Project Details of University-Level Knowledge Exchange Excellence Awards

Impact Case Study 1: A Health and Wellbeing Barometer for Hong Kong: Translational Impact Attained over a Decade and Counting

Principal Investigator: Prof. Michael Ni (School of Public Health, LKS Faculty of Medicine)

Project: The FAMILY Cohort, currently led by Prof. Michael Ni, stands as the largest population-representative cohort study in Hong Kong and is at the forefront of documenting the transformation of physical, mental, and social wellbeing in the region.

Impact: A comprehensive health needs assessment is the critical first step needed to address major health challenges. This is because policymakers need to understand the magnitude of needs to guide priority setting and resource allocation. The project team has successfully achieved this translational impact for some of the most pressing health challenges over the past decade. Here are a few illustrative case studies:

1. Formulation of the District Health Centres as a new mode of primary care
The district health profiles from the FAMILY Cohort were cited in the Chief Executive's Policy Address and the Legislative Council briefing paper as the 'most relevant' information source to introduce a new mode of primary care. This contribution played a significant role in the launch of District Health Centres (DHC) and DHC Expresses across all 18 districts.

2. Support for the legislation of Smoking (Public Health) (Amendment) Ordinance 2021
Hong Kong's attainment of the world's highest life expectancy has motivated international calls to understand and emulate its success. Yet the reasons for Hong Kong's longevity were unknown, with a Perspective from the US National Academy of Medicine stating that “there could not be a more important puzzle to solve for the rest of the world”. The team's research demonstrated that tobacco

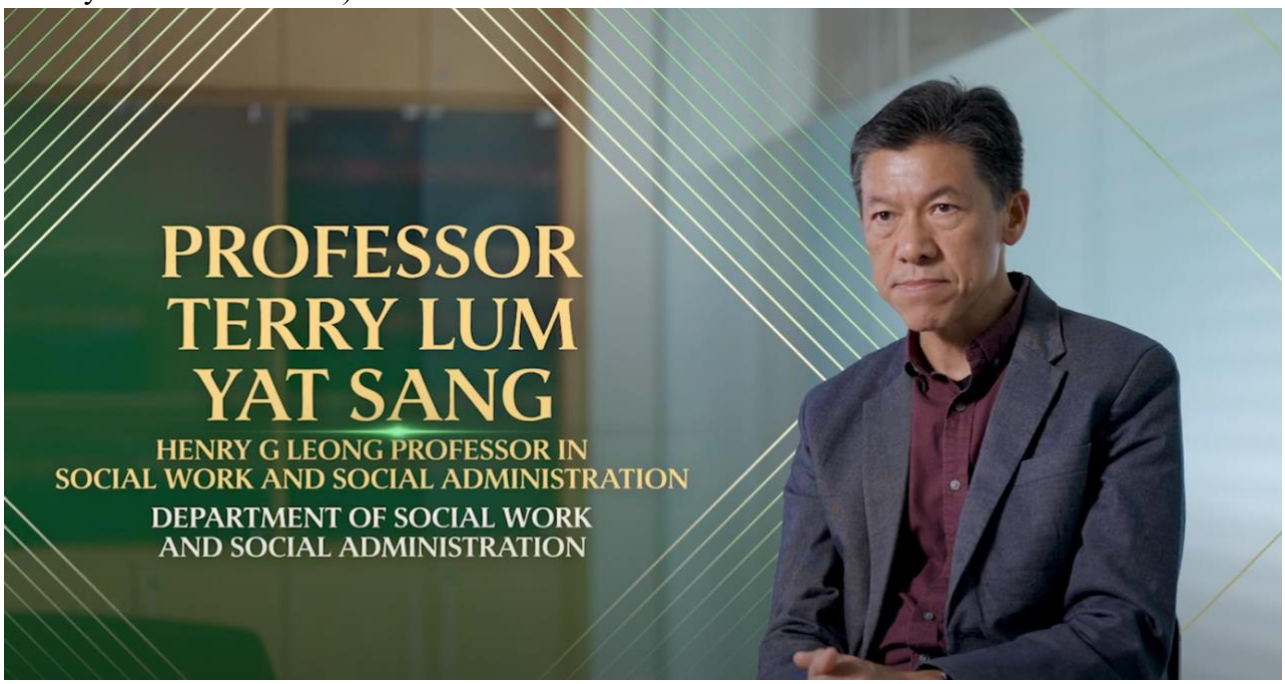
control was the primary driver behind Hong Kong's longevity. In turn, their findings provided strong support to the successful passage of the Smoking (Public Health) (Amendment) Ordinance 2021.

3. A rapid response to a new epidemic in depression and post-traumatic stress
The team's identification of a territory-wide epidemic of depression and post-traumatic stress during major social events in Hong Kong was rapidly communicated to the public. This timely alert to health professionals, legislators, and policymakers served as a basis for the government's long-term manpower and service planning.

In summary, the FAMILY Cohort has played an important role in influencing policies, shaping health services, and fostering societal change.

Impact Case Study 2: JC JoyAge – Holistic Support Project for Elderly Mental Wellness

Principal Investigator: Prof. Terry Lum (Department of Social Work and Social Administration, Faculty of Social Sciences)



Project: About one in ten older people in Hong Kong suffer from clinically significant depressive symptoms. Although these symptoms are treatable, the current mental health care system depends heavily on specialists with limited capacity to meet the mental health care needs of older people with common mental disorders, including depression. Untreated depressive symptoms contribute to the high suicide rate among older people. They also affect older people's ability to manage their comorbid chronic diseases, increase healthcare costs, and prolong suffering. Since 2016, Prof. Terry Lum led a team of multidisciplinary researchers at HKU to develop a pioneer stepped-care intervention for community-dwelling older people with mild to moderate depressive symptoms. The pilot study in four districts finished in 2019 provided strong evidence that this innovative intervention was more effective and cost-effective than traditional treatment. Subsequently, the Hong Kong Jockey Club Charities Trust funded the project's expansion to all 18 districts between 2020 and 2023. As of December 2023, the project reached more than 100,000 older people, provided direct clinical services to more than 10,000 older people living with depressive symptoms, trained more than 6,600 older people to become mental health ambassadors, more than 900 older people to become peer supporters, and 208 social workers to provide evidence-based psychological intervention.

Impact

Overall, 92.8% of older people who completed the treatment showed a significant reduction in their depressive symptoms. The services are 3.6 times more effective in treating existing depressive symptoms and 5.7 times more effective in preventing depression than care-as-usual. The impact of the programme is further evidenced by the decrease in suicide rate among older people between 2020 and 2023, overlapping with the expansion of the programme, while the suicide rates of other age groups had risen during the same period. In 2024, the Hong Kong Jockey Club Charities Trust

provided new funding to expand the project to cover middle-aged people in three district health centres to pilot a new primary mental health care model for Hong Kong.

7.5 Project Details of Faculty Knowledge Exchange Awards 2024

Project Title	Faculty	Researcher
The Sound of Silence: A Journey through Deaf Culture in Hong Kong	Faculty of Arts	Prof. Youngah Do
The Effects of Green Bond Issuance and Mandatory ESG Disclosure around The World	HKU Business School	Prof. Dragon Tang
Empowering Non-governmental Organizations to Improve the Older Adults' Oral Health in Hong Kong with A Sustainable Model of Community-based Outreach	Faculty of Dentistry	Prof. Ollie Yu
Reading for Understanding: Supporting Chinese-English Bilingual Reading Comprehension	Faculty of Education	Prof. Shelley Tong
GIVE: Generic and Intelligent Volunteering for Supportive Communities	Faculty of Engineering	Prof. Reynold Cheng
Legislating and Promoting Advance Medical Directives in Hong Kong	Faculty of Law	Prof. Daisy Cheung
A Health and Wellbeing Barometer for Hong Kong: Translational Impact Attained over A Decade and Counting	LKS Faculty of Medicine	Prof. Michael Ni
Enhancing the Performance of SiC Power Devices: A Collaboration of Hong Kong Academy and Mainland Industry	Faculty of Science	Prof. Francis Ling
JC JoyAge - Holistic Support Project for Elderly Mental Wellness	Faculty of Social Sciences	Prof. Terry Lum

8. QUANTITATIVE INDICATORS

Table 1

Performance Indicators Laid Down by UGC	2024/25
Number of patents filed in the year (with breakdown by country and type) Note 1	370 Note 2
Number of patents granted in the year (with breakdown by country and type) Note 1	132 Note 3
Number of active licenses (with breakdown by type) Note 1 Number of patents licensed	166 (515)
Number of economically active companies with knowledge transfer and other related companies Notes 1 & 4	445
Number of collaborative researches Note 5	77
Number of contract researches (other than those included in "collaborative researches" above) Note 6	1082
Number of consultancies Note 7	1091
Total number of collaborative researches, contract researches and consultancies Note 8	2250
Number of student contact hours in short courses or e-learning programmes specially tailored to meet business or continuing professional development (CPD) needs	8,003,021
Number of equipment and facilities service agreements	75
Number of public lectures/symposiums and speeches to a community audience Note 9	1,648
Number of performances and exhibitions of creative works by staff or students Note 9	137
Total of public lectures/symposiums/speeches to a community audience and performances and exhibitions	1,785
Number of staff engaged as members of external advisory bodies including professional, industry, government, statutory or non-statutory bodies	459
Total income generated from Knowledge Transfer Note 10	**$2,992.52M**

(Data as of 22 Oct, 2025)

Notes:

1. The number of patents granted is unrelated to the number of applications in a particular year.
2. The number of inventions involved is 276 (this is the updated 2024-25 figure).
3. The number of inventions involved is 101 (this is the updated 2024-25 figure).
4. The reported figure adopts the definition of the latest UGC Common Data Collection Format (CDCF) Guidance Notes 2024-25 to include the number of all economically active startups that have been established by staff, graduates or students and are now operationally independent of the University. They were either supported by the University's entrepreneurship programmes or

other resources (including HKU DreamCatchers, iDendron, TSSSU@HKU, InnoWing, etc.), or obtained technology licenses from the University.

5. ITF projects with industrial sponsorship and other collaborative projects with at least two partners (one of which being a government or public body) were included.
6. Contract research projects commissioned by external organizations, and projects supported by funding schemes that allow non-higher education institutions to apply, including ITF projects without industrial sponsorship, Public Policy Research projects, and projects funded by the Health Bureau, the SK Yee Foundation, Construction Industry Council, and Standing Committee on Language Education and Research (SCOLAR), were included. NIH projects have been classified as Contract Research since 2016/17.
7. Consultancy and service projects for KE commissioned by external organizations to the University or Versitech, and consultancies undertaken by individual staff as outside practice (excluding clinical service and teaching in other tertiary education institutes) were included.
8. It is considered more appropriate to group collaborative researches, contract researches and consultancies together because it is sometimes not easy to classify projects into these categories.
9. Community, cultural and KE-related events organised by the University and those delivered by academic staff at the invitation of external organisations were included.
10. The total income generated from Knowledge Transfer includes (i) collaborative researches; (ii) contract researches; (iii) consultancies; (iv) intellectual property rights; (v) CPD courses; and (vi) the equipment and facilities service agreements.