

ANNUAL REPORT 2021 — 2022



THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY



TOGETHER
WE EMPOWER

HKUST'S 5 CORE VALUES

- Excellence, Integrity, and Academic Freedom
- Global Vision and Local Commitment
- Can-do Spirit
- Inclusiveness, Diversity, and Respect
- 1-HKUST

THE MISSION OF THE UNIVERSITY

- a** To advance learning and knowledge through teaching and research, particularly
 - i. in science, technology, engineering, management and business studies; and
 - ii. at the postgraduate level; and
- b** To assist in the economic and social development of Hong Kong.

(The Laws of Hong Kong: Chapter 1141)



STATEMENT OF VISION

To be a leading University with significant international impact and strong local commitment.

Global

To be a world-class university at the cutting edge internationally in all targeted fields of pursuit.

National

To contribute to the economic and social development of the nation as a leading university in China.

Local

To play a key role, in partnership with government, business, and industry, in the development of Hong Kong as a knowledge-based society.



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Chairman's Foreword

2021/22 was a historic year for HKUST. In celebrating the University's 30th Anniversary, the University community was thrilled to witness the opening of the state-of-the-art Shaw Auditorium on November 17, 2021, followed by the official opening of HKUST(GZ) in Nansha on September 1, 2022, and the installation of Professor Nancy IP as our fifth President at the 30th Congregation on November 26, 2022. All these are important milestones in the history of the University.



Only six years after we celebrated the 25th Anniversary of the founding of this University, we are proud to have witnessed the growth of education, research and knowledge transfer endeavours at HKUST. In addition to our faculty's remarkable efforts and achievements in conducting impactful research, teaching and learning activities, the opening of the Shaw Auditorium provides not only much needed top-class arts and cultural facilities on campus, but a wonderful platform for the pursuit of whole-person education for our present and future generations of students, as well as the development of art tech. This iconic multi-purpose landmark, shining like the Pearl of Clear Water Bay, will enhance the aesthetic horizons, art and cultural experience of the University community as well as our neighbouring communities. The University will continue to upgrade its research and knowledge transfer infrastructure and activities, student residence and sports facilities in its next stage of development.

Another highlight after the University's 30th Anniversary celebration was the official opening of HKUST(GZ). Powered by the innovative "Unified HKUST, Complementary Campuses" concept, the University is set to ascend to its next level of development, both physically and strategically. As a pioneering platform to promote knowledge transfer ventures for the two Campuses, HKUST(GZ) will proactively seek to incubate emerging industries with novel technologies.

With the support of our Government and our partners, the two Campuses will create a unique synergy. We are encouraged by the active involvement and enthusiasm of the University community in this project which have made this unprecedented partnership and ground-breaking educational initiative possible. The success of HKUST and HKUST(GZ) under “Unified HKUST, Complementary Campuses” will support the Country’s initiatives in advancing higher education and research, innovation and technology in the Greater Bay Area region.

Underpinning all these exciting and important developments is good governance, the foundation for every organization’s success. In this regard, as the University’s supreme governing body, HKUST’s governing Council and its Members have been devoting their efforts wholeheartedly and selflessly to maintaining and striving for the highest standard of corporate governance in universities, principally through steering of the University’s overall strategic directions, and ensuring accountability and efficient management through effective oversight.

During the past years, apart from regular meetings of the Council and Standing Committee, more than 40 meetings were held on matters on and relating to the establishment and operation of HKUST(GZ). I am truly grateful to my fellow Council Members, including the President and members of the Administration who have actively and responsibly participated in these meetings, and in the process further contributing to the development of governance at HKUST in the continuous drive for institutional excellence. A case in point is Council’s continuous efforts in reviewing the “Guidelines and Code of Practice for Council Members” which define the roles and responsibilities of Council Members in their discharge of duties. The Council has also, based on the Terms of Reference of Council Committees, devised their Scope of Responsibilities as part of Council’s scheme of delegation. Given the increased complexities of Council’s businesses, a number of new Working Groups and Committees have been set up by Council, including the most recent Working Groups on land resources and university anthem, and Council Committee on legal affairs.

In fulfilling its duty of monitoring the performance of the University, the Council has been tracking the progress of work of various University functions with reference to the Strategic Plans, the University Accountability Agreements developed by the University Grants Committee since 2019 to ensure that the overall strategic directions and principles have been complied

with in a satisfactory manner, in accordance with performance indicators as agreed.

Alongside governance matters, the Council also hosted numerous ceremonies and activities, including the Congregation and University retreats. Over the period, we were delighted to have the opportunities to interact with various groups of stakeholders through the hosting of alumni, students’ and donors’ receptions, and campus visits. These events have allowed us the opportunities to engage with various parties, and strengthen the rapport within our University community and ties with external supporters.

HKUST is moving on its way to a new chapter, under the presidency of Professor Nancy IP, a world-renowned molecular neuroscientist, an eminent researcher, educator, and a seasoned university administrator. Nancy has been a member of the HKUST family since its early days and is an award-winning role model for women scientists. We have every confidence that her steadfast commitment to education and her love for HKUST will bring the University to its next level of excellence. On behalf of the University Council, I would also express our thanks to Professor Wei SHYY for his leadership of the University for 12 years in the past, first as Provost, and finally as President.

In discharging our public duties, we gratefully carry on the vision of HKUST’s far-sighted founders, and are thankful for the support of the University’s friends and donors, and the concerted efforts of our faculty, students, staff and alumni. In particular, I would like to express my gratitude to my fellow Council and Court Members, past and present, for their wholehearted and selfless commitment, professional and wise counsel, tremendous and unflinching support to the University over the years.

Looking ahead, I am confident that the entire HKUST community will work closely together in moving forward under HKUST 3.0 for the next 30 years, riding on the success of our 1.0 foundation at Clear Water Bay and the opportunity of 2.0 development in the Greater Bay Area. With the University community’s DNA as adventurers and trendsetters, I firmly believe that HKUST is ready to take on and embrace new opportunities and challenges, and create even more miracles in the years to come!

Chairman, University Council
Andrew LIAO Cheung-Sing
GBM, GBS, SC, JP

President's Report

In Academic Year 2021-22 we not only celebrated our milestone 30th anniversary, but also attained formal approval for the establishment of HKUST(Guangzhou) (GZ) from the Ministry of Education (MoE), thus embarking on our transformative HKUST 2.0 journey. Despite the various challenges facing us, especially the unprecedented pandemic that has now lasted for almost three years, I couldn't be prouder of the HKUST family for their will, dedication and commitment as demonstrated by the multiple milestones we have reached in the midst of such extraordinarily adverse conditions.



EXPANDING OUR IMPACT

With the opening of HKUST(GZ), the whole of HKUST including both Hong Kong (HK) Clear Water Bay (CWB) and GZ Nansha campuses will be working closely in collaboration and remaining uniquely positioned to broaden and deepen our contributions to society in significant ways. A cornerstone of the University's renewed strategic plan, the Unified HKUST-Complementary Campuses framework will elevate our capacity as we commence a period of unprecedented development. Nurturing future graduates' optimism and critical mindset via active learning, innovative actions, and cross-disciplinary thinking alongside solid disciplinary training, our dual academic structures will equip students with the skills and competencies needed to address current and future challenges. The pairing of HKUST and HKUST(GZ) also leaves us well prepared to drive curiosity-driven and mission-encouraged endeavors on a global scale which will be so beneficial for the future of both HKUST and academia worldwide.

Venturing beyond research discoveries and breakthroughs, HKUST has long been the industry's partner of choice for translating ideas into practical applications via collaborative research and knowledge transfer activities. Our members are also empowered to commercialize innovations through various entrepreneurship activities and incubation programs. To date, over 1,600 start-ups have been initiated by our students, staff, alumni, or incubated by the University. Seven out of the top 18 companies on the inaugural Unicorns HK 2021 list were founded or co-founded by HKUST faculty or alumni.

NURTURING BRILLIANT MINDS AND THEIR WELLBEING

Attracting visionary thinkers to HKUST is essential if we are to continue to take our impact to the next level of excellence. In doing so, we utilize different channels to recruit international talents with diverse expertise to spearhead research in emerging fields. In addition to green finance and FinTech, specific examples include

quantum science and technology, sustainability and environmental science, AI and metaverse, intelligent industrialization, progressive humanity/arts and quantitatively oriented social sciences, stem cell biology, and health science and biomedical technology. Our faculty body also continues to expand and has added some 80 new recruits at CWB since 2021 alone while a further 150 faculty members have joined the GZ campus. Under the Unified HKUST framework, faculty on both campuses are encouraged to collaborate and coordinate closely through structured affiliation with each other's academic units.

Considering HKUST's diverse population now includes some 3,800 staff and 16,000 students, our community members' wellbeing remains a top priority. When hit hard by our fifth wave of Covid in early 2022, colleagues from different units quickly joined forces to mount a series of preventive initiatives aimed at mitigating potential impacts. Measures implemented included on-campus vaccination sessions for 1,500 HKUST community members and distribution of 90,000 rapid antigen test kits. Besides campus isolation and quarantine facilities, transport services, food and other supplies continued to be made available to members on campus. We have also boosted mental health support by increasing counselor numbers by 50% since the pandemic started; and launched other measures such as the therapy dog and peer counselor training programs.

STRIVING FOR A NET-ZERO CAMPUS

Reflecting the profound impact of unprecedented crises such as highly infectious viruses and seemingly unstoppable climate changes are having on all our lives, HKUST remains committed to building a more sustainable campus culture. Our primary objective is to inspire every member of our community to ignite their creativity and actualize the disruptive and scalable solutions needed to help safeguard the earth's fragile natural balance. To this end, our newly inaugurated Net/Zero Office is implementing a bold strategy called the 2028 Sustainability Challenge which will synchronize with HK government's plan to halve carbon emissions before 2035 and become fully carbon neutral by 2050.

We are also encouraging every member of our campus community to work toward meeting our ambitious medium-term water, energy, waste, and greenhouse gas emission reduction targets. Our Sustainable Smart Campus as a Living Lab (SSC) initiative (<https://ssc.hkust.edu.hk>) is an excellent example of these efforts in action. Starting in 2018, SSC has been substantially funded out of the University budgets for 2019 to 2022. To date, SSC has funded some 30-plus HKUST projects that have enabled over 150 faculty and 400 students to test their solutions within the campus environment.

FUTURE-PROOFING INFRASTRUCTURE AND RESOURCES

A particular highlight of the University's year-long 30th anniversary celebration came with the opening of the multi-purpose Shaw Auditorium in November 2021. Thanks to the generous support of the Shaw Foundation Hong Kong and many alumni and supporters, the new facility is a valuable addition to the local cultural scene and a magnet for arts, creativity and community-wide partnerships. Effectively a "classroom beyond the classroom", its ultimate aim is to further enrich HKUST's humanistic development.



On student residential life, the Jockey Club Global Graduate Tower, which comes with pioneering green and sustainable amenities, opened last year to accommodate 500 plus students. Our forthcoming 1,551-bed Jockey Club i-Village was also recognized with a prestigious industry award that reflected HKUST's commitment to creating a truly eco-friendly smart green campus while also fulfilling its pledge to allow all undergraduate students to enjoy at least one year of on-campus living experience.

Other major capital works developments include the Martin Ka Shing Lee Innovation Building and another new research block where the Li Ka Shing Institute of Synthetic Biology will be housed. Set to commence operations in a few years' time, both hubs will add capacity for research and knowledge transfer in emerging areas and expand our current 44,000-sqm lab space by more than 30%. We have also reconfigured a further 3,400 sqm of non-academic related space use for research and other academic purposes. Specific examples include our remodelling of the Lo Ka Chung University Centre for the relocating of our institutes of robotics and big data, and the launch of a new 254-seat Research Postgraduate Hub, etc.

Significant financial resources will be required to support and sustain these many initiatives and projects. In addition to the recurring support of the University Grants Committee (UGC), we have been able to secure additional funding via multiple sources, including the Hong Kong Research Matching Grant Scheme, donation pledges, technology transfer income, and additional government financial support for infrastructure development. As of June 30, 2022, the University maintained a healthy reserve of HK\$12bn to ensure its continued ability to keep pace with the rapid development. In consecutive rounds, HKUST has won UGC's favourable reviews and increased student numbers for the triennium block grant applications. Combining new and expanded academic programs, both disciplinary and cross-disciplinary, expanded faculty size and depth, modernized research facilities, fusion of science, technology with social studies and human creativity, and highly visible escalation of knowledge transfer including entrepreneurship and industrial collaboration, our HKUST 2.0 vision remains very much on track.

I will conclude my Presidency of HKUST in mid-October. As a member of the University since 2010, I bid a fond farewell to my many colleagues, students, alumni and friends for your collaboration, support and partnership.

In closing, I would also like you to join with me in wishing my successor, Prof. Nancy Y. IP, and her administrative team every success as HKUST begins the next chapter in its journey.

President
Prof. Wei SHYY
JP

University Management



top row

Prof. Wei SHYY

President

bottom row from left

Prof. Nancy Y. IP

Vice-President for Research and
Development (Until March 31, 2022)

President-Designate (From May 20, 2022)

Prof. Tim CHENG Kwang-Ting

Vice-President for Research and
Development (From April 1, 2022)

Prof. PONG Ting-Chuen

Vice-President for Administration
and Business

Prof. WANG Yang

Vice-President for Institutional
Advancement



WE



TOGETHER EMPOWER



HKUST 30TH Anniversary Celebratory Events



Arts and
Creativity



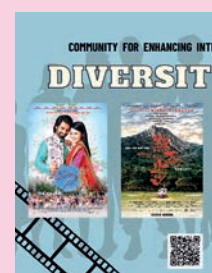
02



01



03



Social Engagement



07 InnoCarnival 2021

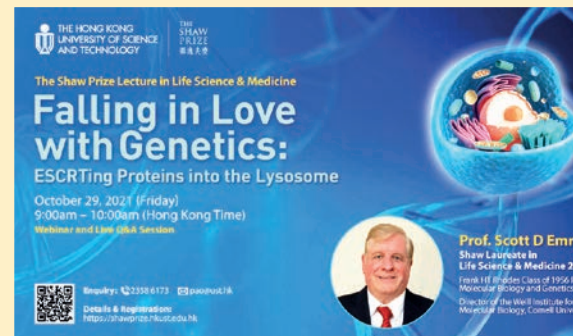


08 Conversation with National Team Winter Olympians



09 Changemaker 30

10 The Shaw Prize Lecture in Life Science & Medicine



04



05



06

- 01 The Opening Ceremony of the Shaw Auditorium
- 02 Cosmopolis Festival
- 03 HKSAR 25th Anniversary & HKUST 30th Anniversary Celebration Photo and Art Exhibition
- 04 Diversity = Strength: Film Festival
- 05 The Power of Diversity
- 06 HK Phil x HKUST Shaw Auditorium Community Concerts





Community Cohesion





Innovation and Collaboration



HKUST 30th Anniversary website

- 11 The Opening Ceremony of HKUST(GZ)
- 12 The Melo Summit
- 13 HKUST-Sino One Million Dollar Entrepreneurship Competition 2022



16



17



19

- 14 Long Service Award
- 15 Ven. Chang Lin X Catherine Chau Pause and Breathe
- 16 HKUST 30th Anniversary NFTs
- 17 Virtual Run
- 18 Alumni Funday
- 19 Bring Your Kids to Work Day
- 20 HKUST Engineering Alumni Summer Mix

20



Learning for Life

HKUST's forward-thinking approach to teaching and learning empowered the University to look beyond conventional academic disciplines to fuel leading talents for our fast-evolving world

UNLEASHING MULTIDIMENSIONAL TALENTS

The University strives to ensure its students are equipped with the knowledge and skills to make an impact on the world and its future. This saw a host of pioneering degrees and related programs introduced or planned over 2021-22. Among them, a BSc in Sustainable and Green Finance was launched, marking Hong Kong's first program of its kind. The pioneering degree nurtures green financial expertise, which can spur the development of Hong Kong as a

prominent green financial center, and support national expansion into the green finance market through the development of top global talent. Topics covered include Environmental, Social, and Governance (ESG), impact investment, sustainable and green project financing, sustainable and green instruments, and product development, among others.

With media distributed by electronic devices having a rapidly increasing influence on how the world communicates, an Extended Major in Digital Media and Creative Arts commenced under the University's distinctive "Major + X" degree framework. The Major + X concept, another first for Hong Kong, got underway the previous year to allow undergraduates to integrate knowledge from their own majors with emerging hot topics within an interdisciplinary program structure. The initial "X" was artificial intelligence. Under the digital media option, students can acquire the technical



HK's first BSc in

Sustainable and Green Finance

skills and artistic insights to apply computing and media technologies across a variety of digital media, including animations, special effects, internet applications, and wireless and mobile media.

Given increasing demand for graduates who can utilize the latest information and communication technologies to improve urban lifestyles and sustainability, a Minor Program in Smart City was approved for launch in Fall 2022. The Minor will deliver the fundamental knowledge and hands-on experience to nurture professionals in the field.

2021-22 also brought several new postgraduate programs to deepen the pool of innovation and financial talents. They included the MPhil/PhD in Integrative Systems and Design, uniquely devised to emphasize a confluence of form and function for user-oriented products and services; Master of Public Management to provide interdisciplinary perspectives on policy, management, and governance issues to prepare mid-career staff for senior roles in the public sector;



Doctor of Business Administration for leaders, senior executives and entrepreneurs to enhance their research capabilities and assist insights for business and societal impact; and Digital MBA for Global Leaders Program, which offers an online learning mode for professionals who need more schedule and geographical flexibility, and brought the launch of Asia's first virtual classroom.

SPEARHEADING CROSS-CAMPUS LEARNING

When HKUST(GZ) opens in September 2022, more than 500 postgraduate students will begin their studies at the new campus. Abundant cross-campus opportunities will also be available to foster collaboration among students from both campuses. As such, over 2021-22, intensive planning and development of a number of postgraduate programs got underway.

Jointly developed by both campuses, the MPhil/PhD in Public Policy is being integrated with the MPhil/PhD in Innovation, Policy and Entrepreneurship, reflecting the cross-disciplinary nature of the two programs and exploring the linkages between the three areas in addressing global challenges and the development of society. Alongside, the MSc in Technology and Policy and a revamped Master of Public Policy are being designed to complement each another. While the latter will focus on public policy theories and practices from a traditional science perspective, the former will concentrate on equipping students with cutting-edge knowledge in technology sectors and bridging the divide between industry and government.

Exclusive to HKUST(GZ), the Master of Business Administration in Innovation and Entrepreneurship aims to cultivate new generations of entrepreneurs, venture capitalists, and business leaders. The program integrates business with science and engineering, and provides students with practical experience of venture capital investment and entrepreneurship. Unlike traditional MBAs, which are oriented toward general management, the new program emphasizes cross-disciplinary and project-based training for business administration. Another frontier HKUST(GZ) master's

program is the MSc in Data-Centric Artificial Intelligence Technology. This targets students seeking academic literacy in big data and AI, hands-on project experience, and industry internships with the goal of becoming future technology leaders, as well as big data and AI professionals aspiring to move ahead in their careers.

Other initiatives to build cross-campus interaction include the development of a funding scheme under the “Unified HKUST, Complementary Campuses” framework to enhance collaboration. The Research Postgraduate Integration Fund will offer support for student supervisors who participate in cross-campus joint supervision of HKUST(GZ) students on single degree programs while guiding principles for cross-campus joint appointments were established to facilitate faculty in undertaking cross-campus research postgraduate student supervision.

ENHANCING HOLISTIC EDUCATION

Beyond the classroom, undergraduates and postgraduates were empowered to innovate through the “Changemaker 30” campaign. Organized as part of the University's 30th Anniversary events, the program helped close to 300 students explore different social issues and sharpen their changemaking skills to



Undergraduate and Postgraduate Scholarships Totaling

\$93M



positively impact the community and support United Nations Sustainable Development Goals. In total, 98 projects were launched, including five student-led initiatives. Endeavors ranged from community service to action plans for social good.

The return of activity on the sports front following COVID-19 restrictions allowed student sports leaders to undertake a comprehensive training program in summer 2021, going on to form a group of sports tutors to put project ideas into action. These included a series of “Experience Sports Workshops” in 12 sports, including dodgeball, fencing, and karate, as part of official orientation happenings to welcome new students. The University’s athletes also made exceptional efforts to train and compete, despite intermittent suspensions of such activities due to the pandemic. A total of 35 sports teams participated in 20 inter-varsity sports competitions over the year, taking home multiple awards.

SUPPORTING STUDENTS’ STUDIES AND WELL-BEING

Scholarships totaling around \$93 million were awarded to outstanding HKUST undergraduates and postgraduates in recognition of a diverse range of talents, an increase of 10% year on year. A total of \$9.6 million in bursaries and loans were also extended to students who needed support to alleviate financial pressure or tide them over unforeseen emergencies.

Among new scholarship initiatives, the HKUST RedBird PhD Award Scheme was enhanced to include a recruitment award for top PhD students, including Hong Kong PhD Fellowship Scheme (HKPFS) awardees, and an academic excellence award for current PhD students with outstanding academic performance. Over



400 new and current PhD students received RedBird awards in 2021-22. In addition, 80 HKPFS recipients were admitted to HKUST, the highest number among the eight University Grants Committee (UGC)-funded institutions.

As the number of research postgraduate students continue to increase at HKUST and to create an open and encouraging environment for exchange among students from different disciplines, a Research Postgraduate Hub (RPg Hub) was established in mid-2022. In its first phase, the RPg Hub encompasses office space, meeting areas, and over 250 desk spaces.

Given the pandemic continued to add to the challenges of students’ lives, counseling support was strengthened and a total of 5,336 (+18%) personal counseling sessions were conducted through flexible counseling platforms in 2021-22. In peer-to-peer support, the Peer Companion Training Program was scaled up from 70 members to 139 (+98.5%), while about 1,000 students have now joined the Online Peer Support Network to mingle, connect with others, gain peer support, and raise awareness of mental wellness. Animals have also proved effective in easing stress, with over 600 students benefiting from therapy dog sessions in Fall 2021.

Meanwhile, activities to raise awareness of those with special educational needs (SEN) and to promote diversity led to the large-scale HKUST x Dustykid “Be a Star” Exhibition and the SEN Festival on campus.



EXPANDING GLOBAL HORIZONS

Connecting up with the world to boost opportunities for undergraduates and postgraduates to extend their perspectives beyond Hong Kong, the University signed new exchange agreements over 2021-22 with educational institutions around the world. Examples included University of Bayreuth (Germany), University of Helsinki (Finland), and VinUniversity (Vietnam). In addition, the exchange arrangement with Singapore University of Technology and Design expanded from School-level to University-wide. By June 2022, HKUST's global exchange partnership network totaled 235 worldwide.

Suspension of the student exchange program caused by COVID-19 was also lifted during the year, with both inbound and outbound exchanges resuming in the Spring Term. Despite Hong Kong's on-going pandemic-related restrictions, around 150 non-local students participated in HKUST's inbound exchange. Meanwhile, around 400 HKUST students joined outbound exchanges, which was close to pre-pandemic levels. At the same time, the

University continued to develop and offer virtual study abroad options, providing around 300 students with the opportunity to study outside HKUST without the need for in-person travel.

GAINING A HEAD START ON CAREER OPTIONS

The University's strong connections with industry partners and alumni employers resulted in expanding job and internship opportunities for students, with the number of job postings on the HKUST-exclusive job board increasing 42% year-on-year to almost 10,000. Postings included rising opportunities in the Greater Bay Area.

In its second year, the STEM Internship Scheme for university students, supported by Hong Kong's Innovation and Technology Commission, engaged 921 HKUST interns, once again the highest among all participating universities. Over 60 employers joined the vMosaic Engineering virtual job fair in October 2021, a new event in response to the burgeoning demand for talents in technology and engineering fields.

In addition, mentorship opportunities grew, with a Memorandum of Understanding signed between the University and the Hong Kong Monetary Authority to advance fintech research, applications, and talent development. A fintech mentorship program also took place with J.P. Morgan. The program teamed students from business, science, and engineering majors with industry experts to solve actual business problems.

FOSTERING AN ENTREPRENEURIAL MINDSET

Building technology transfer opportunities and an entrepreneurial spirit, the University and Beijing Institute of Collaborative Innovation (BICI) established the HKUST SENG-BICI Entrepreneurship PhD Program. Under this program, engineering students can pursue doctoral studies in stipulated key technology areas at HKUST and enhance their experience through learning and training opportunities in innovation and entrepreneurship at BICI.

In September 2021, HKUST joined the “Level Up Digital Talent Program” launched by Facebook as a lead partner to nurture future entrepreneurs’ digital skills. The University has used Facebook’s Blueprint digital marketing materials to help develop a curriculum for HKUST students and those from partner universities (Lingnan University and Singapore University of Technology and Design). The goal is to provide participants with opportunities to deepen their skills in this area using real-world scenarios.


To boost start-up development and progression, the HKUST Entrepreneurship Center (EC) inspired over 1,500 students and alumni to participate in

EC-organized competitions, including hackUST 2022 and the HKUST Social Entrepreneurship Climate Challenge 2022.

Another flagship entrepreneurship event is the HKUST One Million Dollar Entrepreneurship Competition. The Grand Final of the 2021 contest, held in Nansha in December 2021, was won by X-MAGTECH, a start-up from Beijing specializing in quantum sensing technology and selected as national champion by a jury consisting of 10 HKUST professors and 10 investors. In 2022, the Hong Kong regional contest was opened up to overseas as well as local contestants for the first time, attracting over 700 participants from 175 teams and nine countries and regions. The winner was AutoSafe, co-founded by civil engineering postgraduates and faculty from HKUST. The company provides a computer vision-based solution for automated site condition and safety monitoring for construction project owners, such as governments or developers.

HKUST also became the university with the largest number of participants and start-up teams to receive championships and awards at Hong Kong’s first City I&T Grand Challenge. The event was organized by the Innovation and Technology Commission and Hong Kong Science and Technology Parks Corporation, with the focus on environmental sustainability and social connectivity. HKUST teams won three championships, two innovation awards, and a “most favoured” honor in the Open and University/Tertiary Institute sections.





The University's array of research projects and knowledge transfer, including an increasing focus on emerging technologies and smart solutions, is accelerating local and global innovation in definitive areas of impact for future lives

FUNDING TO POWER INNOVATION

HKUST continued to spur discovery and generate innovation to advance the wider society in 2021-22 through engagement in 1,743 new and on-going research projects. Research encompasses areas of key societal impact, including biomedical development, COVID-19, and volatile organic compounds, as well as emerging areas, such as green finance, AI-chip design, and hydrogen fuel cells. They received a cumulative total of \$1,082.8 million in funding.

RGC Schemes

The Research Grants Council (RGC) remained one of HKUST's largest research funding sponsors, providing \$210.3 million for 219 new projects in 2021-22. The University achieved application success rates of 43% for the General Research Fund, and 47% for the Early Career Scheme, which together resulted in the highest combined success rate among the eight University Grants Committee (UGC)-funded institutions.

Two cross-institutional research projects led by HKUST received significant support from the RGC's prestigious Theme-based Research Scheme. Prof. XIE Ting (Life Science) was granted \$66.4 million to develop stem cell-based therapies to combat human diseases by investigating stem cell activity regulation in intact tissues. Prof. ZHANG Chu (Finance) secured funding of \$48.15 million to lead an interdisciplinary team to collaborate with industry and government units to develop green finance talent and policy recommendations, along with technology prototypes and proof-of-concept financial products.

Lab to Market



External Funding Totaling

\$1,082.8M

Granted to

1,743 Projects



The University's Collaborative Research Fund (CRF) applications across diverse fields resulted in five HKUST-led projects being awarded a total of \$31.32 million. Three of the studies will respectively look into enhancement of diabetes treatment and cost reductions, water infrastructure improvements in the Greater Bay Area, and acceleration of recovery after a central nervous system injury, for example, to the spinal cord. Another will extend the scope of the University's Biological Cryo-EM Center to cryo-electron tomography studies to assist researchers in structural biology and structure-based drug development. The fifth, supported by funding from the second-round of the CRF's COVID-19 and novel infectious diseases scheme, will enable HKUST researchers to tackle the challenge of shortages of personal protective equipment (such as face masks) and inefficiencies in the allocation of raw materials (such as meltblown nonwoven fabric) during a pandemic.

In addition, an HKUST-led proposal signed by the eight UGC-funded universities recommended regularization of a separate one-off COVID-19 funding scheme into a research fund tackling societal challenges. The proposal was endorsed by the RGC in December 2021. This resulted in the establishment of the new Strategic

Topics Grant fund, set to be launched in August 2022, with \$150 million being earmarked.

Further recognition of HKUST researchers' ability to make a difference brought funding of \$6.86 million for a Research Impact Fund project led by Prof. YEUNG Dit-Yan (Computer Science and Engineering). The project will develop spatiotemporal graph neural networks (GNNs) for trend forecasting, leveraging new machine learning techniques. This will include working with the Hong Kong Observatory and Hongkong Electric Company to develop models for forecasting the weather and electricity power loads.

Innovation and Technology Commission

The Hong Kong government's Innovation and Technology Commission (ITC) also provides invaluable funding support for HKUST research, awarding a total of \$141 million for 34 applied projects in 2021-22. Among the research proposals funded, a platform project led by Prof. Alexis LAU (Environment and Sustainability/ Civil and Environmental Engineering) was granted \$18.03 million to establish a world-class volatile organic compounds (VOCs) laboratory at HKUST.

The lab will assist the Hong Kong, Guangdong, and Macao governments in identifying key reactive VOC species and developing coherent ozone control policies in the Greater Bay Area. The ITC's Partnership Research Programme extended support to six new HKUST projects, with an endeavor led by Prof. Nancy Y. IP (Life Science), in collaboration with Morningside Life Science Limited and the Chinese University of Hong Kong, receiving the largest amount at \$16.04 million. The team will undertake a trial to study the effects of trazodone, an antidepressant, on biomarkers for Alzheimer's disease (AD) and neurodegeneration in certain elderly patients and explore the potential for therapeutic pathways that could delay progression from mild cognitive impairment to AD.

Green Tech and Smart Traffic Funds

Three leading-edge HKUST projects received grants totaling \$18.86 million in the inaugural round of the Environmental Protection Department's Green Tech Fund. They included research led by Prof. SHAO Minhua (Chemical and Biological Engineering) to reduce the cost and improve the performance and life span of hydrogen fuel cells, which produce zero carbon emissions. A project coordinated by Prof. CHEN Guanghao (Civil and Environmental Engineering) will trial a pilot system to reduce the carbon footprint of biological landfill leachate treatment at local sewage treatment works. In the third proposal, Prof. Francesco CIUCCI (Mechanical and Aerospace Engineering) will develop active flow membraneless electrolyzer technology to increase hydrogen cost-effectiveness.

Separately, the Hong Kong government's Smart Traffic Fund awarded \$7.98 million for further development of HKUST's Dynamic Intersection Signal Control Optimization project, led by Prof. LO Hong-Kam (Civil and Environmental Engineering). The research extends the software platform prototype, seeking to bring an adaptive traffic control system to Hong Kong roads to optimize flow and minimize delays.

Mainland Support

HKUST continued to obtain substantial research funding from Mainland sponsors, including the Ministry of Science and Technology, Nansha District People's Government, and Shenzhen Science and Technology

Innovation Strategy Research and Technology Transfer Promotion Center. During the reporting period, Nanhai People's Government of Foshan provided \$52.07 million for 23 new projects, while another \$17.05 million was secured from the National Natural Science Foundation of China (NSFC) for 21 projects commencing in 2021-22. The HKUST Shenzhen Research Institute received funding for 11 government and three commercial research projects, with a total contract value of RMB63.53 million.



RESEARCH HUBS THAT DRIVE BREAKTHROUGHS

HKUST continuously vitalizes its research and innovation in line with the latest science and technology advancements. During the reporting year, six research units were established, bringing the total number to 66. The newly established research units include one research institute, three centers, and two joint labs:

- Brain and Intelligence Research Institute
- Center for Medical Imaging and Analysis
- Center for Securities Analysis with Financial Technology
- Sports Engineering Research Center
- HKUST-HKPC Joint Lab on Industrial AI and Robotics Research
- HKUST-MTR Joint Research Lab



INNOHK Centers

HKUST is leading the way in three of the Innovation and Technology Commission's flagship InnoHK Clusters: the Hong Kong Center for Neurodegenerative Diseases (HKCeND); AI Chip Center for Emerging Smart Systems (ACCESS); and Hong Kong Center for Construction Robotics (HKCRC). All are located in Hong Kong Science Park and will raise Hong Kong's profile as a world-leading hub for research partnerships with distinguished institutions and Mainland organizations.

HKCeND

is a strategic collaboration between HKUST, Stanford University, and University College London. Researchers have made promising breakthroughs with the potential to transform management of Alzheimer's disease, including the identification of new blood-based biomarkers and an AI-based scoring system that enables risk prediction, early detection, and classification of the disease. The Center was highly honored to receive President Xi Jinping during his visit to Hong Kong for the 25th anniversary of the establishment of the HKSAR.

ACCESS

is Asia's first transnational R&D consortium on AI chip design. The leading end-to-end research consortium is accelerating the realization of ubiquitous AI applications in society by developing novel AI chips that can improve performance and energy efficiency by up to 1,000 times and generating solutions to help companies quickly deploy their own customized AI-driven applications. In June 2022, ACCESS signed a Memorandum of Understanding (MoU) with Hong Kong Applied Science and Technology Research Institute to spur collaboration.

HKCRC

HKCRC is bringing robotics, AI, and other advanced technologies to the construction industry to address immediate real-world challenges. For example, in early 2022, as the fifth wave of the pandemic hit Hong Kong, HKCRC leveraged its research findings to assist the rapid building of Mainland-supported quarantine facilities at Hong Kong's Penny's Bay and Kai Tak Pier. In addition, the Center will develop projects that focus on construction design and planning, intelligent construction, prefabrication manufacturing, and AI platforms for construction.

USING INNOVATION TO BENEFIT SOCIETY

Bringing Ideas and Concepts to Life

During 2021-22, HKUST and ASTRI signed a pioneering MoU, whereby IP generated by R&D collaboration between HKUST and ASTRI would be jointly owned by both parties, marking the first time an applied research institute and a university in Hong Kong have officially collaborated using this approach. Under this new IP framework, both parties will work together to commercialize their smart city R&D deliverables, for example, research on advanced 5G applications and third-generation semiconductors.

Separately, the University's Bridge Gap Fund received 29 applications and supported 14 HKUST faculty-led projects in 2022 in areas such as communications, biomedicine, and internet of things. The fund was launched in 2020 to strengthen the commercialization of HKUST technology and create societal impact while stimulating the creation of viable IP, start-ups, and collaborations with industry.

Boosting Start-Up Support

On-going participation in the government's Technology Start-Up Support Scheme for Universities (TSSSU)

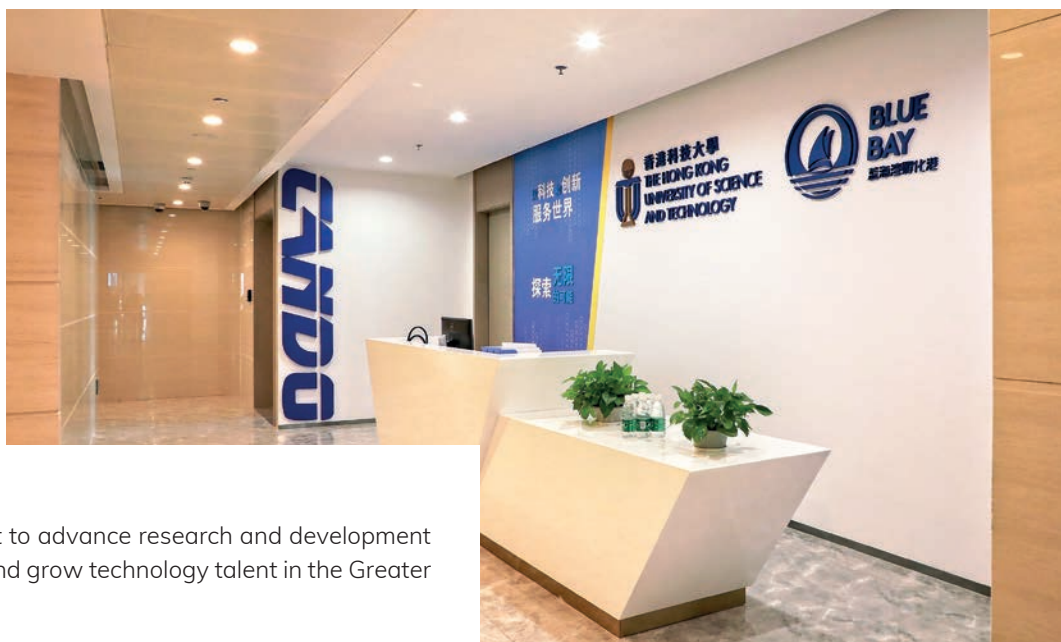
provided support for HKUST start-ups. In 2021-22, 74% of the businesses formed by the 14 HKUST TSSSU fund awardees were based on University technologies. They also received external funding of around US\$12 million, an increase of 300% from the previous year.

The University's own HKUST Entrepreneurship Fund (E-Fund) also continued to build young companies' development and communication with potential investors as well as funding. E-Fund's Co-Investment Partners rose to 20 during the reporting year, managing an investment pool of more than \$14 billion and investing approximately \$25 million in E-Fund portfolio companies. The HKUST E-Fund Portfolio Showcase 2021 and HKUST Start-Up Showcase 2022 gave E-Fund start-ups a valuable opportunity to pitch their innovations to the University's investor and industry partner network.

Spurring Greater Bay Area Entrepreneurship and Collaboration

HKUST signed a strategic MoU with Hong Kong Science and Technology Parks Corporation (HKSTP), paving the way for the establishment of the Hong Kong Science Park and Guangzhou Nansha Co-incubation Base in Nansha. The base will connect HKUST and HKSTP to the region, with high-potential start-ups, entrepreneurs, and young talents from Hong Kong being able to "land" in Nansha and immediately connect up to the local innovation ecosystem while Mainland ventures and talents can do the same in connecting to Hong Kong.





The move is set to advance research and development opportunities and grow technology talent in the Greater Bay Area.

The University's Blue Bay Incubator in Shenzhen has established an effective ecosystem, with four schemes to support HKUST entrepreneurs and start-ups at different stages. In 2021-22, 42 start-ups were being incubated at Blue Bay, with eight projects receiving total investment of nearly RMB200 million. The incubator was also named an Excellent Institution for Innovative Entrepreneurship in the Shenzhen Innovation List, organized by the Shenzhen Media Group. Separately, the Foshan Center for Technology Transfer and Commercialization has supported 14 start-ups since its opening in 2020.

HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute, located in the Shenzhen-Hong Kong Science and Technology Innovation Cooperation Zone (also known as the Lok Ma Chau Loop), gained two significant recognitions in January 2022 when it was approved as a supporting institution by the NSFC, and as a Shenzhen Postdoctoral Innovation Practice Base by Shenzhen Human Resources and Social Security Bureau.

HIGH IMPACT RESEARCH RECOGNIZED NATIONALLY

In addition, numerous HKUST faculty research projects with significant societal and scientific value were honored at the national level over 2021-22. Dean of HKUST Fok Ying Tung Graduate School, Chair Professor Charles NG Wang-Wai (Civil and

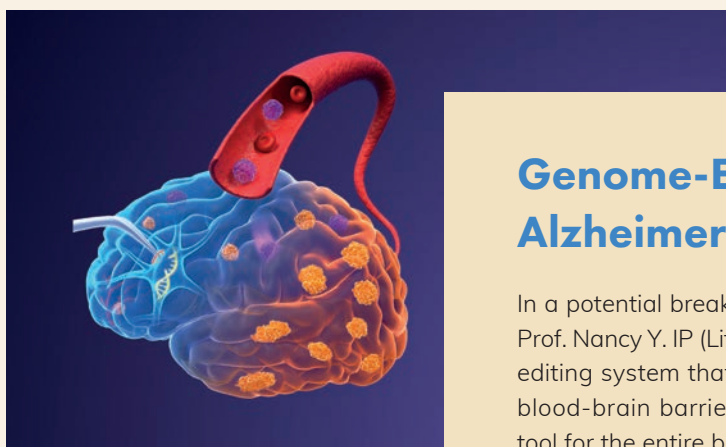
Environmental Engineering) and CLP Holdings Professor of Sustainability received a prestigious 2020 Natural Science Award (Second Class) from the State Council in November 2021 for his outstanding contributions to mitigating landslides and natural disasters in unsaturated soils caused by human activities and climate change. The award-winning research project led by Prof. Ng, who is also Vice-President of HKUST(GZ) and recently elected as a Fellow of Royal Academy of Engineering, focused on developing a novel "State-dependent Constitutive Framework for Unsaturated Soils and Its Applications", providing a profound theoretical basis for safer building of infrastructure, such as landfills and embankments, and helping to overcome challenges brought by climate change.



The NSFC also recognized four next-generation scientists at HKUST in the highly competitive Excellent Young Scientist Fund (Hong Kong and Macao) 2021. The diverse explorations of Prof. SUN Fei (Chemical and Biological Engineering), Prof. ZHANG Jingdi (Physics), Prof. JIN Tianling (Mathematics), and Prof. WANG Zhe (Environment and Sustainability) cover smart hydrogels for medical use, quantum materials, elliptic and parabolic equations, and pollution in the Greater Bay Area.

Research Excellence

Highlights of HKUST's curiosity-driven breakthroughs and mission-encouraged solutions delivered by University researchers over 2021-22



Genome-Editing Boost for Alzheimer's Therapy

In a potential breakthrough for people living with Alzheimer's disease, Prof. Nancy Y. IP (Life Science) and her team have developed a genome-editing system that not only overcomes the challenge of crossing the blood-brain barrier, but also delivers an optimized genome-editing tool for the entire brain. The strategy uses a newly engineered delivery vehicle that achieves efficient brain-wide genome editing through a single non-invasive intravenous administration. This effectively disrupts familial Alzheimer's disease (FAD)-inflicted mutations in mouse models and ameliorates Alzheimer disease pathologies throughout the whole brain, paving the way for novel therapeutic developments.

Gaining Quantum Control from Particle Loss

Manipulating a quantum system requires subtle control and zero imperfect operations to avoid scrambling the useful information encoded in the quantum state. Among the most common detrimental processes is the loss of particles, an issue long seen as an enemy of quantum control and avoided through isolation of the system. Prof. JO Gyu-Boong and Prof. Jensen LI Tsan-Hang (Physics) have now demonstrated a way to control the quantum state through the loss of particles in an atomic quantum system, offering a fresh pathway to the realization of unprecedented quantum states.



Solving Decentralized Finance Challenges

Prof. Kani CHEN (Math) has derived four protocol solutions for decentralized finance (DeFi) challenges: Degis is a decentralized insurance platform, offering an innovative protection ecosystem and product matrix, including models for decentralized autonomous organizations (DAOs) and non-fungible tokens (NFTs); Furion provides price references for NFTs based on historical performance, concentrates liquidity of NFTs, and connects them to other DeFi services to assist calculation and use cases; Prestare is a credit scoring platform that delivers a solution to over-collateralization, one of the leading shortcomings of DeFi; and Ovisor is a decentralized investment aggregator, using advanced analytics and algorithms to track market data and build portfolios and indices for cryptocurrency investors to choose from, saving effort and time.

Advancing Catalysts for Hydrogen Fuel Cells

Prof. SHAO Minhua (Chemical and Biological Engineering) and his research team have discovered new mechanisms for activity improvement of bimetallic catalysts for hydrogen generation and fuel cells. Through combined electrochemical, spectroscopic, and theoretical studies, the team has shown how surface ruthenium atoms can improve hydrogen evolution and oxidation activities of platinum. The discovery paves the way for rational design of more advanced catalysts that reduce the use of precious metals in water electrolyzers and hydrogen fuel cell applications.



Banishing Bad Smells

Researchers led by Prof. YEUNG King-Lun (Chemical and Biological Engineering/Environment and Sustainability) have devised an inexpensive and effective multifunctional hydrogel for odors from drainage sites and antimicrobial control in flushing systems. The MalOdor-Control hydrogel formula works by killing odor-causing microbes and preventing emissions of odorous gases emanating from manholes, nullahs, water channels, and other sites. The team's antimicrobial hydrogel, AMGel, can eliminate bacteria and viruses in flush water, including the SARS-CoV-2 Omicron strain. It is being trialed at public housing blocks and an elderly care home.

In Vivo Imaging Sheds Light on Quantum Injuries

A research team led by Prof. QU Jianan (Electronic and Computer Engineering) and Prof. LIU Kai (Life Science) has developed an innovative technology for in vivo imaging of the biological processes involved in the injury and repair of spinal cords. Currently, there is no effective method to capture the injured spinal cord at the cellular process level without activating an immune response. However, using their iodixanol-based optical clearing technique, the team has achieved long-term repetitive, stable, high-resolution, and inflammation-free in vivo spinal cord imaging in mouse models, assisting disease process investigations and facilitating development of potential treatments for such injuries.





Gauging Vaccine Effectiveness in Data-Deficient Countries

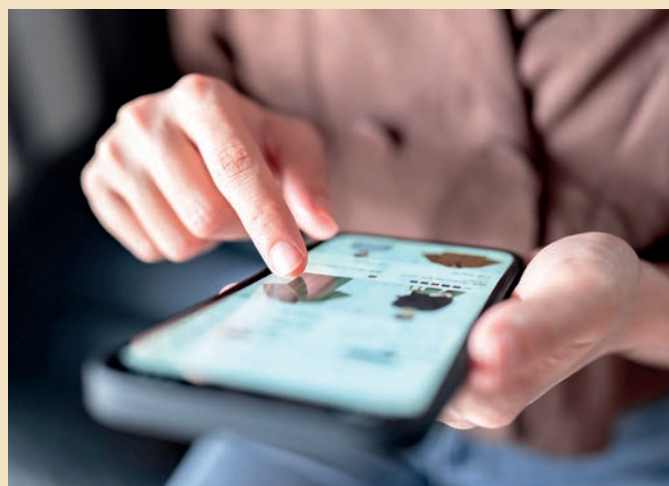
Prof. Abhiroop MUKHERJEE (Finance), Prof. George PANAYOTOV (Finance), PhD student Harsha DUTTA (Finance), and colleagues demonstrated how to measure vaccine effectiveness (VE) in the absence of adequate public health data. Applying a simple statistical tool known as a Regression Discontinuity Design (RDD) model to the analysis of public health data in India, the team found that even one dose of the vaccines used was 55% effective against infection and 80% against hospitalizations during the Delta wave in early 2021. This alternative method of measuring VE enables data-deficient countries to keep informed when formulating vaccination and immunization policies.

Internationalizing the Renminbi and Its Impact

In his book, *One Currency, Two Markets: China's Attempt to Internationalize the Renminbi* (Cambridge University Press), Prof. Edwin LAI (Economics) analyzes the future of the international monetary system and the rising importance of the RMB. The study applies economic theories accessible to laymen to establish that financial development and openness are crucial for RMB internationalization to succeed, and points out how Hong Kong plays an important role. Employing the "gravity model", the book predicts quantitatively that, by 2030, the RMB can be a distant third payment currency, after the US dollar and euro but surpassing the British pound sterling.

How Online Advertising Affects Planned Purchases

Prof. Ralf VAN DER LANS (Marketing) and colleagues published research that tested the hypothesis that online advertising can speed up product search by visually suppressing competing products. Three eye-tracking and two search-time experiments revealed that online advertisements with an image of the target product improved search speed by about 25% for websites without systematic visual organization of products. The results provide new perspectives on online advertising effects, the fundamental search processes through which these accrue, and how advertisements can support consumers in making planned purchases.



Exploring Characteristics of Chinese Human Capital

A study on “Elite Chinese University Students, 1920-2020” by Prof. James Z. Lee (Social Science and Humanities) and co-researchers used a big data approach to compare over 5,000 individuals who comprise the elected academicians in the Chinese Academy of Sciences and Chinese Academy of Engineering, and the selected experts of the China Association for Science and Technology, with 300,000 elite university graduates in the People’s Republic of China and Republic of China to differentiate the distinctive characteristics of Chinese human capital. The research analyzed spatial and social origins, identifying patterns of academic performance, educational opportunity, and career aspiration and their different impact.



History of Late Qing Cantonese Migrants

Prof. Steven B. MILES (Humanities) published *Opportunity in Crisis: Cantonese Migrants and the State in Late Qing China* (Harvard University Asia Center), a monograph exploring the history of late Qing Cantonese migration along the West River basin during war and reconstruction, and the impact of those developments on the relationship between state and migrant elites on the Guangxi frontier. The book places Cantonese upriver and overseas migration within the same framework, reconceiving the late Qing as an age of Cantonese diasporic expansion rather than one of state decline.

Insights on How to Mitigate Urban Haze

Prof. WANG Zhe (Environment) worked with a global research team to expand understanding of haze pollution over Hong Kong and Mainland megacities by revealing the significant role of anthropogenic low-volatility organic vapors on secondary organic aerosol (SOA) formation. SOAs contribute a significant fraction to such air pollution in urbanized regions. A comprehensive study in Hong Kong was carried out concurrently with Mainland and international researchers in Beijing, Nanjing, and Shanghai, leading to novel insights for effectively mitigating urban air pollution issues and easing related health effects.



Connecting People and Communities

From healthier lives and eco-improvements to the nurturing of tomorrow's technology stars, HKUST faculty, students, and staff have used innovation to positively impact the wider community

ENHANCING HEALTH AND WELL-BEING

With growing demand for novel health tech tools during the pandemic, Prof. Richard SO (Chemical and Biological Engineering/Industrial Engineering and Decision Analytics) and his students formed start-up company PanopticAI to develop camera-based technologies for an innovative health and wellness monitoring app. Using the camera on a smartphone, tablet, or computer, the AI software can check users' vital signs, including heart rate and variability, respiration rate, blood pressure, and oxygen saturation through capturing subtle changes of coloration in their skin due to changes in blood flow. Mental wellness indicators such as stress and energy level readings can also be obtained. A pilot scheme deploying the technology was carried out in elderly homes, pharmacies, and healthcare institutions across Hong Kong over Spring 2022. Seniors, pregnant women, and people with chronic illnesses are some of the groups expected to benefit.





In another step to improve community health, the Institute for the Environment (IENV) team has been helping Hong Kong citizens monitor air quality and their exposure to pollution. First released in 2019, the PRAISE-HK personalized real-time air quality information app enables people to choose clean air routes by monitoring air pollution variation down to street level. Phase 2 (PRAISE-HK-EXP) was released in November 2021, offering an air pollution exposure tracker that provides a detailed account of users' air pollution exposure risk budget accumulated throughout the day, including inside buildings, outdoors and different types of transportation. The tracker shows users when, where, and during what activity they receive the largest dose of air pollutants and offers suggestions on how they can reduce their exposure risks.

FOSTERING FINTECH AND GREEN FINANCE LEADERSHIP

Members of HKUST Business School conducted Hong Kong's first in-depth fintech development study to point the way for the city's evolution into a top international center in the area. The comprehensive, first-of-its-kind study takes reference from the experience of major global fintech hubs and outlines 10 opportunities that Hong Kong should leverage to enhance its own fintech capabilities. The study forms an integrated part of a four-year project examining the interplay between technology and financial services in the city. An HKUST-organized follow-up seminar on "Hong Kong's Way Forward to Becoming a Leading Global Fintech Hub: An Industry Dialogue" explored strategy setting, innovation and talent building with government and industry players.

The University is also actively boosting the city's presence as a sustainable and green finance leader. To introduce the concepts and scope involved, HKUST Business School Dean TAM Kar-Yan spoke at a knowledge enrichment webinar on the subject, arranged by the Hong Kong Economic Journal and Education Bureau. The event was specially curated for over 170 high school principals and teachers to learn more about the challenges and opportunities for talents in the rapidly emerging sector.



INSPIRING TOMORROW'S TECHNOSTARS

A variety of University-organized Science, Technology, Engineering, and Mathematics (STEM) activities over the year offered a dynamic way to inspire the younger generation to study and develop a career in these fields.

Among such experiential learning opportunities, HKUST students went on two field trips to the Tramways Depot at Whitty Street on Hong Kong Island to gain a first-hand perspective of how engineers and technicians work in a transportation company. Following the field trips, students gradually created a photorealistic 3D model of trams. The collaboration between the University and Hong Kong Tramways continued to expand into a STEM project in which students will assist in the development of STEM modules for high school students, using the 3D model as a teaching tool and reference.

Another program, created by the University and sponsored by the Lee Hysan Foundation, assisted secondary school students to use HKUST-patented technology to construct hi-NW light disinfection devices for deployment in elderly homes and community centers. Separately, HKUST's Academy for Bright Future Young Engineers arranged soccer robot workshops in July 2021 and January 2022 for secondary school students to devise football-playing robots as part of its new Bright Future Cup – Soccer Robot Competition.

To raise further awareness of air pollution and the need for original ideas to solve this issue, IENV partnered with the Clean Air Network to launch a city-wide Clean Air Challenge for secondary school students. The competition sought to nurture young people's critical thinking and ability to come up with creative solutions for air pollution. The programs reached over 460 secondary schools and received over 125 submissions for the competition.

BROADENING CREATIVE HORIZONS

Celebrations for the opening of the University's new Shaw Auditorium included two concerts featuring the Hong Kong Philharmonic Orchestra in November 2021. The well-received performances demonstrated how the state-of-the-art facility will boost the presence of the arts within HKUST and foster connections with the outside community. In May 2022, the young Hong Kong-born star pianist, Aristo SHAM, held a solo recital drawing hundreds to the auditorium.

On the visual arts front, an online Animators' Roundtable Forum on Hong Kong Animation took place over three days in May 2022, attracting around 1,300 animation professionals, faculty members, students and the public. The history and current directions of the art in business and education in Hong Kong were among the topics discussed during the event.

PRESERVING AND SHARING HONG KONG'S HERITAGE

HKUST's South China Research Center continued to introduce students and members of the community to the history and traditional culture of Hong Kong and conduct training sessions for others to learn to share such knowledge. Events took place throughout the year, ranging from docent tour training and student heritage services (Sept 2021-Feb 2022, 90 days/180 service-learning sessions) for Yimtintsai Village in Sai Kung, in the vicinity of the Clear Water Bay campus, to demonstration talks on local fisherfolk's ballads and heritage field trips to Tai O on Lantau Island.

ALUMNI PACEMAKERS

Supporting Peers and the Next Generation

A new online program was introduced to the HKUST United alumni networking community to engage, find mentors, connect with like-minded individuals, post events and job openings, as well as promote business and services offered by HKUST entrepreneurs. The HKUST United initiative was launched in 2020 to

support students and fresh graduates during COVID-19 by opening up opportunities to leverage the University's worldwide alumni network.

Strengthening Bonds

Helping to drive stronger alumni engagement, in-person events and programs started to resume over the year among HKUST alumni groups in Hong Kong, the Mainland, and internationally in periods when pandemic restrictions allowed such activities to take place. In August 2021, alumni and students congregated at Hong Kong Science Park for an Alumni Entrepreneurs Gathering. Participants were able to learn about the latest entrepreneur-related developments, showcase their products and services, and network with each other. In addition, the alumni app was enhanced to allow alumni entrepreneurs to connect with fellow graduates.

In other resilience-focused activities, HKUST Convocation put together a care pack to encourage students' positivity and well-being in recognition of the stress and other challenges that students have faced since the start of the pandemic.





Local to Global

With HKUST(GZ) set to open in Nansha in September 2022, the University prepared for the start of an exciting new era of development, while also deepening alliances and partnerships around the world

MAINLAND FOOTPRINT

The HKUST 2.0 Journey Begins

The Ministry of Education's final approval for the establishment of HKUST(GZ) in June 2022 provided the linchpin of the implementation of the University's HKUST 2.0 vision for growth. When HKUST(GZ) opens in Nansha, Guangzhou, on September 1, 2022, it will join the Clear Water Bay campus in delivering next-generation research, teaching and learning that build on the two campuses' synergistic academic structures and shared resources under the "Unified HKUST, Complementary Campuses" framework. Through HKUST 2.0, the two campuses will nurture forward-looking creative talents and pioneer a new way ahead in higher education, embracing both disciplinary-oriented and cross-disciplinary education and research endeavors in emerging and frontier fields.

With the State Council's plan to deepen the opening up of the Nansha district to promote comprehensive cooperation among Guangdong, Hong Kong, and Macao, and the new campus's proximity to the University's established Mainland platforms and industry partnerships in the area, HKUST(GZ) is also well positioned to drive knowledge transfer and commercialization of innovation and technology in the Greater Bay Area and beyond. Frontier areas of innovation encompassed include computational media and arts, electronic engineering, ocean science, and smart cities.

To prepare for the opening in September, the main structures of all HKUST(GZ)'s campus buildings in Phase I were topped out after more than 300 days and nights of construction work. The new Guangzhou campus will offer 15 postgraduate degrees in 2022, while the admission of undergraduate students will begin in 2023.

Alliances Deepen Academic Ties

Further afield, the University strengthened its academic and research footprint in the Mainland, with collaborations instituted between HKUST and leading academic institutions in diverse parts of the country over the year. These included Memoranda of Understanding (MoUs) signed with the University of Science and Technology of China and Harbin Institute of Technology, boosting ventures in education, research and innovation. HKUST also became a member of two Mainland-located university networks. The University teamed up with 32 other tertiary institutions – 21 from Jiangsu Province, eight from Hong Kong and three



from Macao – to form the Jiangsu-Hong Kong-Macao University Alliance to build up talent development and research in innovation and technology. Boosting networking further, HKUST joined the Shanghai-based Global Artificial Intelligence Academic Alliance (GAIAA). Founded in 2018, GAIAA was jointly established by top universities, including Tsinghua University, Shanghai Jiao Tong University, Massachusetts Institute of Technology, and Nanyang Technological University, connecting presidents and AI experts from world-renowned universities.

Partnerships Foster Innovation

Along with academic ties, the University widened its reach and cooperation with Mainland government bodies and businesses to take forward innovation and entrepreneurship.



In the Greater Bay Area, HKUST(GZ) and the Jiangmen Municipal People's Government signed a framework agreement, including the building of the Jiangmen "Double Carbon" Laboratory that will investigate both the carbon peak and carbon neutrality to accelerate green economic and social development. The partnership seeks to advance scientific research and technological innovation and create a national double carbon demonstration base. In addition, a framework agreement with Shui On Land on sustainability and smart city research in Guangzhou is set to further extend green technologies within the region.

To enhance start-ups' research and knowledge transfer capabilities, HKUST Fok Ying Tung Research Institute and Yuexiu Property Co, Ltd signed an agreement to jointly build the Yuexiu Guangzhou-Hong Kong Industry-University-Research Base in Qingsheng, where HKUST(GZ) is located. The R&D and production base will support new businesses from Hong Kong, Macao, and overseas in anchoring themselves in Nansha, and facilitate long-term collaborations with the University.

Beyond the Greater Bay Area, the University initiated a collaboration with Beijing's HICOOL Global Entrepreneur Summit & Competition to foster entrepreneurship and co-organize events. HICOOL, managed by Beijing Overseas Talents Association, was founded in 2020 as a one-stop platform to assist entrepreneurs and start-ups to base themselves in the capital.

INTERNATIONAL CONNECTIVITY

Strengthening Regional and Global Connections

Over 2021-22, HKUST renewed and initiated over 60 partnership agreements on academic exchange and research collaborations with universities around the globe. Among them, the University extended an MoU with the University of Strathclyde in Scotland to develop their strategic partnership and explore issues related to decarbonization, net zero wireless communication systems, and quantum technologies, among others. HKUST has also been actively involved in

education fairs, forums, annual meetings, and webinars related to its regional alliances. These include the Asian Universities Alliance's (AUA) Presidents Forum on the importance of Asian universities' building closer bonds for the future; and the Association of Asia-Pacific Rim Universities' (APRU) Virtual Annual Presidents' Meeting on the new normal for universities in the wake of the pandemic.

Moving Ahead on Emerging Priorities

During the reporting period, the University participated in numerous international forums to share its perspectives on key emerging challenges and trends.

HKUST President Prof. Wei SHYY spoke on "Does Innovation Have Boundaries?" at the hybrid Times Higher Education Innovation & Impact Summit 2022, together with the heads of the University of Auckland, Eindhoven University of Technology, and Royal Swedish Academy of Engineering Sciences. Discussions focused on issues related to equitable knowledge transfer from universities to industry globally. HKUST was the only university from Hong Kong to participate at the summit, which was held in Sweden. Separately, Prof. Kellee TSAI, Dean of the School of Humanities and



Social Science, took part in a discussion on “Universities and Cities: Partners in Resilience and Innovation” at the Times Higher Education World Academic Summit. Prof. Tsai provided her outlook on the ways that global universities can create mutually beneficial partnerships with the local community where they are based.

President Shyy also contributed an article to the World Economic Forum Agenda on “Universities Can Be ‘Living Labs’ for Sustainability” in which he set out his insights into the role of universities in creating a sustainable future.

Helping to draw top minds from around the world to HKUST(GZ) and the Greater Bay Area, the University won the bid to host the International Conference of Very Large Data Base in 2024 (VLDB 2024) at the Guangzhou campus. The conference aims to facilitate research and exchange of database technologies around the globe and is a top global gathering among the database community.

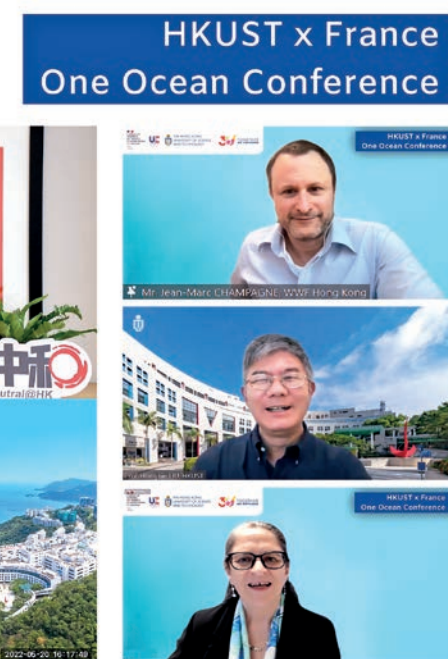
Stepping Up International Outreach

HKUST and the Consulate General of France in Hong Kong and Macao announced a new agreement to

strengthen and expand collaboration in sustainability, education, research, and innovation, building on the foundation of a successful partnership beginning in 2017. The agreement will promote further ties between HKUST, French universities, companies, and organizations through student and scholar exchanges, internship opportunities, joint research projects, and organization of events and conferences. Events during the reporting year included the HKUST x FRANCE One Ocean Conference and an HKUST x France lecture on brain plasticity and its significance today.

Activities involving other countries and regions have encompassed: a SPARK Talk on balancing academia and business with the British Council, featuring young entrepreneurs from HKUST and the University of Oxford; the Natural Treasures of the Visegrad Group photograph exhibition with the consulates of Hungary, Slovakia, Czech Republic, and Poland; and the Copernicus Webinar and Colloquium Series, held in collaboration with 20 universities, including Harvard University, University of Tokyo, and Tsinghua University.

Over 2021-22, HKUST senior management met with close to 30 Consuls-General in Hong Kong in person or virtually to keep up connections with different parts of the world, including diplomats from ASEAN, Egypt, France, Israel, Italy, Japan, Saudi Arabia, the Netherlands, Turkey, and the Visegrad Group, among others.





Best-in-Class Operations

Top management appointments and cutting-edge facility development are set to propel HKUST and its supportive campus environment to fresh levels of excellence

LEADERSHIP APPOINTMENTS READY TO STEER THE FUTURE

Internationally renowned Hong Kong scientist Prof. Nancy Y. Ip was appointed HKUST's fifth President in May 2022. The appointment, which marks the first time that a woman will take the helm of a university supported by the University Grants Committee, takes effect from October 19, 2022. Prof. Ip, The Morningside

Professor of Life Science, is a globally acclaimed molecular neuroscientist and recognized expert in Alzheimer's disease. A highly accomplished researcher, she has been elected to numerous academies and professional bodies worldwide, among them the Chinese Academy of Sciences and the US National Academy of Sciences. She is also the recipient of a host of prestigious awards and honors, including the National Natural Science Awards and the L'Oréal-UNESCO for Women in Science Award. In addition to being an eminent scientist, Prof. Ip has established a distinguished career as a university administrator, contributing to HKUST's development by holding many different senior management roles, including Vice-President for Research and Development and Dean of Science. With her deep knowledge and in-depth understanding of the University, Prof. Ip will lead the HKUST 2.0 journey that the University is embarking on, which will strengthen HKUST's impact and recognition as an academic and research powerhouse, and accelerate its contribution to society as a leading center of knowledge transfer and innovation.



In a second key management appointment, Prof. Tim CHENG Kwang-Ting took up the post of Vice-President for Research and Development from April 1, 2022. Prof. Cheng is a leading scholar in the fields of electronic design automation and computer vision and recognized internationally for the wide-reaching impact of his work. He has held many leadership roles over the course of his academic career, driving cross-disciplinary research collaboration and knowledge transfer. He has also been highly active in offering professional advice and services to the Institute of Electrical and Electronics Engineers (IEEE), of which he is a fellow. Before assuming his current position, Prof. Cheng was Dean of Engineering at HKUST for six years, making significant contributions to both research and education. In his new role, Prof. Cheng is keen to deepen HKUST's engagement and collaboration with industry and society, and to explore ways to further raise the University's R&D profile and global impact.



LANDMARK CAMPUS DEVELOPMENT

HKUST's much-anticipated Shaw Auditorium, a state-of-the-art multipurpose venue for large-scale University gatherings, arts and culture, and other activities, opened in November 2021. More than 500 guests attended the launch ceremony, with the Honorable Mrs. Carrie LAM, then Chief Executive of the HKSAR, giving a keynote speech. The four-story elliptical building, supported in part by a HK\$150 million donation from the Shaw Foundation Hong Kong, features around 10 different configurations, allowing flexible adaptation for a range of events. It was designed by Danish architect Mr. Claude Bøjer GODEFROY and completed in time to celebrate the University's 30th anniversary. A diverse array of activities, including the HKUST Congregation, concerts, and competitions have been held in the auditorium since the opening, demonstrating the venue's versatility.

On the student accommodation front, the sustainable, smart Jockey Club i-village project moved forward, with

its planned 1,551 bed spaces due to be ready by 2024. The eco-friendly project was recognized by a Grand Award under the New Buildings category in the Hong Kong Green Building Awards 2021.

Meanwhile, occupation of the Jockey Club Global Graduate Tower got underway in September 2021, with an official opening held the following month. The tower's design, including an interactive smart metering system, has earned a BEAM Plus Platinum rating from the Hong Kong Green Building Council.

In other major campus development projects, the Martin Ka Shing Lee Innovation Building received further approval and funding over the year and is expected to kickstart construction in the fourth quarter of 2022, while design is underway for the Life and Chemical Sciences and Technologies Building.

EMPLOYER OF CHOICE

With the pandemic remaining a challenge to regular working routines over 2021-22, the University kept up its flexible mode of work to maintain operations and efficiency, including facilitating recruitment and





interviews virtually. In addition, affiliate appointments continued to be offered to faculty members joining HKUST(GZ) to enhance interaction and synergy between the Clear Water Bay and Guangzhou campuses.

Strengthening of the University's performance culture took place through implementation of a management and leadership development program for senior administrators, a series of general/supervisory management training on service mindset for frontline staff, and workplace communication and coaching. To promote continuous learning, plans advanced further for a talent development program for staff, due to launch in 2023. The year also saw the former Gender Discrimination Committee replaced by the Diversity and Equal Opportunity Committee, which oversees a broader spectrum of diversity and equal opportunity matters to support an inclusive and caring university environment.

SAFEGUARDING HEALTH AND STAYING VIGILANT

HKUST offices and colleagues quickly collaborated to safeguard the health and safety of the University community amid the fifth wave of the pandemic.



The University's Conference Lodge and certain halls of residence were set aside to enable members of HKUST to isolate/quarantine on campus. Other measures to counter COVID-19 included on-campus vaccination sessions for more than 1,500 HKUST members and distribution of 90,000 rapid antigen test (RAT) kits. By May 31, 2022, all University members and residents had to have undertaken three shots of COVID vaccine to access the campus in line with the government's vaccine pass conditions.



The University took another major step toward embedding sustainable practices into every aspect of campus life with the establishment of the Sustainability/Net-Zero Office, further strengthening its standing as a local and global sustainability leader

EXPANDING NEXT-LEVEL OPERATIONS AND PERFORMANCE

Progress continued on the University's 2028 Sustainability Challenge action plan, building on the waste and energy focus of its earlier five-year sustainability plan while extending the areas covered to include water, landscape and biodiversity, and well-being.

Waste

In 2021-22, the University set out to robustly manage and reduce wastes through creating smart recycling facilities on campus. One example is an innovative digital Waste Tracking System that gathers data from multiple sources. The conversion of food and landscape waste into compost for the campus grounds continued,

Sustainable Horizons



and helped set a solid foundation for preparations for the launch of the Hong Kong government's Municipal Solid Waste Charging Scheme in 2023. In line with the move, the University formed a working group to get the campus ready for the charging scheme. The working group will implement pilot programs for

campus housing, catering outlets, and offices, and raise awareness of the need for waste reduction at source and separation for recycling.

Energy

The energy goal of the 2028 Sustainability Challenge is to achieve a 15% reduction in overall energy consumption compared with the 2014 baseline by 2028. Over the past year, energy-saving projects on campus saw the adoption of smart lights with gradual dimming performance in common areas, smart thermostats to control local air-conditioning, and wireless energy meters linked to a dashboard displaying real-time energy usage. Good progress was also made on the mega solar panel installation project on campus, which is expected to be completed by the end of 2022. The system can generate up to three million kilowatt-hours (kWh) of electricity every year.



Landscape, Water, and Well-being

The University began earnest interventions into the three new areas of focus embraced by the 2028 Challenge. To create a more sustainable landscape, the University established a set of sustainable performance goals for the landscape contractor, building incentives for measurable actions that improve sustainable campus conditions. For water, an investigation revealed that significant water is wasted through the University's air conditioning system. This will now be recaptured and used in the cooling towers. Meanwhile, the advancement of well-being moved ahead with a series of surveys and focus groups to learn more about working conditions and how to foster an environment where students and staff feel engaged and welcome. The resulting insights are being evaluated by a newly formed working group that will develop recommendations for policy changes.

See *A Glance at HKUST 2021-2022* for details of the University's sustainability performance.

EMPOWERING MINDSETS FOR SUSTAINABLE COMMUNITIES

The Sustainability/Net-Zero Office was established in September 2021, placing specific emphasis on net-zero carbon emissions by 2050. The Office will develop a roadmap for the University campus to meet Hong Kong's goal of halving carbon emissions before 2035 and achieving carbon neutrality by 2050. Endeavors implemented over the year include the launch of the Incentive Scheme for Net-Zero Carbon Research Projects in collaboration with HKUST's GREAT Smart Cities Institute, which encourages members to undertake large-scale research projects that can contribute to net-zero carbon goals on campus and regionally. The Office will also facilitate links between the Clear Water Bay and Guangzhou campuses through activities to share and implement sustainable smart innovations. One outcome was the launch of the inaugural cross-campus Sustainable Smart Campus Net-Zero Journey: Innovation Challenge in June 2022, which was an 8-day certificate training program bringing together students from both campuses to accelerate the University's realization of net-zero.



In a wider community venture, HKUST was honored to take up project management and coordination of the Jockey Club Sustainable Campus Consumer Programme, launched over the year across all eight UGC-funded universities. With funding of more than HK\$15 million over three years from the Hong Kong Jockey Club Charities Trust, the initiative seeks to engage over 100,000 students to forge a new generation of thoughtful consumers to meet the United Nations' Sustainable Development Goal No.12 on Responsible Consumption and Production.

APPLYING ECO-RESEARCH IDEAS ON OUR “LIVING LAB” CAMPUS

HKUST's Sustainable Smart Campus as a Living Lab (SSC) initiative, established in 2019, gained overseas recognition, receiving the Honorary Member Award at the International Sustainable Campus Network 2022 Excellence in Sustainability Awards. The pioneering concept supports the HKUST community in testing out their sustainable smart solutions within the campus environment. In addition, the SSC Hub opened on the University's Academic Concourse to draw greater awareness of the scheme internally and externally.

Since its launch, over 150 faculty members and 400 students have participated in 30-plus SSC-funded projects. Recent applications have included a smart cooling coating for photovoltaic panels and the development of a tree-inspired and solar-driven transpiration system for humidity control in buildings. A series of workshops for staff and faculty on well-being and net-zero carbon took place over the year to foster on-going momentum while the new 2021 Sustainable Smart Campus Student Competition provided opportunities for undergraduate and postgraduate students to share innovative ideas and implement sustainable smart projects on campus.



EMBEDDING SUSTAINABILITY INTO THE CURRICULUM

In teaching and learning, sustainability-related pilot projects and initiatives are being further embedded into HKUST undergraduate and postgraduate education. To expand this effort, a Life Cycle Lab was formed in 2022, creating a platform for training, research, and support for students, academics, and practitioners, a first for an academic institution in Hong Kong and the Greater Bay Area. Meanwhile, steady progress was seen over 2021-22 in HKUST's efforts to foster students' understanding of sustainability issues, with 68% of recent graduates having completed two or more sustainability-focused courses, and 95% of graduates having taken at least one course.

Governance

In accordance with the HKUST Ordinance, the Council, Court, and Senate are the University's supreme governing, advisory and academic bodies, respectively.


THE COUNCIL

Being the supreme governing body of the University, the Council has the ultimate responsibilities to ensure effective governance of the University. Apart from steering the University's direction through the formulation of its strategic plan, the University Council reviews the operating environment of the University from time to time, taking into consideration the outcome of the annual risk assessment reports and reports of different ranking agencies. Council has also, through various Committees each chaired by a Council Member, monitored the performance of the Administration with reference to the sector-wide Performance Measures (PMs) and institutional Key Performance Indicators (KPIs) of the University Accountability Agreement (UAA) which was duly signed by the University and the University Grants Committee (UGC).

The Council has in-depth dialogue with the Administration on the performance of the University through the analysis of outcomes of various ranking exercises, and gives advice to the Administration on how to improve the University's performance in specific areas.

As for previous years, Council has been actively driving the risk assessment exercise. Specifically, Council has highlighted some key risks for the attention and follow-up action of the University Administration. Based on Council's advice, various offices have been actively monitoring issues related to various strategic areas, especially those related to land and human resources, and the reputation of HKUST, etc to facilitate next stage of development of the University. At the same time, Council has continued the review on University governance, from revamping the "Guidelines and Code of Practice for Council Members" to developing policy on the proper use of University's title, as well as the examination of procedures and practice of Council and its Committees, for better efficiency.

In May 2022, Council appointed Prof. Nancy IP as the fifth President which was another major milestone of the University. Council would continue to steer the direction of HKUST, with the support of the new leadership team, and riding on an array of new facilities including the state-of-the-art Shaw Auditorium and the enhanced research infrastructure which would help further attain the University's goal to be a top-class



research university for nurturing all-rounded talents in future.

The formal establishment of HKUST(GZ) in the summer of 2022 is another example of the concerted efforts of the University community including Council in taking HKUST to another level, after its 30 years of success. Council would continue to drive the University to the next level of excellence, through its roles in steering the upcoming strategic plans, reengineering of various processes, capitalizing on the existing and upcoming opportunities in Hong Kong and beyond, for the achievement of a high standard of governance.

THE COURT

In the reporting year, Court Members were invited to join various University activities amidst the pandemic situation. A number of Members did participate in Council or University Committees to give their advice to the Administration on different matters from a strategic perspective.

Court Members also joined the other University Members in celebrating the official opening of the Shaw Auditorium in November 2021, and that of HKUST(GZ) in September 2022. During the key stages of development of these new and additional landmarks of the University, Court Members had been offering their invaluable advice and support to the Administration team.

On membership, the Court is glad to see the re-appointment of a number of Members including the Chairman. During the year, the Court also welcomed six new Members, amongst them are alumni of the University and distinguished individuals who have made significant contributions to society.

THE SENATE

Being the supreme academic body of the University, the Senate continued to review important academic policies and regulations, and program proposals for promotion of academic and research excellence.

During the year, some proposed revisions to the Common Core Program had been reviewed by the Senate for the purpose of refining course taking pathway of students, to cater for their diverse interests.

The Senate is glad to receive for review, an array of new program proposals covering those on Green Finance, Integrative Systems and Design, Innovation and Entrepreneurship, Data-Centric Artificial Intelligence Technology, Chemical and Biomolecular Engineering. To facilitate students' understanding of the legal framework of the Laws of the People's Republic of China on Safeguarding National Security in Hong Kong Special Administrative Region, a new mandatory non-credit bearing Legal and National Security Law course would be offered by the Legal Office, as one of the graduation requirements for all undergraduate students to be admitted to the University from the Fall term of 2022-2023 and thereafter.

To better support the arrangement of online teaching, and to ensure academic quality through refined pedagogy and assessment, a policy governing how undergraduate courses are delivered through synchronous online/mixed-mode (online and face-to-face teaching) format has been developed. To be in line with the University's Quality Assurance mechanisms, the policy will be reviewed by the Committee on Undergraduate Studies from time to time to ensure its effectiveness.

Following the official opening of HKUST(GZ), the campus in Clear Water Bay and Guangzhou will continue to coordinate on various academic matters under the "Unified HKUST, Complementary Campuses" Framework. The Senate will continue to monitor the teaching and learning activities, to ensure the academic quality of all programs of HKUST(GZ) is aligned with the standard of HKUST. The Senate would also review and oversee the governance of related academic matters including the collaboration projects in HKUST(GZ) involving the conferment of HKUST degrees.

Awards and Recognitions

Faculty members and students have received numerous honors and accolades over the year. The following list is not exhaustive.

FACULTY

- IAS Si Yuan **Prof. Gunther UHLMANN**, Chair Professor, Department of Mathematics, and IAS Senior Visiting Fellow **Prof. John HARDY** were awarded Honorary Doctorates by the University of Helsinki, Finland, in recognition of their academic achievements in philosophy and medicine respectively.
- IAS Sin Wai Kin Professor of Chinese Culture **Prof. YAN Lianke**, Chair Professor, Division of Humanities, was named one of the 12 Inaugural Royal Society of Literature International Writers, becoming the first Chinese writer to receive this honor.
- **Prof. BAO Zhigang**, Department of Mathematics, received a 2021 Hong Kong Mathematical Society Young Scholar Award.
- **Prof. LU Haipeng**, Department of Chemistry, was selected by the Royal Society of Chemistry's journal *Nanoscale* as an Emerging Investigator.
- **Prof. CHAU Ying**, Department of Chemical and Biological Engineering, was named Leading Woman in Science, Technology, Engineering, and Mathematics (STEM) at the American Chamber of Commerce's Women of Influence Awards 2021.
- **Prof. Rhea LEIM**, Department of Mechanical and Aerospace Engineering, received the University Grants Committee Teaching Award 2021 for Early Career Faculty Members.
- **Prof. Charles W. W. NG**, Chair Professor, Department of Civil and Environmental Engineering, was honored with a 2020 State Natural Science Award (Second Class) from the State Council for research into a state-dependent constitutive framework for unsaturated soils, and its applications.
- **Prof. YAN Xiong**, Department of Finance, won the Rising Scholar Award from the *Review of Corporate Finance Studies* journal.
- Four faculty members received 2021 National Natural Science Foundation of China Excellent Young Scientist Awards (Hong Kong and Macau): **Prof. SUN Fei**, Department of Chemical and Biological Engineering, **Prof. ZHANG Jingdi**, Department of Physics, **Prof. JIN Tianling**, Department of Mathematics, and **Prof. WANG Zhe**, Division of Environment and Sustainability.

FELLOWS AND BOARD MEMBERSHIPS

- **Prof. JO Gyu-Boong**, Department of Physics, became an awardee of the 2021/22 Research Grants Council Fellow Scheme.
- **Prof. LING Shiqing**, Department of Mathematics, was named a Fellow of the *Journal of Econometrics* 2021.
- **Prof. YU Jianzhen**, Department of Chemistry and Division of Environment and Sustainability, was appointed a Fellow of the Asian Aerosol Research Assembly.
- **Prof. Pascale FUNG**, Department of Electronic and Computer Engineering, was elected a Fellow of the Association for the Advancement of Artificial Intelligence.
- **Prof. Larry LI and Prof. YU Hongyu**, Department of Mechanical and Aerospace Engineering, were elected Fellows of the Royal Aeronautical Society.
- **Prof. Andrew POON**, Department of Electronic and Computer Engineering, was elected an Optica Fellow.
- **Prof. CHEN Songnian**, Chair Professor, Department of Economics, was named a Senior Research Fellow 2021-22 by the Research Grants Council.
- **Prof. Albert PARK**, Chair Professor, Department of Economics, was appointed the Asian Development Bank's Chief Economist.
- Dean of the School of Business and Management **Prof. TAM Kar-Yan** was reappointed Chairperson of the Curriculum Development Council by the HKSAR Education Bureau and appointed Chairman of the Hong Kong Committee for Pacific Economic Cooperation (HKCPEC).
- **Prof. David CHANG Cheng**, Division of Humanities, was named the 2021-22 Harvard-Yenching Institute Visiting Scholar and Radcliffe Fellow.

STUDENTS AND RESEARCHERS

- Life Science undergraduate **WONG Hoi-Lam** won the First Runner-up prize at the Hong Kong Securities and Investment Institute Case Competition 2022.
- The **HKUST Robotics Team** received the Best Design Award at the ABU Asia-Pacific Robot Contest and First Runner-up and Best Engineering Awards at the Robocon Hong Kong Contest.
- Computer Science and Engineering undergraduates **CHUNG Tsz-Wa**, **Caner DEMIRER**, **TANG Wing-Yin**, and Data Science and Technology student **CHAN Sheung-Chi** won the Gold Award in the Hong Kong Cyber Security New Generation Capture the Flag Challenge 2021, organized by the Hong Kong Computer Emergency Response Team Coordination Centre and Hong Kong Productivity Council.
- Electronic and Computer Engineering PhD students **Murad ABDULLAH** and **Syed Awais Wahab SHAH**, along with Civil and Environmental Engineering PhD students **Muhammad Zeshan AKBER** and **Muhammad WAQAR**, received the Gold Award in the Global AI Challenge for Building Electrical and Mechanical (E&M) Facilities – AI Competition.
- Four business undergraduates **Neha GANAPATHINEEDI**, **Gaurav GARG**, **Kevin HUERLMANN**, and **MacKenzie KORENT** won the short case competition in the Belgrade Business International Case Competition (BBICC) 2022.
- Justin CHAN Pak-Hin**, Departments of Accounting and Finance, secured the Champion title in Ernst & Young's Young Tax Professional of the Year 2021 (Greater China Final).
- A Division of Environment and Sustainability student team, comprising **Yuvina TSOI**, **Alice CHAU**, **Yvonne CHAN** and **Katie FUNG**, won the Placemaking Academy 2022 Championship, organized by Swire Properties.

HKUST MEDALS

- Prof. Jeevan JAISINGH**, Department of Information Systems, Business Statistics and Operations Management, was awarded the Michael G. Gale Medal for Distinguished Teaching.
- Prof. Kenneth LEUNG**, Department of Computer Science and Engineering, received the HKUST Common Core Teaching Excellence Award 2021 for the course COMP2711 Discrete Mathematical Tools for Computer.

HONORARY DOCTORATES AND HONORARY FELLOWS

Honorary Doctorates

- Dr. Anthony CHOW Wing-Kin**, SBS, JP, Former President of The Law Society of Hong Kong
- Prof. Nancy HOPKINS**, Professor of Biology, at Massachusetts Institute of Technology
- Prof. Anil Kumar JAIN**, University Distinguished Professor in the Department of Computer Science and Engineering at Michigan State University
- Dr. Colin LAM Ko-Yin**, Executive Director and Vice Chairman of Henderson Land Development Company Limited
- Prof. Daniel WEIHS**, Distinguished Professor Emeritus at Technion – Israel Institute of Technology
- Sir Gordon WU Ying-Sheung**, Founder and Board Chairman of Hopewell Holdings

Honorary Fellows

- Mr. Raymond CHAN Wai-Man**, Chairman of Shaw Foundation Hong Kong
- Mrs. Yvette FUNG YEH Yi-Hao**, Chair of The Yeh Family Philanthropy
- Ms. Margaret LEE Pui-Man**, Senior General Manager of Henderson Land Development Company Limited
- Dr. Daryl NG Win-Kong**, SBS, JP, Chairman of Sino Group
- Prof. YU Tongxi**, Professor Emeritus of HKUST Department of Mechanical and Aerospace Engineering

Event Highlights

2021-22

2021

JUL

The HKUST Institute for Advanced Study held a Meet the Quantum Computers display, giving visitors hands-on experience of a prototypical quantum computer and information on how quantum computing will improve on classical computers and algorithms.



AUG

At a webinar co-hosted by HKUST and Our Hong Kong Foundation, Mr. XIE Zhenhua, China's Special Envoy on Climate Change, shared national plans and initiatives on achieving carbon neutrality by 2060.



SEP

The HKUST Musical took place at Freespace in the West Kowloon Cultural District, featuring students and alumni in a zesty production of Leonard Bernstein's Wonderful Town. More than 1,000 people either attended or participated in the event.



OCT

Five distinguished individuals were awarded an HKUST Honorary Fellowship at the first in-person presentation ceremony since the pandemic. The occasion was officiated by Council Chairman Mr. Andrew LIAO Cheung-Sing and President Prof. Wei SHYY.



NOV

Fintechstic 2021, a series of online and physical activities organized by the HKUST Business School, drew over 400 local university students and participants from the wider community to learn about robo-advisors and related technologies. Activities included an online quiz challenge, training workshops, and a case competition.



DEC

The University resumed its in-person Congregation at the newly opened Shaw Auditorium, conferring 2,552 bachelor's degrees, 2,506 master's degrees and 308 doctoral degrees, bringing HKUST's alumni network to 87,500.

2022

JAN

The China-Russia Eurasian Studies Center (CREC) and Institute for Emerging Market Studies (IEMS) launched the "CREC-IEMS Eurasia Business Dialogue" series to discuss how contemporary policy and socio-economic issues are affecting the business landscapes of China, Russia, and Central Asia. The first dialogue was focused on "Curbing Capitalism: How Is Economic Policymaking in China Changing?" and associated issues.

FEB

IAS and the School of Humanities co-organized a Chinese Creative Writing lecture series from February to May 2022, enabling students to engage in face-to-face dialogue with 13 world-renowned writers. Over 2,600 people attended the lectures.



MAR

More than 760 participants from over 31 countries and region competed in hackHKUST 2022, the largest event of its kind in Greater China and a sought-after event for university students globally. The online competition provided over 40 awards, involving over HK\$1 million in prizes and internship opportunities.



APR

In The Power of Diversity – Artistic Visionaries From HKUST, four alumni showcased their creativity under the theme "Together We Empower". Works in the exhibition explored the power of passion, following your dreams, and being the best you can be. The display also illustrated how the collective is more important than the individual.

MAY

Among the University's 30th Anniversary events, students, staff and alumni were invited to join the HKUST Virtual Run 2022, the first event of its kind for University members. Participants were set the challenge of individually completing a total distance of 30km or 100km (walk, hike or run) either in one go or over a period of time. 824 completed the virtual run.



JUN

A movie screening of "All-Star Tiny Galaxy@Wontonmeen" was held at the Shaw Auditorium followed with a talk by Hong Kong Sinfonietta (HKS)'s CEO and Concertmaster. The movie featured international stars performing together with HKS' musicians at Wontonmeen, an eclectic hostel in Sham Shui Po.

Facts and Figures

Students

STUDENT ENROLMENT (AS OF 30 SEP 2022)

School / Area	Undergraduate	Postgraduate*			Total
		MPhil	PhD	Taught	
Science	2,207	151	631	568	3,557
Engineering	3,533	251	1,167	1,055	6,006
Business and Management	3,527	44	78	1,548	5,197
Humanities and Social Science	349	40	26	492	907
Interdisciplinary Programs	318	68	343	356	1,085
Joint School	544	0	0	285	829
Total	10,478	554	2,245	4,304	17,581

* Postgraduate students under the HKUST Guangzhou Pilot Scheme are included.

NON-LOCAL STUDENT ENROLMENT (2021-22)

Home Country	Undergraduate	Postgraduate		Total
		Research	Taught	
Mainland China	930	1,615	2,637	5,182
Other Asian Places	886	252	120	1,258
Rest of the World	215	97	92	404
Total	2,031	1,964	2,849	6,844

* as of Oct 2021

UNDERGRADUATE EXCHANGES (2021-22)

Host / Destination Region	Exchange-in	%	Exchange-out	%
Mainland China	13	6.3%	28	5.1%
Asia	36	17.4%	79	14.3%
North America	15	7.2%	135	24.5%
Central and South America	1	0.5%	1	0.2%
Europe	136	65.7%	305	55.3%
Australia and New Zealand	3	1.4%	4	0.7%
Africa	0	0.0%	0	0.0%
Unclassified	3	1.4%	0	0.0%
Total	207	100.0%	552	100.0%

GRADUATE NUMBERS (2022)

School / Area	Undergraduate	Postgraduate		Total
		Research	Taught	
Science	532	163	409	1,104
Engineering	847	328	870	2,045
Business and Management	831	43	998	1,872
Humanities and Social Science	75	17	281	373
Interdisciplinary Programs	62	52	159	273
Joint School	148	0	201	349
Total	2,495	603	2,918	6,016

* as of Nov 2022

EMPLOYMENT (2021)

	Undergraduates	Postgraduates			
		PhD	MPhil	Taught Master (Except MBA)	MBA
Employment Situation	%	%	%	%	%
Employed	75.7	66.5	31.3	22.9	95.1
Further Studies	17.5	2.7	46.6	4.0	0.0
Returned to Home Country or Emigrated	4.6	30.2	17.8	71.5	0.0
Others	2.1	0.3	4.2	1.5	5.0
Employment Situation by Industry	%	%	%	%	%
Commerce and Business	62.9	9.0	44.0	65.2	80.0
Engineering and Industry	23.3	12.9	22.0	16.7	18.3
Education	7.7	77.4	26.0	14.9	0
Community and Social Services	3.2	0.0	2.0	2.3	1.7
Government and Related Organizations	2.9	0.6	4.0	0.9	0.0
Others	0.0	0.0	2.0	0.0	0.0

Note: Percentages may not add up to 100%, as they are rounded to the nearest percent

Faculty

FACULTY MEMBERS (AS OF 30 JUN 2022) (FULL-TIME EQUIVALENT)[^]

School / Area	Regular	Visiting	Total
Science	179	6	185
Engineering	220	6	226
Business and Management	153	2	155
Humanities and Social Science*	145	1	146
Interdisciplinary Programs	28	3	31
HKUST Jockey Club Institute of Advanced Study	1	0	1
Institute for Public Policy	2	0	2
Total	727	18	745

[^] The above faculty numbers are reported in Full-time Equivalent (FTE) basis to reflect faculty's service distribution to each school.

* The teaching staff of the Centre for Language Education are included following its merger with SHSS on 1 July 2012.

Research

NO. OF NEW RESEARCH PROJECTS AND FUNDING (2021-22)

	Number	Funding (in HK\$M)
UGC	670	165.2
RGC	219	210.3
Others	854	707.4
Total	1,743	1,082.8**

** Includes R&D projects administrated by R and D Corporation and Mainland platforms.

NO. OF PATENTS (2021-22)

Filed	328
Granted	218

International Rankings

HKUST

No. 3 in the World

World's Top 500+ Young Universities, Times Higher Education Young University Rankings 2022

No. 9 in Asia

Asia's Top 600+ Universities, Times Higher Education Asia Universities Rankings 2022

No. 14 in Asia

Asia's Top 500+ Universities, QS Asia University Rankings 2023

No. 40 in the World

World's Top 1400+ Universities, QS World University Rankings 2023

No. 58 in the World

World's Top 1700+ Universities, Times Higher Education World University Rankings 2023

No. 30 in the World, No. 1 in Hong Kong, No. 3 in Greater China

World's Top 250 Universities, Global University Employability Ranking 2022 (Emerging, published by Times Higher Education)

School of Science

No. 30 in the World, No. 1 in Hong Kong

World's Top 600 Universities in Chemistry, QS World University Rankings by Subject 2022s

No. 28 in the World, No. 1 in Hong Kong

World's Top 400 Universities in Materials Sciences, QS World University Rankings by Subject 2022

No. 37 in the World, No. 1 in Hong Kong

World's Top 500 Universities in Mathematics, QS World University Rankings by Subject 2022

No. 35 in the World, No. 2 in Hong Kong

World's Top 450 Universities in Environmental Sciences, QS World University Rankings by Subject 2022

School of Engineering

No. 24 in the World, No. 1 in Hong Kong, No. 2 in Greater China

World's Top 500 Universities in Engineering and Technology, QS World University Rankings by Subject 2022

No. 26 in the World, No. 1 in Hong Kong

World's Top 1300 Universities in Engineering, Times Higher Education World University Rankings by Subject 2023

No. 29 in the World, No. 2 in Hong Kong

World's Top 650 Universities in Computer Science and Information Systems, QS World University Rankings by Subject 2022

No. 28 in the World, No. 1 in Hong Kong, No. 2 in Greater China

World's Top 500 Universities in Electrical and Electronic Engineering, QS World University Rankings by Subject 2022

No. 20 in the World, No. 2 in Hong Kong, No. 3 in Greater China

World's Top 200 Universities in Civil and Structural Engineering, QS World University Rankings by Subject 2022

No. 29 in the World, No. 1 in Hong Kong

World's Top 950 Universities in Computer Science, Times Higher Education World University Rankings by Subject 2023

No. 8 in the World

World's Top 200 Universities in Transportation Science & Technology, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2022

No. 26 in the World

World's Top 400 Universities in Energy Science & Engineering, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2022

School of Business and Management

No. 1 in the World

Global EMBA Ranking - Kellogg-HKUST Executive MBA Program, Financial Times Global EMBA Ranking 2007, 2009-2013, 2016-2018, 2020 & 2022

No. 14 in the World, No. 1 in Asia

Business Master's Rankings - MSc in Global Operations Program, QS Business Master's Rankings: Supply Chain Management 2023

No. 24 in the World, No. 1 in Hong Kong, No. 3 in Asia

World's Top 500 Universities in Business and Management Studies, QS World University Rankings by Subject 2022

No. 25 in the World, No. 1 in Hong Kong, No. 3 in Asia

World's Top 300 Universities in Accounting and Finance, QS World University Rankings by Subject 2022

No. 27 in the World, No. 1 in Hong Kong, No. 3 in Asia

World's Top 500 Universities in Economics and Econometrics, QS World University Rankings by Subject 2022

No. 29 in the World, No. 1 in Asia

Top 100 Business School Research Rankings, University of Texas at Dallas (UTD) Top Business School Research Rankings: Worldwide Rankings (Year Range: 2017-2021)

No. 29 in the World, No. 2 in Hong Kong

World's Top 850 Universities in Business & Economics, Times Higher Education World University Rankings by Subject 2023

No. 34 in the World, No. 1 in Asia

Business Master's Rankings - MSc in Finance Program, QS Business Master's Rankings: Finance 2023

No. 36 in the World

Global MBA Ranking - Full-Time MBA Program, Financial Times Global MBA Ranking 2022

School of Humanities and Social Science

No. 33 in the World, No. 2 in Hong Kong

World's Top 500 Universities in Social Sciences and Management, QS World University Rankings by Subject 2022

Appendices

Appendix I

COURT, COUNCIL AND SENATE As of 30 June 2022

COURT MEMBERSHIP

Chairman & Honorary Chairman	Dr John C C CHAN, GBS, JP	
Honorary Chairman	Dr the Hon Vincent H S LO, GBM, GBS, JP	
Honorary Members	Dr Anissa CHAN, SBS, MH, JP Dr Charles S C CHAN, BBS, JP The Hon Ronnie C CHAN, GBM Dr Thomas T T CHEN Dr Christopher CHENG, GBS, OBE, JP Dr the Hon Henry CHENG, GBM, GBS Dr CHENG Hon-Kwan, GBS, OBE, JP Mr Paul M F CHENG, JP Mr Linus W L CHEUNG, JP Dr Raymond K F CH'EN, GBS, JP Prof Alice CHIU, BBS, JP Dr Paul M Y CHOW, GBS, JP Prof Stephen CHOW, GBS, JP Dr Kenneth H FANG, GBS, JP Mr Ian C W FOK, SBS, JP Mr Tim FRESHWATER Dr William K FUNG, SBS, JP Mrs Yvette Yeh FUNG Dr Aron H HARILELA, BBS, JP Mr John B HARRISON Dr Herman S M HU, SBS, JP Mr Lester G HUANG, SBS, JP Dr Simon S O IP, GBS, JP Prof Roger KING	Dr LAU Wah-Sum, GBS, JP Dr the Hon LEE Shau-Kee, GBM Dr the Hon Charles Y K LEE, GBM, GBS, JP Ms Margaret LEE Pui-Man Dr the Hon Andrew K N LI, GBM Mr Sing-Cheong LIU, JP Ms Kai-Yin LO, SBS Mr Raymond C LO Mr Winston Yau-Lai LO, SBS Dr the Hon LUI Che-Woo, GBM, GBS, MBE, JP Mr Francis LUI Yiu-Tung Mr Tim LUI Tim-Leung, SBS, JP Mr Maximilian Yung-Kit MA Dr Michael H H MAK, SBS, JP Dr Anthony NEOH, SC, JP Mr David Teng PONG The Hon Abraham SHEK Lai-Him, GBS, JP Mr SIN Chung-Kai, SBS, JP Mr Kenneth TING Woo-Shou, SBS, JP Mrs Christine WONG, SBS Dr Lawrence T WONG Dr Wilfred Y W WONG, GBS, JP Ms Marjorie YANG, GBS, JP Dr Larry C K YUNG
Ex-Officio Members	Mr Andrew LIAO Cheung-Sing, GBS, SBS, SC, JP (Chairman of the Council) Prof Patrick YEUNG Kai-Cheung (Vice-Chairman of the Council) Mr Stephen YIU Kin-Wah (Treasurer of the University) Prof Wei SHYY, JP (President)	Provost (Vacant) President of the HKUST Students' Union (Vacant) Mr Bennet TSUI Chun Yin (President of the HKUST Alumni Association) Ms Grace LING (Chairman of the HKUST Staff Association)
Appointed Members	Mr Bernard AU YANG Ms Dee Dee CHAN Mr Andy FEI Chi-En Mr David FONG Man-Hung, BBS, JP Ms Anita FUNG Yuen-Mei, BBS, JP Mr Eugene Michael FUNG Yue-Ming Dr Hans Michael JEBSEN, BBS Ms Catherine KWAI Yuk-Nin Dr Colin LAM Ko-Yin, SBS Mr Quinn Y K LAW, SBS, JP Mr LEE Shing-Put, BBS Mr David W H LEE Mr Marcus C W LEE Mr Michael LEE Tze-Hau, JP The Hon Starry LEE Wai-King, SBS, JP	Ms Catherine K C LEUNG Mr Kenneth Benjamin LI Mr Paul MAK Tak-Chuen Mr Sebastian MAN Shiu-Wai Dr Daryl NG Win-Kong, SBS, JP Mr Neil SHEN Mr Benedict SIN Nga-Yan Mr Kyran SZE, MH Dr James E THOMPSON, GBS Dr Alex WONG Siu-Wah Mr Samuel Tat-Sum WONG Ms Jennifer WOO Chun-En Mr Michael WU Wei-Kuo Mr Michael YONG-HARON
Appointed Senate Representatives	Prof Khaled BEN LETAIEF Prof Kai-Lung HUI	Prof Ian D WILLIAMS

COUNCIL MEMBERSHIP

Chairman	Mr Andrew Liao Cheung-Sing , GBS, SBS, SC, JP	
Vice-Chairman	Prof Patrick Yeung Kai-Cheung	
Treasurer of the University	Mr Stephen Yiu Kin-Wah	
President of the University	Prof Wei Shyy , JP	
Provost	(Vacant)	
Vice-President	Prof Ting-Chuen Pong Vice-President for Administration & Business	
Deans	Prof Andrew Cohen Acting Dean of Science	Prof Charles W W Ng Dean of HKUST Fok Ying Tung Graduate School
Academic Members of the Senate	Prof Kai-Lung Hui	Prof Steven B Miles
Chairman of Convocation	Mr Stanley Choi Tak-Shing , JP	
Elected Staff Member	Ms Christine Ho	
Elected Student Member	Mr Tse Man Fung	
Other Members Not Being Employees or Students of the University	The Hon Ben Chan Han-Pan , BBS, JP Ms Cally Chan Shan-Shan Mrs Jennifer Cheng Mr Peter Cheung Kam-Fai , SBS Mr Wilson Fung Ying-Wai , MH Mrs Helen Kan Mr Rembert Lai Siu-Kin	Mrs Tennessy Lee Hui Mei-Sheung , MH, JP Ir Dr Humphrey Leung Kwong-Wai , JP Mr Michael Ngai Ming-Tak Ms Edith Shih Mr Billy Wong Wing-Hoo , BBS, JP Mr Patrick Yeung Wai-Tim Dr Samuel W K Yung , SBS, MH, JP

MEMBERSHIP OF STANDING COMMITTEE

Chairman	Mr Andrew Liao Cheung-Sing , GBS, SBS, SC, JP	
Vice-Chairman	Prof Patrick Yeung Kai-Cheung	
Members	Ms Cally Chan Shan-Shan Prof Tim Cheng Mr Wilson Fung Ying-Wai , MH Mrs Helen Kan Mr Rembert Lai Siu-Kin Prof Ting-Chuen Pong	Ms Edith Shih Prof Wei Shyy , JP Prof Yang Wang Mr Billy Wong Wing-Hoo , BBS, JP Mr Stephen Yiu Kin-Wah Dr Samuel W K Yung , SBS, MH, JP

MEMBERSHIP OF AUDIT COMMITTEE

Chairman	Mr Wilson Fung Ying-Wai , MH	
Vice-Chairman	Mrs Helen Kan	
Members	Mr Colin Chau Yu-Nien Mr Peter Cheung Kam-Fai , SBS	Mrs Agnes K Nardi Mr Martin Siu Man-Tat , SBS

MEMBERSHIP OF CAMPUS DEVELOPMENT COMMITTEE

Chairman	Mr Rembert Lai Siu-Kin	
Vice-Chairman	Mr Billy Wong Wing-Hoo , BBS, JP	
Members	Sr Au Choi Kai , SBS Mrs Margaret Brooke The Hon Ben Chan Han-Pan , BBS, JP	Mr Wilson Fung Ying-Wai , MH Mr Jimmy Leung Cheuk-Fai , SBS Mr Ben Lui Sau-Shun
Ex-officio	Prof Ting-Chuen Pong Vice-President for Administration & Business	

MEMBERSHIP OF COMMITTEE ON HKUST(GZ)

Chairman	Mr Andrew Liao Cheung-Sing , GBS, SBS, SC, JP	
Vice-Chairman	Prof Patrick Yeung Kai-Cheung	
Members	Chairmen (or the Vice-Chairmen in the absence of Chairmen) of all Council Committees	

MEMBERSHIP OF FINANCE COMMITTEE

Chairman	Mr Stephen Yiu Kin-Wah	
Vice-Chairman	Ms Edith Shih	
Members	Mr Jackson Cheung Wing-Kwong Mr Stanley Choi Tak-Shing, JP	Mr Ronald Seng-Yum Tham
Ex-officio	Prof Ting-Chuen Pong Vice-President for Administration & Business	

MEMBERSHIP OF HONORARY AWARDS COMMITTEE

Chairman	Mr Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
Vice-Chairman	Prof Wei Shyy, JP	
Members	Prof Stuart Gietel-Basten Prof Kai-Lung Hui Mr Sebastian S W Man	Mr Kyran Sze, MH Prof Ting Xie Prof Dit-Yan Yeung

MEMBERSHIP OF HUMAN RESOURCES COMMITTEE

Chairman	Prof Patrick Yeung Kai-Cheung	
Vice-Chairman	Vacant	
Members	Ms Cally Chan Shan-Shan Ms Edith Shih	Mr Stephen Yiu Kin-Wah
Ex-officio	Prof Ting-Chuen Pong Vice-President for Administration & Business	Prof Wei Shyy, JP President

MEMBERSHIP OF INSTITUTIONAL ADVANCEMENT AND OUTREACH COMMITTEE

Chairman	Vacant	
Vice-Chairman	Dr Samuel W K Yung, SBS, MH, JP	
Members	The Hon Ben Chan Han-Pan, BBS, JP Ms Dee Dee Chan Mr Peter Cheung Kam-Fai, SBS Mrs Helen Kan	Ms Margaret Lee Pui-Man Mr Philip Tsai, BBS, JP Mr Ryan Wong Man-Yeung Mr Michael Yong-Haron
Ex-officio	Prof Bertram Shi (by rotation) Acting Dean of Engineering Prof Andrew Cohen (by rotation) Acting Dean of Science	Prof Yang Wang Vice-President for Institutional Advancement

MEMBERSHIP OF KNOWLEDGE TRANSFER COMMITTEE

Chairman	Vacant	
Vice-Chairman	Ms Cally Chan Shan Shan	
Members	Mr Peter Cheung Kam-Fai, SBS Mr Stanley Choi Tak-Shing, JP Prof Witman Hung Mr Brandon Ho-Ping Lin	Prof Ping Sheung Ms Edith Shih Prof Richard H Y So
Ex-officio	Prof Tim Cheng Vice-President for Research & Development Dr Shin Cheul Kim Associate Vice-President for Research and Development (Knowledge Transfer)	Prof Ricky Lee Executive Director of Shenzhen Platform Development Office

MEMBERSHIP OF SENIOR EXECUTIVES AFFAIRS COMMITTEE

Chairman	Mr Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
Members	Prof Patrick Yeung Kai-Cheung	Mr Stephen Yiu Kin-Wah

SENATE MEMBERSHIP		
President and Vice-Presidents	President (Chair)	Prof Wei SHYY
	Provost	Vacant
	Vice-President for Administration & Business (VP-AB)	Prof TC PONG
	Vice-President for Institutional Advancement (VP-IA)	Prof Yang WANG
	Vice-President for Research & Development (VP-RD)	Prof Tim CHENG
School of Science	Prof Andrew COHEN, Acting Dean Prof Ting XIE Prof Jiguang WANG Prof Ian WILLIAMS Prof Kun XU	Prof Sen YANG Prof Yong HUANG Prof Jiannong WANG Prof Jiying LI Prof Peiyuan QIAN
School of Engineering	Prof Bertram SHI, Acting Dean Prof I-Ming HSING Prof Limin ZHANG Prof Minhua SHAO Prof Xiaofang ZHOU Prof Andrew POON	Prof Li QIU Prof Jiheng ZHANG Prof Chi-Ying TSUI Prof Huihe QIU Prof Zhigang LI
School of Business & Management	Prof Kar-Yan TAM, Dean Prof Ming Yi HUNG Prof Allen HUANG Prof David COOK Prof Chu ZHANG Prof Shaohui ZHENG	Prof Jiatao LI Prof Kai-Lung HUI Prof Jiewen HONG Prof Yaping GONG Prof Tai-Yuan CHEN
School of Humanities & Social Science	Prof Kellee TSAI, Dean Prof Steven B MILES	Prof Yongshun CAI Prof Wenkai HE
HKUST Fok Ying Tung Graduate School	Prof Charles NG, Dean	
The Dean of Students	Prof King-Lau CHOW, Acting	
Interdisciplinary Programs Office	Prof Huamin QU, Director Prof Alexis LAU	Prof Naubahar Sharif Prof Huamin QU
Elected Members of the Academic Staff	Prof Cameron CAMPBELL Prof Albert HA	Prof Gang WANG
Co-opted Members of the Academic Staff	Prof Khaled BEN LETAIEF Prof Jimmy FUNG Prof Henry LAM Prof Andrew COHEN Prof Bradley A. FOREMAN Prof George Jie YUAN Prof Ross MURCH Prof Andrew HORNER	Prof Arthur LAU Prof Emily NASON Prof Che-Ting CHAN Prof Ricky S.W. LEE Prof Fugee TSUNG Prof Weijia WEN Prof Danyang XIE
Other Administrators	Mr James PRINCE, Academic Registrar	Ms Diana CHAN, Director of Library Services
Student Representatives	President of Students' Union (Vacant) Mr Tik Man CHENG, Undergraduate Representative	Mr Yu WANG, Postgraduate Representative

Appendix II

ADVISORY COMMITTEE

SCHOOL OF SCIENCE ADVISORY COMMITTEE

Prof. Marvin COHEN Professor of the Graduate School, Department of Physics, University of California, Berkeley, USA	Prof. Patrick LEE William & Emma Rogers Professor of Physics, Department of Physics, Massachusetts Institute of Technology, USA	Prof. WANG Xiaodong Director and Investigator, National Institute of Biological Sciences, Beijing, PR China
William R. KENAN, Jr. Professor Emeritus of Mathematics, Department of Mathematics, Yale University, USA	Prof. George C. PAPANICOLAOU Robert Grimmett Professor of Mathematics, Department of Mathematics, Stanford University, USA	Prof. YANG Weitao Philip Handler Distinguished Professor of Chemistry, Department of Chemistry, Duke University, USA
Prof. Roberto KOLTER Professor Emeritus of Microbiology, Department of Microbiology, Harvard Medical School, USA	Prof. Randy SCHEKMAN Howard Hughes Medical Institute Investigator and Professor of Cell and Developmental Biology, Department of Molecular and Cell Biology, University of California, Berkeley, USA	Prof. YAU King-Wai Professor of Neuroscience, The Solomon H. Snyder Department of Neuroscience, Johns Hopkins University, USA
Prof. Jean-Marie LEHN Director of Laboratory of Supramolecular Chemistry, Institut de Science et d'Ingénierie Supramoléculaires (ISIS), Université de Strasbourg, France		

SCHOOL OF ENGINEERING ADVISORY COMMITTEE

Industrial Advisors

Mr. Albert IP Yuk-Keung
Independent Non-executive Director
New World Development

Mr. Alfred CHUANG
General Partner, Race Capital
Founder and Chairman, Magnet Systems

Mr. Oscar CHOW
Non-Executive Director
Chevalier Group

Dr. Kaifu LEE
Chairman & Chief Executive Officer
Sinovation Ventures

Ir. Dr. LO, Wai-Kwok
Member of Legislative Council
Engineering Functional Constituency
HKSAR

Mr. Simon NGO Siu-Hing
Head of Engineering
Hong Kong & Gas Co. Ltd.

Ir. Dr. Derrick PANG Yat-Bond
CEO
Asia Allied Infrastructure Holdings Ltd.

Mr. Fred SHEU
National Technology Officer
Microsoft Hong Kong

Dr. Edward G. TIEDEMANN Jr.
Qualcomm Fellow
Senior Vice President of Engg of Qualcomm

Dr. Wen TONG
CTO, Wireless Network
Huawei Technologies Co. Ltd.

Mr. James TONG
Director of Public Affairs
John Swires & Sons (HK) Ltd

Mr. Frank WONG
Managing Director
Rohde & Schwarz Taiwan & Hong Kong Ltd

Dr. ZHOU Jingren
Head of Data Analytics and Intelligence Lab
Alibaba DAMO Academy

SCHOOL OF BUSINESS AND MANAGEMENT ADVISORY COUNCIL

Chairman

Dr. Hans Michael JEBSEN, BBS, Chairman, Jebsen Group

Members

Mr. Louis McDaniel BOWEN
Chairman and Chief Executive Officer
Asia Capital Management Limited and
China Advisors Limited

Mr. Adriel CHAN
Vice Chair
Hang Lung Properties Limited

Dato' Seri CHEAH Cheng Hye
Co-Chairman and Co-Chief Investment Officer
Value Partners Group Ltd

Mr. Eric FOK Kai-Shan
Vice President
Fok Ying Tung Group

Dr. William FUNG Kwok-Lun, SBS, OBE, JP
Group Deputy Chairman
Fung Group

Ms. Wendy GAN
Deputy Chief Executive Officer (District Development)
West Kowloon Cultural District Authority

Mr. Benjamin HUNG Pi-Cheng, BBS, JP
Chief Executive Officer, Asia
Standard Chartered Bank

Professor Albert IP Yuk-Keung
Chairman
World Green Organisation

Mr. Keith KERR, SBS, JP
Chairman
The Development Studio Ltd

Ms. Teresa KO Yuk-Yin, BBS, JP
China Chairman
Freshfields Bruckhaus Deringer

Mr. Manoj KOHLI
Country Head – Softbank India
Softbank Group International

Mr. Anish LALVANI
Chairman
Euro Suisse International Ltd

Mr. David LEE
Director
Lee Kum Kee Company Limited

The Honourable Mrs. Margaret LEUNG, SBS, JP
Non-official Member
Executive Council of Hong Kong

Ms. Nisa LEUNG, MH, JP
Managing Partner
Qiming Venture Partners

Dr. Vincent H. S. LO, GBM, GBS, JP
Chairman
Shui On Holdings Ltd

Mr. Maximilian Y K MA
Chairman
Lee Heng Diamond Group

Mr. Anthony NIGHTINGALE, CMG, SBS, JP
Director
Jardine Matheson Holdings Ltd

Mr. Wai Kwong SECK
Chief Executive Officer
Eastspring Investments Group

Mrs. Kathryn SHIH
Former President Asia Pacific and Member of Group
Executive Board, UBS AG and
Board Member, Julius Baer

Mr. Sukanto TANOTO
Chairman
RGE Pte Ltd

Dr. James E. THOMPSON, GBS
Chairman
Crown Worldwide Holdings Ltd

Mr. Andy TUNG
Non-Executive Director
Orient Overseas (International) Limited

Mr. Douglas WOO Chun-Kuen
Chairman and Managing Director
Wheelock and Company Ltd

Mr. Thomas Jefferson WU, JP
Independent Non-executive Director of Melco Resorts &
Entertainment Limited and Founder & Chairman of
Hong Kong Academy of Ice Hockey, Hong Kong
Amateur Hockey Club Limited and LOHAS Rink Limited

Mr. Arthur YUEN Kwok-Hang, JP
Deputy Chief Executive
Hong Kong Monetary Authority

SCHOOL OF BUSINESS AND MANAGEMENT CAREER DEVELOPMENT ADVISORY COUNCIL

Convenor

Prof. TAM Kar Yan, Dean of Business and Management, HKUST

Chairman

Prof. Albert IP, Senior Advisor to the Dean of Business and Management,
Former CEO of Langham Hospitality Investments Limited

Ex-Officio Member

Prof. Allen HUANG, Associate Dean of Business and Management

Members

Ms. Amy CHO
CEO, Hong Kong and Deputy Head, Asia Pacific,
Schroder Investment Management Limited

Mr. Wallace LAM
Managing Director and Deputy Head of Institutional
Banking Group, DBS Bank (Hong Kong) Limited

Mr. John LEE
Vice Chairman and Head of Greater China,
Global Banking, UBS AG

Prof. Eric MA, GBS, JP
Executive Director and CEO of NWS Holdings
Limited, and Executive Director of New World
Development Company Limited

Mr. Charles Tsai
CEO and Executive Director, Power Assets
Holdings Limited

Mr. Paul Yeung
Managing Director and Head of Sales and Client
Coverage, Business Banking, Commercial Banking, The
Hongkong and Shanghai Banking Corporation Limited

Dr. Samuel Yung, SBS, MH, JP
Executive Director and Honorary Advisor,
AIA International Limited

Mr. Liping Zhang
Senior Managing Director and Chairman of
Greater China, Blackstone Group (HK) Limited

HKUST ACCOUNTING ADVISORY BOARD

Chairperson

Ms. Ivy CHEUNG, Managing Partner and Head of Audit, KPMG China

Members

Mr. Dickman CHIU

Group Financial Controller, 100x Group

Ms. Cindy CHOW

Executive Director, Alibaba Entrepreneurs Fund

Ms. Karen HO

Former Chief Financial Officer, WeLab Holdings

Ms. Jane HUI

Leader of China Tax Center, Partner,
International Tax & Transaction Services, EY

Mr. Horace LEE

Director, Wharf REIC Limited

Mr. Roy LEUNG

Partner, Capital Markets Advisory Group, KPMG China

Mr. Andrew LEUNG

Chief Financial Officer, Hang Seng Bank Limited

Mr. Eugene LIU

Managing Partner, Head of Consulting,
RSM Hong Kong

Ms. Gloria LUK

Partner, Enterprise Risk Services, Deloitte China

Mr. Hong NG

Adviser & Director of Assurance, BDO Limited

Ms. Cindy NGAN

Partner, ESG Climate & Sustainability Practice,
PwC Hong Kong

Mr. Gary WONG

Partner, Assurance, EY

Mr. Fergus WONG

Director, Tax Controversy Services, PwC Hong Kong

Mr. Thomas WONG

Founding Partner, CW CPA

Ms. Shirley WOO

Partner, Audit & Assurance, Deloitte China

SCHOOL OF HUMANITIES AND SOCIAL SCIENCE ADVISORY COMMITTEE

Prof. Timothy BROOK

Emeritus Professor, The University of
British Columbia

Prof. Helen SIU

Honorary Professor, Hong Kong Institute
for the Humanities and Social Sciences,
The University of Hong Kong
Professor of Anthropology, Yale University

Prof. ZHOU Xueguang

Kwoh Ting Li Professor in Economic Development,
Professor of Sociology
Senior Fellow, Freeman Spogli Institute for
International Studies, Stanford University

APPENDIX III

SENIOR MANAGEMENT & FACULTY APPOINTMENTS & PROFESSOR EMERITUS

SENIOR MANAGEMENT APPOINTMENTS

Prof. Nancy Y. IP

President

Prof. Tim CHENG Kwang-Ting

Vice-President for Research and Development

Prof. Jimmy FUNG Chi-Hung

Associate Provost (Teaching & Learning)

Dr. KIM Shin Cheul

Associate Vice-President for Research and
Development (Knowledge Transfer)

SENIOR FACULTY APPOINTMENTS

Mr. Davis Boyd BOOKHART

Director of Sustainability/Net-Zero

Prof. CAI Yongshun

Head of the Division of Social Science

Prof. CHEN Jing

Director of Nanosystem Fabrication Facility (CWB)

Prof. Steven Bradley MILES

Head of the Division of Humanities

Dr. NING Zhi

Director of Environmental Central Facility

Mr. Nicholas Stephen NOAKES

Director of Center for Education Innovation

Prof. Andrew POON Wing-On

Head of the Department of Electronic and
Computer Engineering

Prof. QU Huamin

Head of the Division of Emerging Interdisciplinary
Areas

Prof. WANG Jiannong

Head of the Department of Physics

Prof. WU Zhenguo

Director of Laboratory Animal Facility (CWB)

Prof. XU Kun

Head of the Department of Mathematics

Prof. ZHANG Jiheng

Head of the Department of Industrial Engineering
and Decision Analytics

Prof. ZHANG Limin

Head of the Department of Civil and
Environmental Engineering

Prof. ZHOU Xiaofang

Head of the Department of Computer Science
and Engineering

PROFESSOR EMERITUS

The following faculty members were awarded the title of Professor Emeritus upon their retirement or departure from the University service:

Prof. CAI Lilong

Department of Mechanical and Aerospace
Engineering

Prof. CHUNG Chi-Shing

Department of Computer Science and Engineering
and Department of Chemical and Biological
Engineering

Prof. Christian Ashley DANIELS

Division of Humanities

Prof. HUANG Jingsong

Department of Mathematics

Prof. JING Bingyi

Department of Mathematics

Prof. LEE Dik-Lun

Department of Computer Science and Engineering

Prof. Philip MOK Kwok-Tai

Department of Electronic and Computer
Engineering

Prof. QIU Huihe

Department of Mechanical and Aerospace
Engineering

Prof. SHENG Ping

Department of Physics

Prof. TONG Penger

Department of Physics

Prof. Michael WANG Yu

Department of Mechanical and Aerospace
Engineering and Department of Electronic and
Computer Engineering

Prof. ZHAO Tianshou

Department of Mechanical and Aerospace
Engineering

Appendix IV

FINANCE

OVERVIEW

The financial year 2021/22 recorded a deficit of \$230 million (surplus of \$2,003 million for 2020/21). The deficit in 2021/22 was mainly due to tightened monetary policy and geographical conflicts which resulted in a significant investment loss. By excluding the impact of investment return, the University recorded a surplus of \$439 million in 2021/22 compared to \$176 million in 2020/21.

The University is committed to prioritising investments aligned with environment, social and corporate governance (ESG) values without compromising on return or diversification. Over 80% of the University's investments are managed by professional investment managers who are signatories to the United Nations' Principles for Responsible Investment. The University is reviewing its ESG investing policy to incorporate climate change risks and opportunities and support the goals of the 2015 Paris Agreement to limit global warming. This also aligns with Hong Kong/China's net-zero emission targets.

CONSOLIDATED INCOME AND EXPENDITURE

Consolidated income decreased by \$1,967 million to \$4,988 million in 2021/22 (\$6,955 million for 2020/21). By excluding the impact of investment return, the underlying consolidated income actually increased to \$5,657 million (\$5,128 million for 2020/21). The increase in underlying consolidated income was contributed primarily by the growth in tuition fee income of \$266 million and donation income of \$95 million compared to the previous year.

Consolidated expenditure increased by \$264 million to \$5,223 million (\$4,959 million for 2020/21), which was mainly attributable to an increase in other operating expenses of \$178 million and increase in depreciation charge of \$71 million. In light of the gradual stabilisation of the epidemic situation and adequate preventive measures, many of the on-campus activities were gradually resumed normal which led to the increase in operating costs.

SEGMENT RESULTS

Commentaries on operating segments, analysed by UGC-Funded Activities and non-UGC Funded Activities, are as follows:

UGC-Funded Activities

UGC-Funded Activities showed a deficit of \$154 million for the year (surplus of \$876 million for 2020/21). After excluding the investment loss of \$276 million (gain of \$748 million for 2020/21), the underlying result was a surplus of \$122 million (\$128 million for 2020/21).

Due to the unfavourable investment return recorded in 2021/22, the University's UGC reserves dropped to \$3,849 million (\$4,003 million for 2020/21).

Non-UGC Funded Activities

Self-Financing Continuing Professional Education Programs, Research and Other Activities

Self-financing CPEP activities contributed a surplus of \$365 million (\$196 million for 2020/21), mainly due to higher student enrolment and higher tuition income. Non-UGC funded research activities contributed a surplus of \$23 million (\$33 million for 2020/21), mainly arising from completed commercial research projects and government subsidies. Other activities contributed a deficit of \$225 million (surplus of \$406 million for 2020/21) which was mainly due to the allocation of net investment loss. In aggregate, the overall surplus of these operating segments amounted to \$163 million (\$635 million for 2020/21).

Donations Activities

Donations totalling \$234 million were recognized as income for 2021/22 (\$139 million for 2020/21). Overall, the segment showed a deficit of \$239 million (surplus of \$492 million for 2020/21) as contributed by the investment loss. The University has successfully secured \$230 million new pledges in 2021/22 (\$420 million in 2020/21).

For research related donations received in 2021/22, the University has applied matching under the Research Matching Grant Scheme and \$129 million matching grants were awarded in 2021/22.

Non-UGC Reserves

Non-UGC reserve balances were \$8,119 million at the end of 2021/22 (\$8,177 million for 2020/21). The decrease in the reserve balance was mainly contributed by the afore-stated investment loss which caused a deficit position in donation and other activities.

CAPITAL EXPENDITURE

On 17 November 2021, the University celebrated the grand opening of Shaw Auditorium - a brand new hall with state-of-the-art facilities. This new landmark is set to become an arts and culture hub for the University, offering a new place of learning and gathering for the community and further and creativity development of the University and its surrounding environment.

A number of construction projects are underway to enhance the University's facilities and infrastructure to cater for accommodation and amenity needs of students as well as for academic and research activities. The largest construction project is the New 1551-bed Student Hostel, which is expected to be completed by 2023. Likewise, two research buildings are proceeding and are targeted to be completed in 2025 and 2026 respectively.

OUTLOOK

The unprecedented Covid-19 pandemic continued to impact the operations of the University on various fronts. With the concerted efforts of the HKUST community, the University is on the path to return to normal activities.

On 29 June 2022, the Ministry of Education announced the approval of the establishment of the Hong Kong University of Science and Technology (Guangzhou) (HKUST (GZ)). The opening of HKUST (GZ) on 1 September 2022 created a new chapter of HKUST. Under the "Unified HKUST-Complementary Campuses" framework, HKUST and HKUST (GZ) will form a blueprint for next-generation cross-disciplinary education and research that take advantage of the complementary academic structures and shared resources to nurture forward-looking and creative talents, and pioneer a new way forward in higher education.

To ensure the financial sustainability, our University will plan and prioritise its financial resources prudently and carefully so as not to risk the quality or effectiveness of its academic deliverables. In the 2021-28 University Strategic Plan, our underlying aspirations not only set out to sustain and advance HKUST as a trendsetter in both education and research landscapes for the long term, but also address the evolving needs and challenges facing society.

Stephen YIU Kin-Wah
Treasurer of the University
20 October 2022

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 30 JUNE 2022

	2022 \$million	2021 \$million
Income		
Government Subventions and Grants	3,033	2,988
Tuition, Programs and Other Fees	1,519	1,253
Interest and Net Investment (Loss) / Income	(669)	1,827
Donations and Benefactions	234	139
Auxiliary Services and Other Income	537	462
Transfers from Deferred Capital Funds	334	286
	4,988	6,955
Expenditure		
<i>Teaching, Learning and Research</i>		
Teaching and Research	3,285	3,094
Library	117	124
Central Computing Facilities	129	134
Other Academic Services	115	101
	3,646	3,453
Institutional Support		
Management and General	466	446
Premises and Related Expenses	792	749
Student and General Education Services	298	285
Other Activities	21	26
	1,577	1,506
	5,223	4,959
(Deficit) / Surplus from operation for the year	(235)	1,996
Share of Result of an Associate	6	8
(Deficit) / Surplus for the year before tax	(229)	2,004
Tax	(1)	(1)
(Deficit) / Surplus for the year after tax	(230)	2,003
Other comprehensive income for the year		
Item that may be reclassified subsequently to income and expenditure:		
Exchange differences arising from translation	(7)	23
	(7)	23
Item that will not be reclassified to income and expenditure:		
Unrealised gain on equity securities at fair value through other comprehensive income	25	5
	18	28
Total comprehensive (loss) / income for the year	(212)	2,031
Transfers to / (from):		
UGC Funds	(154)	876
Restricted Funds	(169)	249
Other Funds	111	906
	(212)	2,031

CONSOLIDATED BALANCE SHEET

AS AT 30 JUNE 2022

	2022 \$million	2021 \$million
Non-Current Assets		
Property, Plant and Equipment	6,938	6,499
Intangible Assets	16	15
Right-of-use Assets	31	33
Financial Assets at Amortised Cost	0	38
Financial Assets at Fair Value through Other Comprehensive Income	518	491
Financial Assets at Fair Value through Income and Expenditure	8,424	9,521
Interest in an Associate	100	98
Bank Deposits with Original Maturity over Three Months	0	1
	16,027	16,696
Current Assets		
Financial Assets at Amortised Cost	39	39
Inventories	1	1
Accounts Receivable and Prepayments	399	352
Bank Deposits with Original Maturity over Three Months	3,318	2,685
Cash and Cash Equivalents	1,351	1,386
	5,108	4,463
Current Liabilities		
Accounts Payable and Accruals	1,053	1,047
Lease Liabilities	14	14
Provision for Staff Benefits	193	233
Deferred Income	1,871	2,620
Tax Payable	1	1
	3,132	3,915
Net Current Assets	1,976	548
Total Assets Less Current Liabilities	18,003	17,244
Non-Current Liabilities		
Accounts Payable and Accruals	48	0
Lease Liabilities	18	20
Provision for Staff Benefits	39	34
Deferred Income	1,078	386
Deferred Capital Funds	4,852	4,624
	6,035	5,064
NET ASSETS	11,968	12,180
UGC Funds	3,849	4,003
Restricted Funds	1,852	1,976
Other Funds	6,267	6,201
TOTAL FUNDS	11,968	12,180

Approved by the Council on 20 October 2022

Appendix V

SUMMARY OF INTERNAL CONTROL AND MEASURES

The University continues to adopt a system of internal control based on a framework issued by the Committee of Sponsoring Organizations of Treadway Commission (COSO). The five components of COSO Framework, namely Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring, are adopted by the University in ensuring the effectiveness of University governance.

In order to provide assurance about the effectiveness of internal controls to the Council and Senior Management of the University, the following arrangements are in place:

- (a) Whistleblowing Policy is in place and operating to provide a safe and protective means by which staff, students and other stakeholders of the University are enabled to raise concerns with the appropriate University authorities against any malpractice within the University.
- (b) Internal Audit Office is responsible to prepare the annual risk-based audit plans and perform independent reviews to assess adequacy of the design and operating effectiveness of the internal controls as well as providing recommendations to streamline processes for efficiency enhancement. Co-sourced external service provider is engaged on a need basis to supplement in areas requiring deep industry expert knowledge, for example, cybersecurity.
- (c) In addition to the statutory annual audit of the University's financial statements, the external auditors also carry out an independent assurance engagement on the University's compliance with the guidelines, terms and conditions imposed by the Government's University Grants Committee and performed review on HKUST's tax exemption status under Section 88 of the Hong Kong Inland Revenue Ordinance.
- (d) The Audit Committee of the University Council approves the annual audit plan, supervises the scope of work performed by the Internal Audit Office and reviews internal audit reports and concerns on internal controls raised by the internal and/or external auditors. Furthermore, the Audit Committee has an oversight role on the appointment and performance of both internal and external audit team to ensure independence of the reporting line for the auditors and objectivity of the work performed by the auditors.

HKUST STRATEGIC RISK MANAGEMENT

The Strategic Risk Management Process (the "Process") and related policy have an important role in University governance, as described in the University Grants Committee ("UGC") *Report on Governance in UGC-funded Higher Education Institutions in Hong Kong*, commonly called the *Newby Report*, published in 2016. The University Council, as the supreme governing body, has to oversee University's performance through proper management of risks in order to achieve the respective strategic objectives.

In the past year, the University continued to face a fast-changing external environment and the risk landscape has contributed and impacted by prolonged waves of COVID-19 pandemic, demographic changes, and the "new-normal" operations around the world. The University has to pay extra efforts in handling issues arising from the lack of resources, including those related to search for additional land to facilitate University's strategic development, talents recruitment and retention, and efficiency of administrative processes, etc.

In this year, enhancements to the Process have been made by the adoption of a simplified risk assessment approach with broadened spectrum of engagement to facilitate consensus, and for achieving a more robust review and mitigation mechanism. Considering the opportunities and challenges of the operating environment, the University's Risk Register as compiled would be adjusted according to the latest development directions and strategic objectives of the University. The following summary highlights the key aspects of risk assessment results:

REPUTATIONAL RISKS

As indicated in the *Newby Report*, "*the management of risk is underdeveloped in Hong Kong universities, especially reputational risks*". Taking reference of the comments and observation of various stakeholders and benchmarking with both local and non-local institutions, the University monitors how the external environment and internal activities might pose risks to its reputation. Apart from the endeavors on strategic recruitment for both faculty and students, the Administration has identified ways to promote international collaborations to showcase its research impacts and developed new and innovative program disciplines such as those on Environment, Social and Governance to address major global challenges and future demand of society. In carrying out its mission, HKUST is committed to protecting its name and safeguarding its interests for the University's long-term development. The establishment of The Hong Kong University of Science and Technology (Guangzhou) ("HKUST(GZ)") is another example of how HKUST has been able to synergize with its partner on resources, innovative ideas and research collaborations to achieve a win-win situation for promoting HKUST's overall competitiveness and international reputation in academic excellence, research and innovation. The University is equipped with extended strength under the "Unified HKUST, Complementary Campuses" principle for driving unprecedented opportunities, especially in the Greater Bay Area, as both campuses continue to strive cohesively in assisting in the economic, social, and cultural development of Hong Kong, as well as the Greater Bay Area and the Mainland. The University has also continued its efforts in enhancing and further developing proper cross-campus coordination framework on applicable activities and collaboration with HKUST(GZ).

FINANCIAL RISKS

Being a public-funded university, it is important for the University to ensure accountability and value for money by optimizing its resources while achieving its key strategic goals, as well as to maintain financial sustainability to support its future operations.

Due to the extended impact of COVID-19 pandemic on the global market, the outlook for non-government funding sectors remains uncertain. The University seeks to deploy a prudent approach in financial planning and budgetary controls to maintain a sound and healthy financial status while staying bold in supporting key strategic initiatives, covering faculty recruitment and retention, capital projects and research infrastructure. Though HKUST and HKUST(GZ) are two separate legal entities and operating independently in terms of financial management, the synergy arising from the partnership, with proper oversight, has indeed created much more significant research impact while maximizing operational resources of HKUST.

The University will continue to seek advice from external professional consultants from time to time in modifying its investment strategies to foster the University's financial strength. Risks arising from investment activities in the volatile financial markets are also monitored and reviewed by the Council's Finance and Audit Committees through the formulation of investment strategies with acceptable risk profile and return objectives, to be adjusted in tandem with evolving situations. Please refer to the University's financial statements for details.

OPERATIONAL RISKS

Assessment of the University's operational risks has been performed from various angles. With the commitment in providing a safe and sustainable campus for the University community on the one hand, and enhancement and reengineering of relevant processes and guidelines on the other.

Taking into consideration the aging campus and in anticipation of its strategic needs, the University has been making extra efforts in renewing campus facilities and evaluating its land demand. Proactive measures have been taken to identify and secure land resources for the continuing development of the University. Embracing the great importance of talents to the development of the University, continued efforts have also been made by various Schools and Offices in recruiting and nurturing talents with more diverse areas of strength.

While regular face-to-face classes are gradually resumed following the stabilization of the COVID-19 situation, the University has paid extra attention to create a well-protected environment to ensure the health and safety of its members. At the same time, and with the experience gained from the practice of online teaching, issues on cybersecurity have been widely exchanged within the University community in order that awareness on personal data protection would be enhanced.

Following its 30th years of operation, the University has also taken heed of the need to revamp its record keeping system and review related work procedures in support of its various endeavors, as well as governance of the University. With that, Council has taken the lead to review certain administrative processes in anticipation of a much streamlined and systematic mechanism without scarifying the quality of work and established standards.

Recognizing the importance of sustainability for the University's future development, the University has also proactively reviewed its sustainability strategies to facilitate gradual implementation of the next generation business processes, systems and technologies, so that related information management procedures could be kept up-to-date and remained on the frontier of the curve.

The University's strategic risk assessment exercise will continue to serve the purpose of ensuring that strategic risks are identified and well managed. The overall risk profile and the Strategic Risk Register will be reviewed from time to time, while appropriate risk mitigation measures would be formulated to ensure effectiveness in the risk monitoring process.

After all, in charting the way to overcome both external and internal challenges, the University will continue to uphold its core values, as well as to formulate and optimize relevant policies and guidelines to lead its community forward.



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