

**Annual Report on
Knowledge Transfer for 2017-2018**

to

University Grants Committee



香港城市大學
City University of Hong Kong

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Executive Summary

In the reporting period, City University of Hong Kong continued to make significant progress in many areas of knowledge transfer. First and foremost is the soaring licensing income of over HK\$18m, second highest obtained so far. City University has continued to strengthen technology transfer partnership with leading universities worldwide, so that a much larger and more comprehensive portfolio of technology solutions can benefit the University's own technology marketing efforts. On the market development side, we have expanded our reach into inland market, establishing new relationships with inland government agencies.

Partnership and collaboration with local and international industrialists, trade and commerce organizations, and innovation and research bodies have been a core commitment of City University in upholding its applied research and technology transfer endeavours. The Hong Kong Science and Technology Parks Corporation, led by its Chairman of the Board, the French Chamber of Commerce in Hong Kong, trade and commerce organizations and many government organizations in the Mainland visited our state-of-the-art research facilities and expressed interest in establishing research collaboration and commercialization partnership with us.

In the last two years in a row, City University was ranked among the top 100 universities worldwide and topped in Hong Kong for receiving the most number of granted patents by US Patent and Trademark Office.

The City University of Hong Kong Chengdu Research Institute unveiled ARTS + iNNOVATION (A+i) which provides public space for applied research, training and incubation for creative media and digital society-related industries. It will enhance collaboration on research and professional training between Chengdu and Hong Kong.

We continued to promote the three funding schemes seamlessly designed for the early, mid-, and late stages of startup lifecycle, and further strengthened our innovation and entrepreneurship ecosystem. Our students shone at national and local innovation and startup competitions, winning top awards including startup funding.

Finally, the Hong Kong Jockey Club Charities Trust-funded project, TEDY, provides a highly engaging and interdisciplinary platform for our students to apply their knowledge learned to design innovative and technology-based solutions for the elderly and people with disabilities. The project's practical application of technologies help these disadvantaged groups integrate better into the society and lead a smart life, contributing to creating a more inclusive community. Examples of the inventions include a device to aid a visually impaired bowling team at the Hong Kong Blind Sports Federation to play a better game, a device for the visually impaired to read out labels to identify objects and a wheelchair simulator for training new wheelchair users, etc.

1. Fostering Technology Transfer

1.1 Outstanding Technology Licensing Results

2017-18 was a fruitful year to City University in terms of technology licensing activities. A licensing income (on cash basis) of HK\$18.37m was recorded, the second highest attained so far. Seven new licensing agreements were added, making the total number of active licensing agreements standing at 43.

The table below shows the details of the seven licensing agreements newly signed.

	Technologies Licensed	Nature of Business of Licensee	Where the Licensee is Based
1	Bioconversion of food and beverage waste	Food and beverage	US
2	Power electronics	Semiconductor	Hong Kong
3	Power electronics	ODM	Hong Kong
4	Power electronics	Power electronics	Hong Kong
5	Gas treatment	Air purifying	Hong Kong
6	Virtual reality	Medical technology	Mainland
7	Water quality monitoring	Manufacturing	Hong Kong

1.2 Forming Strategic Partnership with Leading Universities for Technology Transfer in the Mainland and Expanding Capacity of Innovations under Management

Since 2014, City University has been placing increasing emphasis on establishing strategic partnership with licensing offices of leading universities abroad. Leveraging on the strengths of Hong Kong being a technology and knowledge hub between East and West, the University proactively formed strategic partnership with Stanford University, Cedars-Sinai Medical Center, Arizona State University and Louisiana State University in the US, McMaster University in Canada, King Abdullah University of Science and Technology in Saudi Arabia and Shanghai University in the Mainland. Such partnerships enable us to pool together state-of-the-art technologies from City University as well as its partners for the vast market in the Mainland. Likewise, these strategic partners also help us identify licensing opportunities in their home countries for win-win collaboration.

To expand our marketing reach for the growing innovations under City University's management, technology transfer (TT) collaboration programmes have been launched in the Mainland. Apart from the three mainland collaboration programmes (Shenzhen, Yangzhou and Jiangsu) reported last year, we have successfully expanded the programmes to Chengdu, Zhejiang and Beijing with an aim to creating a comprehensive network of TT platforms covering strategic locations in the Mainland for synergistic effect. These TT programmes are also in line with China's overall economic development as laid down in its 13th Five-Year Plan, and goes a long way to demonstrate Hong Kong's strategic contribution to China's technological advancement.

1.3 Developing Partnership and Collaboration

Partnership and collaboration with local and international industrialists, trade and commerce organizations, and innovation and research bodies have been a core commitment of City University in upholding its applied research and TT endeavours.

In November 2017, a delegation from the French Chamber of Commerce, consisting of over 20 senior executives from the French General Consulate and other French organizations, visited our laboratories including the State Key Laboratory of Millimeter Waves; 3D Atom Probe Tomography

Laboratory; Centre for Robotics and Automation; and the School of Creative Media's renowned augmented reality project - Pure Land: Inside the Mogao Grottoes at Dunhuang. The delegates were impressed with our state-of-the-art facilities and research achievements.

In June 2018, a delegation from the Hong Kong Science and Technology Parks Corporation (HKSTP) comprising its chairman and members of the Board of Directors and senior management visited our laboratories including the State Key Laboratory in Marine Pollution, the State Key Laboratory of Millimeter Waves, and the Hong Kong Branch of National Precious Metals Material Engineering Research Centre, etc. The delegates expressed keen interest in our various research projects such as those concerning perovskite-based solar cells, a popular new discipline in the energy science sector; applications for new nanomaterials in food safety and healthcare; and the smart thermostat.

1.4 Strengthening IP Management

The University has in place a well-established administrative framework and policy protecting the intellectual property generated from research activities. After a stringent vetting process, inventions of high commercialization value are pursued for patent filing. In the year under review, 94 new patent applications were filed in the US and Mainland in various fields of technologies with 58 patents granted during the same period. By June 2018, there are 385 patents granted with a further 378 patents pending.

After years of cultivation, we begin to reap the fruits of patenting. With 44 US patents granted in calendar year 2017, City University ranked 58th in The Top 100 Worldwide Universities Granted US Utility Patents, far out-performed other local universities as the closest one only ranked 93rd with 28 patents granted. We hope to sustain this leading position and continue to excel in this area.

1.5 Outreach

Through the CityU Business and Industrial Club (CUBIC), we have forged close ties with senior business executives and industrialists. CUBIC regularly organizes events (e.g. Emerging Technologies Forums (ETFs), Special Interest Group gatherings) for its members, and aligns industrialists and academics from the University and other institutions to build a platform to advance technological development and promote cross-institution collaboration. In 2017-18, the membership of CUBIC has grown from 1,547 to 1,690, at an annual increase rate of over 9%. The number of inland CUBIC members has also increased from 252 in 2016-17 to 393 in 2017-18.

The flagship technology transfer and relationship building events run by CUBIC during the year included:

- *Emerging Technologies Forum on “Advances in Artificial Intelligence” (22 September 2017)*
This kicked off a series of ETF in collaboration with the Department of Electronic Engineering. The speakers inspired the audience on the Era of AI Computing and Low-Rank Matrix Approximation and Recovery.
- *Seminar entitled “From Dream to Reality: A Success Story of a Hong Kong Young Engineer” (13 November 2017)*
Co-organized with the Department of Computer Science, Department of Electronic Engineering and Innovation Commons, the speaker shared his startup story and the life as a young developer in the Silicon Valley, US.
- *Emerging Technologies Forum on “Advances in Battery Technology” (5 January 2018)*
The speakers elaborated the advances of fast charge technology in our daily life and City University's energy-efficient battery parameter extraction technique was showcased.

- *Emerging Technologies Forum on “Advances in 5G Technology” (8 June 2018)*
The speaker from a local mobile operator provided updates and insights on 5G technology.

Two casual happy hour tea gatherings were also organized for exchange and networking between our academics and industrialists.

Besides, we have also participated in various technology transfer or innovation exhibitions locally and overseas (e.g. SmartBiz Expo in Hong Kong, TechInnovation Singapore and TechConnect in the US) to showcase our latest inventions for commercialization and expand our client base.

To build a more solid communication channel with our industrial friends, where we can showcase our latest technological developments, we have revamped our e-newsletter, *CityTech*. The inaugural issue was published in May 2018 which was successfully delivered to almost 3,500 CUBIC members and friends of City University.

2. Broadening Knowledge Transfer beyond Science and Engineering Disciplines

2.1 Knowledge Transfer Award for Non-technology Disciplines

To broaden knowledge transfer (KT) beyond science and engineering disciplines, funding has been provided since 2011 to support worthwhile KT initiatives proposed by non-science colleges, including the College of Liberal Arts and Social Sciences, College of Business and School of Law. Every year, each college holds an internal competition to prioritize the applications before submission to the Knowledge Transfer Office. Seven projects were approved in this reporting year to receive up to HK\$0.2m each as below:

- *My Citizens Panel: Public Policy Polling*
- *“Reciprocity as Empowerment” – a Bi-directional Knowledge Transfer Project to Enhance Students’ and Service Recipients’ Development through Examining Perceived and Experienced Mutual Benefits*
- *Exploring the Needs of Visually Impaired People: an Investigation of Audio Description Practice in Hong Kong*
- *Towards Automatic Translation between Mandarin Chinese and Cantonese*
- *Key Factors of Successfully Operating Social Enterprises: an Analysis of and Dissemination to the Hong Kong Social Enterprise Sector*
- *CityU–Hong Kong Consumer Confidence Index (CityU–HKCCI) for July 2017 – June 2018*
- *Establishing a Customer Experience Index for Hong Kong Industries and Corporate Brands*

To encourage KT initiatives for the entire campus beyond technology sectors, cross-disciplinary and international KT projects will be encouraged in future rounds of application.

3. Upholding Research Excellence

3.1 Research Excellence

Part of the University’s mission is to anticipate and respond to the needs of industry, commerce and the community by engaging in applied research with its results used for direct benefit to Hong Kong and beyond. The University continues to maintain its close ties with local and overseas industries through various forms of collaboration including contract research. In the year under review, 83 contract and collaborative research projects totaling HK\$119m were approved from government, industry and other organizations. Highlights of some contract research projects are development of materials or systems in a wide spectrum of disciplines as set out below:

- *Design of Holistic Hoisting Equipment for the Service Robot*
- *Pilot Study on IoT Application on Monitoring Solar-driven LED Lampposts*

- *Non-orthogonal Multiple Access for 5G in Asynchronous Channels with Practical Channel Estimation*
- *Customer Segmentation and Predictive Analyses*
- *Improvement on the Preparative Methods for Acetate-binding Polymers and their Application Study*
- *Application of Positive Psychology to Mental Health Setting - A Holistic Approach*
- *A Three-year Longitudinal Study on Rehabilitated Offenders*

3.2 Research Breakthroughs

Noteworthy to report here are some of our research breakthroughs.

Elastic property of nano diamond was revealed for the first time by an international research team led by City University. Dr Lu Yang in the Department of Mechanical and Biomedical Engineering who led the research team, found that when diamond was downsized to nearly 100 nanometres in diameter, which is about one six-hundredth of the size of human hair, up to around 9% of tensile elastic strain was recorded for single crystalline samples. The large deformation observed is fully reversible in nature, meaning that diamond can be elastic. This groundbreaking discovery was published in the prestigious journal *Science* (April 2018). The research holds great promise because diamond is compatible with the human body and diamond's elasticity can help to make diamond needle-based drug delivery to human cells more durable and cost-effective. Another potential application will be in quantum computing and quantum information processing as nanoscale diamonds possess well-controlled point defects, allowing manufacturers to produce smaller, lighter and faster computers.

Another ground-breaking advancement relates to cancer treatment and energy conservation achieved by Professor Paul Chu, Chair Professor in the Department of Physics and the Department of Materials Science and Engineering. Both applications were developed based on the study of photoluminescence and light scattering mechanisms, as well as the plasmonic properties of micro-nanostructures. The photothermal therapy, an emerging cancer treatment, involves the targeted delivery of photothermal agents to tumors, and subsequent light irradiation to produce a high local temperature to kill tumor cells. This strategy is described as a "Trojan horse" carrying "bombs". The findings have earned the research team, comprising researchers from City University and Nanjing University in mainland China, the highly prestigious First Class Award (Natural Science) in the 2017 Higher Education Outstanding Scientific Research Output Awards (Science and Technology) of the Ministry of Education, China.

In a world's first, Professor Sun Dong, Head of the Department of Biomedical Engineering, and his research team have developed a magnetic 3D-printed microscopic robot that can carry cells to precise locations in live animals. The invention could revolutionize cell-based therapy, regenerative medicine and more precise treatment for diseases such as cancer. It was published in the latest issue of journal *Science Robotics*. The microrobots could be used to carry stem cells that can repair damaged tissues or treat tumors, providing an alternative to invasive surgery, as well as a solution for the side effects caused by drugs and drug resistance issues.

4. Expanding Research Platform and Technology Transfer to the Mainland

4.1 CityU Shenzhen Research Institute

Mainland research development continued to fare well in 2017-18. A total of 56 new research projects were obtained via the research platform in Shenzhen, CityU Shenzhen Research Institute (CityUSRI) (breakdown: 26 were funded by the National Natural Science Foundation of China (NSFC), 17 were funded by the Shenzhen Science, Technology and Innovation Commission (SZSTI), and one was funded under the Major Programme of the Ministry of Science and Technology of the People's Republic of China). With 26 project proposals successfully obtaining a

total funding of RMB15.37m, CityUSRI topped local universities in terms of the number of projects and total grants received from NSFC in 2017-18.

	2015-16	2016-17	2017-18
Number of active research projects	223	264	213
Total grants of the active research projects	RMB130.90m	RMB185.43m	RMB187.15m

Outstanding new projects:

- Professor Jian Lu in the Department of Mechanical and Biomedical Engineering received a grant of RMB13.1m under the National Programme on Key Research Project of the Ministry of Science and Technology to investigate the service behaviours and industrial applications of new nanostructured metals.
- Professor Michael Yang Mengsu in the Department of Biomedical Sciences received a grant of RMB3m from the Guangdong Science and Technology Department for his Major Science and Technology Project on precision medicine and stem cells. It is of great significance for obtaining the provincial major project sponsorship for the first time.

4.2 City University of Hong Kong Chengdu Research Institute

The City University of Hong Kong Chengdu Research Institute (CityUCRI) serves as the second strategic platform of the University after Shenzhen for research and development, incubation and innovation, as well as professional education and training. Two research projects funded by the Science and Technology Department of Sichuan Province are currently ongoing. In addition, two research units, namely the Centre of Excellence on Blockchain Centric Business Innovation and Civil Engineering and Environmental Wind Tunnel Laboratory, received research start-up funding provided by the Shuangliu District Government, Sichuan Province, and are expected to put into operation in 2018.

Officiated by the Chief Executive of Hong Kong, Mrs Carrie Lam Cheng Yuet-ngor, ARTS + iINNOVATION (A+i) at CityUCRI announced its official opening on 11 May 2018. A+i provides public space for applied research, training and incubation for creative media and digital society-related industries. It will also enhance collaboration on research and professional training between Chengdu and Hong Kong. Currently, A+i Building houses two centres, namely the Centre for Applied Computing and Interactive Media, Chengdu and the Centre for Innovative Applications of Virtual Reality Technologies, both focus on innovations and applications in the fields of arts, creative media and virtual reality.

5. Nurturing Inno-preneurship Ecosystem

5.1 Funding Schemes to Provide Seamless Financial Support at all Stages of Innovation and Entrepreneurship

To support different stages of discovery and innovation, three funding schemes are in place:

- a. Student Early Entrepreneurship Development Scheme (SEEDS) supports early-stage idea validation, feasibility and marketing studies on a project basis. In the third round of application, 36 teams of students submitted applications, eight of which eventually beat out others to win a maximum funding of HK\$200,000 per team. After three rounds of application, SEEDS has granted HK\$3.3m funding to 19 student teams.

- b. Technology Start-up Support Scheme for Universities (TSSSU), helps commercializing business ideas at pre-seed start-up stage, moved into its fifth year and the second triennium of its operation. Twenty-five applications were received in the 2018-19 round of application. Ten teams were selected to receive a total funding of HK\$4m. After five rounds of application, TSSSU has provided funding support to 27 startups with a total funding of HK\$20m.
- c. CityUE Investment Fund, a venture-capital-style investment fund, is in place to support CityU spinoff companies in exchange for stock ownership. No funding investment was made during the reporting period.

5.2 Incubation Programmes

There are in place three incubation programmes on/near campus supporting different stages of development of City University innovators/entrepreneurs. In collaboration with the Hong Kong Science and Technology Parks Corporation (HKSTP) are the CityU-HKSTP Pre-Incubation and Incubation Programmes, both are housed at Lion Rock 72 at the InnoCentre next to our campus. Teams under the Joint Incubation Programme can also enjoy the facilities and benefits of HKSTP's own incubation programme at Science Park in Shatin. Ten CityU teams have joined the CityU-HKSTP Pre-Incubation Programme while five teams have been benefitted from the Incubation Programme. We also run our own incubation centre which is housed in the library on campus.

Across the border in the CityUSRI Building, the University's research and professional education establishment in Shenzhen, Innovation Commons (Shenzhen) (香港城市大學創新創業中心(深圳)) will be set up to serve as another incubator for technology startups of our students, staff members and alumni. We are in the process of recruiting promising incubatees and some potential candidates have been identified. The Centre is anticipated to start operation in late 2018.

5.3 Innovation and Startup Competitions

During the reporting period, we co-organized with HKSTP and the Hong Kong Polytechnic University a startup competition known as "Hong Kong Techathon 2018" for university students in Hong Kong to get a taste of entrepreneurship. The programme comprised a two-day pre-event meet-up and seminars, and a three-day intensive camp where the participants formed their teams, developed their business ideas and did their pitching. Thirteen winning teams were selected and awarded direct entry into the final assessment of the start-up funding schemes and/or incubation programme administered by their universities and conditional offer into HKSTP's incubation programme.

The National Challenge Cup Competition is dubbed the Science and Technology "Olympic" event for university students in China. In the 2017 National Challenge Cup Competition, three City University teams clinched one second-class and two third-class awards for their innovative projects. The 2018 Competition is yet to be held. But the Hong Kong Regional Final was successfully concluded in May 2018 with our students shining at the event. Four PhD students from the Department of Biomedical Sciences won the First Prize in the Category of Life Sciences and the Top Prize in the Category of Innovation with their project "Designing Bioinspired Surface with Superwettability for Healthcare-related Application". Among the 188 teams taking part in the competition, our teams won 12 prizes in total.

In the annual flagship event Cyberport University Partnership Programme (CUPP), two student teams of City University won the competition and received a seed funding of HK\$100,000 each. One team created an A.I. and digital chatbot platform for providing customer-centric conversation for converting online users to the customers of insurance companies while the other team provided a single-payer platform supporting various electronic payments including credit cards, PayPal and Mainland China's mobile wallets.

In the HSBC Safeguard App Competition, our students, teamed up with students from the University of Hong Kong, won the Grand Prize and received a cash award of HK\$100,000 for their easy-to-navigate interface for individual users monitoring and maintaining bank account security.

5.4 New Innovation/Entrepreneurship (I/E) Funding Schemes

To support I/E, two funding schemes were newly launched, namely Sponsorship for Innovation and Entrepreneurship Competitions and the Student Patent Award. The former provides subsidies for students to participate in regional and international I/E competitions while the latter provides a cash award for successful application of patents by our students.

5.5 Other I/E Support

In collaboration with the Alibaba Entrepreneurs Fund and CoCoon Ignite Ventures, both are in venture capital (VC) business, a one-to-one meet-up with VC investors was organized. Similar events will be organized on a regular basis to maximize our startups' exposure to investment opportunities.

The Office of Education and Gateway Education (EDGE) of the University also provides support to our students on I/E. Thirty-nine class visits involving over 2,000 undergraduate and 1,000 postgraduate students were made during 2017-18 to draw their awareness of intellectual property (IP) via a 5-minute video clip produced by EDGE. An educational platform, CityU Startup Academy, was established on which a wide range of pedagogical and technological tools are used to enhance student learning on I/E. Over 200 students attended the Academy's courses held on evenings and weekends last year. Face-to-face coaching and mentoring services are also provided by EDGE to guide our young innovators all along the road to innovation and entrepreneurship.

Promotion campaigns were organized on a regular basis to raise students' awareness of Innovation Commons (IC), the University's I/E resource centre, which continued to provide pitching training and mentoring service to our young innovators.

CityU is pleased to have the support of Microsoft Hong Kong Limited for our I/E development. A memorandum of understanding (MOU) has been signed which allows CityU entrepreneur programmes to nominate mature startups for Microsoft's startup programmes; and extends opportunities to CityU students to take up student and education programmes at Microsoft, etc. The MOU also supports faculty members and researchers in R&D projects with Microsoft Research Asia Collaborative Research programmes.

6. Impact Cases

Highlighted below are examples of significant knowledge transfer endeavours of the University.

6.1 Setting International Wireless Charging Standard - Qi

“Qi (氣)” in Chinese refers to energy flow. In the electronic world, however, Qi is the first international standard for wireless charging. It gained popularity since 2017 when Apple, the world's largest smartphone manufacturer, finally joined the Wireless Power Consortium (WPC) (one of the two competing organizations developing wireless charging standards) which created Qi, and adopted Qi standard in its iPhone products. This strategic move by Apple sparked a wireless charging revolution. Little was known that the core technologies underpinning this universal standard, in fact, came from Asia - City University of Hong Kong's wireless charging technologies and related patents. These technologies have earned us handsome sums of licensing incomes. However, it was not the monetary return that drove us pioneering wireless charging technology. It was all due to a green cause.

The early 21st century saw a booming consumer electronics market with the existence of numerous electronic gadgets like mobile phone, MP3, PDA, etc. Foreseeing a drastic increase in the electronic waste like chargers when users upgrade their devices, and relieving users of the hassle of tangling cables, City University started inventing a single platform for charging up multiple electronic devices wirelessly. Our wireless charging technologies and related patents eventually led to the creation of an international wireless charging standard, Qi. City University is proud to be involved in setting the first wireless charging international standard which exemplified our research excellence.

6.2 Textile Waste Recycling by Biological Method

Textile waste has become a global concern in recent years. In 2016, Hong Kong produced around 343 tonnes of textile waste per day, constituting 3.3% of the daily amount of local municipal solid waste that ended up in landfills. In 2014, 16 million tonnes of textile waste was generated in the US alone, and only 2.62 million tonnes was recycled, while around 10 million tonnes was sent to landfills. A sustainable recycling method for diverting textile waste from landfills is urgently needed. Dr Carol Lin Sze-ki, Associate Professor in the School of Energy and Environment, and her research team have invented a green technology capable of recycling mixed textile waste into value-added products, such as synthetic fibre and bioplastics. The team recently won a Gold Medal at the 46th International Exhibition of Inventions of Geneva in April 2018.

The new bioconversion process developed consists of pre-treatment, enzymatic hydrolysis and melt-spinning in which enzymes efficiently degrade the natural fibre such as cotton in the textile waste into glucose, leaving the highly pure polyester residue for the subsequent re-spinning process.

The major difficulty in textile waste recycling has been that varied compositions are used, which limits regenerated products to low-value applications, e.g. second-hand clothing and basic content. However, the biorefinery strategy is capable of recycling most textiles such as cotton, polyester, jeans, and cotton-polyester blend textiles. The new technology recovers glucose that can be converted into bio-based products such as plastics, surfactants, and chemicals by industrial biotechnologies, while the polyester can be reused in the textile industry. This new bioconversion process not only helps to address the waste problem but also creates a sustainable and circular economy.

6.3 Project TEDY - Technologies for the Elderly and Disabled People by Youths

Funded by the Hong Kong Jockey Club Charities Trust, project TEDY aims at cultivating in students a stronger sense of social responsibility and empathic understanding for the elderly and people with disabilities. Launched by Dr Lam Miu Ling in the School of Creative Media, the project provides a highly engaging and interdisciplinary platform for students to directly help the target beneficiaries by designing innovative and technology-based solutions for them. Through NGO-assisted visits and workshops, students interact with the target beneficiaries and gain first-hand understanding on the difficulties that people with disabilities face on a daily basis. Students then custom-design and create prototypes of devices that bring convenience to their life, support them to live independently and enhance their quality of life. The project's practical application of technologies help these disadvantaged groups integrate better into the society and lead a smart life, contributing to creating a more inclusive community.

TEDY organizes annually the competition "Makeathon", an intensive workshop carried out within 72 hours, where participants are challenged to solve a problem encountered by the elderly and disabled in groups through inventions. The problem to focus on has to be decided before the Makeathon and the resources participants need will be made ready during the competition. Makeathon is open to all City University students, and the winners will be given the chance to display their devices at academic conferences and exhibitions abroad. Besides this featured three-day competition, there are a couple of year-long projects under TEDY for students to follow up a problem and develop a prototype in time. In the coming summer, TEDY will send student

interns to different organizations, e.g. rehabilitation or training centres to learn more closely the needs of the elderly and people with disabilities.

The winner of the last Makeathon in November 2017 invented a device to aid a visually impaired bowling team at the Hong Kong Blind Sports Federation to play a better game. The device recognizes which pins remain after each strike and the smart phone reads it out to the visually impaired team. This invention has won ‘the best of the best’ award at the CityU Discovery Festival.

A number of tools appreciated by the elderly and people with disabilities are prototypes of previous Makeathon. For example, a device has been invented to read out labels to identify objects. The stickers have a Radio-frequency Identification (RFID) label and the device reads the label so that people with poor vision can identify different objects with their ears. The electric wheelchair simulator is another invention which allows the disabled to learn using a wheelchair safely in a virtual environment. The system will be adopted by the Hospital Authority Community Rehabilitation Service Support Center in Kowloon Hospital for patients’ training. A lifting system has been created to allow an immobile person to manage transferring himself/herself from a wheelchair to a seat without external help.



The wheelchair simulator will be adopted by a hospital as a training tool for new wheelchair users.

6.4 Smart Thermostat for “Smart City”

Advancing the “smart city” concept requires the development of smart devices, and smart thermostat is one such device which is invented by a City University team consisting of two PhD students in the Department of Electronic Engineering and a postdoctoral fellow in the Division of Building Science and Technology.

Conventional air-conditioning systems maintain indoor temperatures through the method of incessant temperature fluctuation and can only provide three options for fan speed: high, middle and low. However, the smart thermostat employs a new temperature control algorithm to control the fan coil in the system, keeping the indoor temperature even more stable. Furthermore, the smart thermostat not only has the feature of step-less airflow control, but also “ultra-low speed”, which can provide fresh air to maintain good indoor ventilation. In addition, energy consumption, including the fan coil, chilled water circuit and water pump, can be significantly reduced. It is simple and cost effective to install smart thermostats, as the modification or replacement of the air-conditioning system is not required. Simply replacing existing thermostats with the smart ones can reduce 20 to 40% of energy consumption of the fan coil, or more than 10% in energy saving for the entire central air-conditioning system.

Smart thermostat could not only regulate indoor temperatures, but also the human thermal comfort levels. With cloud technology and the Internet of Things, users can make use of smart phone apps and a cloud data platform to more accurately control temperatures and effectively manage power consumption, which can help reduce carbon emissions and advance the idea of “smart city”.

A startup has been formed by the trio to commercialize the new invention which has been launched onto the market, with three patents having been filed.

6.5 My Citizen Panel App - an Online Research Panel of People Who Participate in Web-based Surveys and Experiment Studies about Public Policies

The Laboratory for Public Management and Policy (LaMP) works at the intersection of public management and public policy. Its primary aim is to examine how management practices and organizational arrangements can be more effectively configured to enhance public service performance, benefit public policy and enhance public value.

During 2017-18, LaMP launched My Citizens Panel. My Citizens Panel is a panel of Hong Kong subjects used in research and that engage in citizen satisfaction studies with public services and public policy polling. A seminar and public lecture launched the My Citizens Panel app.

Furthermore, LaMP engaged in two outreach knowledge transfer to secondary schools projects. The first is a project on Research Design for the HKDSE Liberal Studies project. Working with leading schools, including Queen's College and Good Hope School, faculty members engaged with students in the design of public policy related research projects that students submitted as part of their HKDSE qualification. Second, LaMP has taken forward this agenda with funding from the Environmental Conservation Fund's Environmental Campaign Committee in a project titled "Behavioral Insights in Environmental Public Policy".

The My Citizen Panel app advances knowledge on citizen satisfaction in Hong Kong by recording citizens' expectations and relating this to the actual satisfaction with services when they experience them. To date, the panel has around 1,000 members. Public policy polls, using experimental research designs, were conducted on solid waste recycling, animal welfare and automotive vehicles.

With the two secondary school projects, students working in groups design experimental studies that show how behaviorally based solution to environmental policies can be implemented in Hong Kong to achieve sustainability outcomes.

Summary of Knowledge Transfer Performance Indicators

(Amounts are in Hong Kong dollars)

Performance Indicators	2016-17 (actual)		2017-18 (actual)		2017-18 (target)	2018-19 (target)
No. of patents filed in the year	¹ 113		² 94		60	60
No. of patents granted in the year	¹ 57		³ 58		25	25
No. of active licenses during the reporting year (inclusive of newly granted ones)	Type	⁴ No.	Type	⁴ No.	40	44
	Exclusive	9	Exclusive	9		
	Non-exclusive	31	Non-exclusive	34		
	Total	40	Total	43		
Income generated from intellectual property rights	\$0.79m		⁵ \$18.37m		\$4m	\$5m
Expenditure involved in generating income from intellectual property rights	\$7.75m		\$8.41m		\$8m	\$8m
No. of economically active spin-off companies	7		⁶ 9		7	10
Net income generated (or net loss arising) from spin-off companies of the University	⁷ N/A		⁷ N/A		N/A	N/A
No. of collaborative research projects and income thereby generated (inclusive of ongoing and new projects)	46/\$28.93m		55/\$37m		47/\$29m	55/\$38m
No. of contract research projects (other than those included in “collaborative researches” above), and income thereby generated (inclusive of ongoing and new projects)	167/\$65.34m		149/\$53m		170/\$66m	150/\$55m

¹ Adjustment has been made due to a time delay in receiving formal notification from patent offices.

² See breakdown by country and type in Appendix 2. Starting 2010-11, the number reported includes patents filed by CityU Shenzhen Research Institute.

³ See breakdown by country and type in Appendix 3. Starting 2010-11, the number reported includes granted patents of CityU Shenzhen Research Institute.

⁴ Figures reported include licenses of IP not protected by patents.

⁵ The income reported includes the outstanding royalty payment of HK\$5.36m recovered during the reporting period.

⁶ See breakdown in Appendix 4.

⁷ Financial data of the companies cannot be obtained.

No. of consultancies, and income thereby generated	55/\$5.42m	54/\$7m	57/\$5.8m	55/\$7.5m
No. of student contact hours in short courses or e-learning programmes specially tailored to meet business or CPD need	⁸ 1.12m	1.07m	1.09m	1.07m
No. of equipment and facilities service agreements, and income thereby generated	86/\$0.16m	56/\$0.11m	88/\$0.2m	56/\$0.1m
Income received from Continuing Professional Development (CPD) courses	⁸ \$167m	\$165m	\$171m	\$173m
No. of public lectures/symposium/exhibitions and speeches to a community audience (seminars and workshops are included)	⁹ NA	378	⁹ NA	380
No. of performances and exhibitions of creative works by staff or students	⁹ NA	36	⁹ NA	37
No. of staff engaged as members of external advisory bodies including professional, industry, government, statutory or non-statutory bodies	346	318	346	320
(New) Number of startups formed by our students/alumni/faculty members which have received CityU funding support	23	27	25	29

⁸ Adjustment has been made after audit.

⁹ 2016-17 data is not shown to avoid unfair comparison since only CityU organized/co-organized events were counted starting 2017-18 according to the revised Common Data Collection Exercise Guidance Notes.

Number of Patents Filed in the Year 2017-2018 (with breakdown by country and type following the Common Data Collection Format (CDCF))

Countries	Type	Number
The Mainland of China	A61	1
	H03	1
	B82	1
	H01	3
	C22	2
	G01	1
	A62	1
	C01	5
	B60	2
	C07	1
	F04	1
	B29	1
	B65	1
	E04	1
	US	A61
F21		3
H03		4
B82		2
H01		12
H04		8
C22		1
G01		3
C01		2
B60		1
C07		5
G02		1
G06		5
C12		2
C09		1
B67		1
A23		1
B61		1
N82		1
H05		1
H02		3
C04		3
B25		1
C40	1	
Grand Total		94

Number of Patents Granted in the Year 2017-2018 (with breakdown by country and type following the Common Data Collection Format (CDCF))

Countries	Type	Number
Europe	H02	1
	A01	1
Hong Kong	H02	1
	G01	1
	C02	1
The Mainland of China	G06	2
	H01	3
	H05	2
	H02	3
	H04	1
	H03	2
	G01	1
US	G02	3
	G06	2
	H01	13
	H05	2
	H02	2
	F21	1
	H04	4
	H03	4
	G01	2
	C25	1
	G03	2
	B01	1
	B06	1
C09	1	
Grand Total		58

Economically Active Spin-off Companies 2017-18

Type	Name	Business	Year of formation
Biotechnology	Vitargent (International) Biotechnology Limited	Specialize in biosensor technologies for providing testing services for food, pharmaceuticals, cosmetics and the aquatic environment	2010
Software / Solution Integration	*Hong Kong Bilingual Learning and Translation Studies Association Company Limited	Specialize in bilingual learning and translation	2013
New Materials	*Cinme Tech Limited	Development of electronic chemical sensor	2014
Power Electronics	*Jacky Instruments Limited	Development of smart thermostat	2015
Biotechnology	*Hands Life Science Limited	Development of health and beauty products inspired by microalgae	2016
Air Purifying	*ASA Innovation & Technology Limited	Specialize in technological solutions to protect people from airborne pollutants	2016
Textile/clothing	*J&K Brassiere Co. Limited	Online intimate apparel shop with a unique universal fitting scale that can achieve best-fit by simple self-measurement at home	2017
Biotechnology	*6J Biotechnology (Hong Kong) Limited	Focus on the development of new generation anti-cancer drugs	2017
Education	*Nautilus Software Technologies Limited	Development of solutions to empower students with Ed-tech innovations for personalized learning	2018

Remark: *No institutional ownership but using CityU IP

Knowledge Transfer in College of Business

The College of Business (CB) and its member departments have been involving in a wide range of KT activities. These KT activities typically include (i) community engagement such as delivering public lectures, media interviews, press conferences and workshops; (ii) involvement in external advisory bodies including professional, industrial and the government; and (iii) student placement and internship.

Highlights of KT Activities of Member Departments

CB Exchange Team

In Summer 2017, CB's Internationalization Team organized a summer programme, "Multi-Cultural Collaboration Community Service Project – SHAWCO", for its business students. This 5-week programme provided students with experiential learning on the concepts of Social Enterprise (SE), Social Entrepreneurship and Social Innovation, through pre-trip research, structured classes, placements and post-trip forum, while providing a full cultural immersion.

The students, after attending the classes at University of Cape Town and doing placement at real local SEs/NGOs, they shared their unique experience and what they have learnt about the country and SE with the City University community and general public via a forum on campus after the trip.

Department of Accountancy (AC)

Social enterprises not only face the challenge of balancing between creating social values and producing economic values to stay sustainable, some SE operators also lack proven business expertise. Hence, many SEs failed or are struggling to survive. To make a stronger impact and facilitate the development of social enterprise sector in Hong Kong, Dr Sidney Leung from AC led a KT research team to explore the key success factors of SEs through literature review, focus-group discussions and in-depth interviews with key SE players. The project is yet to be wrapped up and the main factors associated with successfully running a social enterprise will be identified. The report findings and recommendations will provide timely input to the government departments responsible for promoting SE development in Hong Kong such as Home Affairs Bureau, SE practitioners, SE funding bodies in enhancing the sustainable growth and development of SEs. The findings will also guide policy makers and funding decision makers in how to allocate the limited funding resources to the SE applicants.

Department of Economics and Finance (EF)

During the reporting period of 2017-18, EF continued to serve on prestigious local and overseas advisory boards of academic, professional, governmental and industry organizations, for instance, CESifo of Munich, Methods in International Finance Network, Globalization & Monetary Policy Institute of Federal Reserve Bank of Dallas, HKMA, HKSAR Government - The Treasury, and Hong Kong Institute of Bankers.

EF organized four well-attended international conferences for the academic, professional and industry communities in relation to current economic and financial issues, namely Conference on Macroeconomics; Current Account Balances, Capital Flows, and International Reserves International; Market Design and Regulation in the Presence of High-Frequency Trading; and The 2018 CityU of Hong Kong International Finance Conference on Corporate Finance and Financial Markets. Two of the conferences were co-organized with esteemed international research institutions, Center for Analytical Finance and Hong Kong Institute for Monetary Research.

EF faculty also shared their insights with local and overseas academic, professional and industry

communities through workshops, media interviews, and public lectures. EF has reported two impact cases during this reporting period. “Developing policies on credit rating services to support for Belt & Road Initiative” is a project under the Research Center of Sustainable Hong Kong and aims at exploring how Hong Kong can develop an efficient bond market for Belt & Road countries and related credit rating services. In “Developing the study manual for HKSI Paper 10: Credit Rating Services”, EF faculty members were invited by Hong Kong Securities and Investment Institute to rewrite the study manual for the paper and set its new examination questions.

Department of Information Systems (IS)

The academic and teaching staff members in IS department have been active in the engagement of knowledge transfer to the local communities via delivering public lectures/seminars and attending media interviews, etc.

Besides, the research of its 21 regular academic faculty members has been supported by governmental funding agencies and corporations in Hong Kong and China. More than seven IS faculty members served or are serving as Senior Editor or Associate Editor of the top journals of the IS discipline. In addition, many IS faculty members are currently serving on the editorial boards of major SCI/SSCI-listed IS journals, with some serving as Senior Editor or Editor-in-Chief, putting in efforts of building knowledge transfer capabilities. As for building up knowledge transfer capabilities among the local communities, IS staff members have been serving in various committees in professional bodies such as the Vocational Training Council.

Department of Management (MGT)

In support of the government’s initiative to encourage elders to lead an active and flourishing life, MGT offers more courses to the Elder Academy this year. Elder students are enrolled as auditing students with undergraduate students in various management courses. There are altogether 35 elderly students who successfully completed courses on “Management”, “Business Ethics and Society”, “Revolutions in Global Business”, “Knowing Ourselves Better in Work & Life” and “Social Innovation & Entrepreneurial Venture Exploration”.

MGT professor Maris Martinsons delivered public speeches to the community audience, including various symposiums, conferences, seminars, talks and workshops to various professional organizations such as Academy of Management, Institution of Engineers and Technologists, Stockholm School of Economics Riga, Latvia.

With regard to the area of professional services, a major portion of MGT faculty members have served as editorial review board of major academic journals including the Academy of International Business Journal, Academy of Management, etc. They also offer professional consulting services by serving different committee boards such as Korean Academy of Leadership and advising service to local higher education institutions.

Department of Marketing (MKT)

In the area of community engagement, colleagues from MKT have actively engaged in media interviews and community activities. More than 30 media interviews (e.g. RTHK, HK 01 and Cable TV) were done. More than 10 workshops were provided to secondary schools. One colleague has served as the program host of Metro Radio since September 2017. In addition, colleagues contributed to the success of various community events in different capacities, e.g. Chairman of 12th Hong Kong Farm Festival. MKT department has also organized 15 Business Leader Forums in 2017-18.

In the area of professional services, MKT faculty members served actively in different capacities in professional organizations, industry, government, statutory or non-statutory bodies. One colleague served as advisory board member for the Agriculture, Fisheries and Conservation Department of

the HKSAR Government and Scout Association of Hong Kong. MKT colleagues were invited to conduct more than 20 public lectures in different academic institutions. Moreover, more than 70% of the faculty members and teaching staff have served as reviewers and ad-hoc reviewers for international journals. Some colleagues also served as editorial board members of international journals. One Colleague serves as Panel Member in Research Grants Council Competitive Research Funding Schemes for the Local Self-financing Degree Sector and Specialist of the Hong Kong Council for Accreditation of Academic and Vocational Qualifications.

In the area of consultancy, MKT has provided consultancy service for more than 20 companies through the final year projects of both undergraduates and Master students. The companies included Logitech Hong Kong Ltd., TeaWood, SINOMAX Health & Household Products Ltd., Hong Kong Airlines, etc.

Department of Management Sciences (MS)

During the reporting period, MS has been continuing in promoting knowledge transfer via providing consultancy services to the external organizations, academic activities, student internship and social media. Faculty members also actively take up honorary consultant roles in the committees of the public/private organizations, hence directly providing professional comments and advice to the community.

The knowledge transfer activities are mainly conducted by the department's Statistical Consulting Unit (SCU) and the Energy and Environment Policy Research Unit (EEPRU), which are well-established core centres for bringing the knowledge transfer to the community.

The well-known City-Centa Property Index, a monthly index reflecting property price movements in Hong Kong and the Hong Kong Consumer Confidence Index are explicit examples of community engagement of SCU. The unit also engages in providing consultancy services for external organizations such as conducting various kinds of surveys, and providing statistical analysis services.

In addition, MS department also promotes knowledge transfer to the community and the public by organizing academic activities and student internship. In summer 2017, more than 56 undergraduate students had participated in the internship scheme which benefits both our students and the participating organizations. During September 2017 to May 2018, about 30 postgraduate students collaborated with companies including L&F Research Center, Queen Elizabeth Hospital, Guangzhou Automobile Group Co. Ltd. and provided them with consulting services.

EEPRU contributes and promotes knowledge transfer significantly via media interviews.

Knowledge Transfer in College of Liberal Arts and Social Sciences

The College of Liberal Arts and Social Sciences (CLASS) was the first College in the University to launch the Excellence in Knowledge Transfer Awards in 2011 and this has become an annual event of CLASS since then.

CLASS continued to publish the College magazine “CITY CLASS” bi-annually to report knowledge transfer and research, as well as academic achievement. The magazine is able to reach a wide range of readers including academics, potential donors, prospective students, alumni, CityU supporters and the general public.

In order to maximize research impact through engaging target stakeholders and potential beneficiaries, CLASS invited two scholars from University of Cardiff (United Kingdom) and University College Cork (Republic of Ireland) during the reporting period to provide practical advice on how research impact can be generated and evidenced, and how to develop good impact case studies for the Research Assessment Exercise 2020.

Departments of CLASS were actively engaged in various KT activities and their significant highlights are summarized as follows:

Department of Asian and International Studies (AIS)

AIS’s faculty members have strong links with the community, including NGOs, business, and foundations with which they co-host events while engaging in extensive media outreach. AIS remains one of the University’s leading departments in terms of contact to the global and local media with interviews and opinion pieces on social, cultural and political affairs. AIS co-hosted events included: a conference with the NGO Plan International (headed in Hong Kong by an AIS graduate) attended by over 100 students from top local schools; an organic food carnival organized together with prominent farmers and chefs; a talk co-hosted with the Asia Society that brought together leading experts on financial issues in Hong Kong; a workshop co-hosted with the America Center of Hong Kong, the Hong Kong-based CEO Forum and the Asia Foundation; the Sustainability Lecture Series sponsored by CLP and annual Japanese Tea Room activities (the only authentic tea room in Hong Kong).

Department of Chinese and History (CAH)

This year CAH contributed to the following three focuses of KT:

1. organized a large-scale festival and activities for our community, such as the “Song’s Culture: Discovery, Innovation, and Re-presentation”. The festival was featured in different social media and reported in mainstream media such as Ta Kung Pao and SCMP.
2. involved in using Mainstream Mass Media and Online programs in knowledge transfer, including TV programs, radio talk shows, podcast, YouTube, WeChat blog, and website to transfer their knowledge. Some highlighted activities include 「五夜講場 - 哲學有偈傾」, 「中國點點點」, and virtual exhibition on YouTube.

3. promoted Chinese History by reaching out to secondary schools, partnering with HKSAR and Joint Publication to present historical relation between Hong Kong, Guangdong, and Macau.

Department of Media and Communication (COM)

During the period under review, COM carried out diverse knowledge transfer activities including:

1. Supervision of the production of a short documentary “Back and Forth”, produced by a group of eight COM students, which won a Commendation Award at the 2017 TVB Inter-Collegiate Documentary Competition, and the winning entry was shown on TVB Jade on September 2, 2017;
2. Winning of the 2018 New Researcher Award and Teaching Start-up Grant by Dr Ki Joon Kim;
3. Conferences, seminars and schools visits were organized. Fourteen public lectures held in South Korea, Singapore and Hong Kong had been delivered, which include:
 - talks and seminars delivered at local universities on topics like “Human-Computer Interaction”, “Stakeholder Engagement in the Public Sector”, “Social Media and Citizen Engagement”, “Mining Time Information in Digital Data”, and “Television News in Hong Kong”. Audiences included academic scholars, senior executives, news reporters, journalists and students;
 - three seminars delivered to the Mainland young scholars who participated in the Young Scholars Program organized by COM;
 - media Workshop organized for 200 secondary students.
4. Media interviews were attended:
 - media interviews in Hong Kong media (Metro Radio) and other major media around the world;
5. Judges for PR and media industry:
 - Hong Kong Creative Public Relations Competition 2018;
 - Hong Kong News Awards 2017.

Department of English (EN)

EN engaged in diverse knowledge transfer activities. These include: 1) outreach teaching, with students delivering English lessons to underprivileged Hong Kong youth, and faculty giving workshops to local English teachers and students; 2) community outreach; 3) advisory and consultative work for public and professional bodies; 4) media coverage. A highlight of EN’s knowledge transfer activities is the dissemination of the findings of a Public Policy Research grant on the challenges facing cultural and creative workers in Hong Kong. This project aimed to evaluate and inform the direction of the rapidly evolving creative business environment and signal an appropriate government policy response to ensure the future management of equitable creative labour. Knowledge generated, including policy implications of the study, was disseminated to industry insiders, policy makers, educators and the local community through a public forum, video documentaries, as well as academic outputs.

Department of Linguistics and Translation (LT)

In this reporting period, LT faculty members continued to contribute their expertise outside CityU by serving as conference committee members and as panel members at government bodies, and by playing leadership roles in a number of academic associations and journals. Two faculty members have been supervising projects awarded by the Knowledge Transfer Initiative in Business, Law and Liberal Arts and Social Science Disciplines. Furthermore, research stemming from an Innovation and Technology Fund project yielded a patent application to the US Patent and Trademark Office. Finally, our community outreach secured two knowledge transfer projects supported by external organizations.

Department of Public Policy (POL)

During the reporting period, many POL colleagues had external advisory appointments for public services and engaged in different community services.

The Laboratory for Public Management and Policy (LaMP) led by Professor Richard M. Walker is the significant KT initiative of POL this year. This is an interdisciplinary laboratory that uses a range of research methods to provide empirical evidence on public policy, public management practices and performance. It brings together scholars from different universities to explore a wide range of questions in relation to public management and policy.

Department of Applied Social Sciences (SS)

The growing spotlight on achieving impact through academic activities inspired the SS department to encourage KT activities with community collaborators. A culture of collaboration is being promoted among faculties, students, alumni, and community partners to discover and innovate to best practice to build capacities, improve health and education, and inform public policy to benefit our society. In 2017-2018, SS colleagues continued to lead actively in conducting public lectures, workshops, and exhibitions of students' creative work; have organized international conference; attended media interviews, press conferences and radio shows; provided consultations and conducted contract research for external bodies, including professional, government, statutory and non-statutory bodies and non-government organizations.

Chan Feng Men-ling Chan Shuk-lin English Language Centre (ELC)

ELC's KT activities included the membership on an advisory board, reviewer for a journal, engagement in accreditation and also an invited speech.

The membership on the advisory board of Lingnan University helped raising the profile of the ELC, by recognition of the expertise and professionalism of the Head of the English Language Centre. Those selected for these advisory boards were recognised by their peers in other universities. The work, examining the courses and services of another language centre was also extremely useful in that comparisons can be made in language support offered to students.

The engagement in accreditation exercises organized by HKCAAVQ provided the ELC with up-to-date knowledge in quality assurance and qualification frameworks. The experience also strengthened the ELC's network, including the Industry Training Advisory Committee, professional bodies and representatives of education institutions.

The role of journal reviewer helped to bring insights about current research trends in the English teaching field, which may benefit the ELC in proposal and grant submissions.

Having a member of staff invited to speak was a recognition of an area of expertise, in this case in e-learning. Such recognition was beneficial to both the ELC and the University as a whole.

Knowledge Transfer in College of Science and Engineering

In the year under review, the College of Science and Engineering (CSE) and its member departments continued to actively participate in a wide range of KT activities to transfer their professional knowledge and research results into practical applications to benefit industry and society. A substantial portion of the KT outcomes reported in Appendix 1 was attributed to the concerted efforts of CSE faculty members. Below are KT activities of individual member departments.

Department of Architecture and Civil Engineering (ACE)

ACE department is actively engaged in various KT activities. ACE colleagues have contributed well to taking up external advisory appointments. During the reporting period, a total of 24 ACE faculty members had been invited to serve on over 70 HKSAR Government Committees, professional institutions, non-profit making organizations and the industry. Apart from these, our staff members also provide high-level consultancy service and contract/collaborative research for the public and private organizations. There were a total of two contract research projects, four consultancy projects amounted to HK\$1.26m and 27 Mainland funded research projects amounted to RMB28.5m undertaken by ACE faculty members. Besides, five research projects amounted to HK\$2.9m under the Innovation and Technology Fund, France/HK Joint Research Scheme and Environmental Conservation Fund were awarded to facilitate the formulation and development of government policies in the respective disciplines. ACE's research activities are supported by a range of the state-of-the art equipment including a 600 ton MTS Universal Testing Machine, the Wind Tunnel Facility, an experimental water flume (i.e. 12.5 meters long test section), and a well-equipped Indoor Air Quality Laboratory to facilitate multi-disciplinary research approaches and activities.

As usual, ACE strongly encourages our students to actively participate in international/national competitions where they can exchange their knowledge and search for innovation and entrepreneurship. In the reporting year, a team of two CityU students (ACE and MBE) received a Second Prize (Energy and Chemical Engineering) in "Challenge Cup" National Competition, Hong Kong Regional Final 2017 and represented Hong Kong to join the "Challenge Cup" National University Student Innovation and Entrepreneurship Competition 2017 in Shanghai on 21 November 2017. They performed outstandingly and won a Third Prize Award in the competition.

Department of Chemistry (CHEM)

The Department of Chemistry strongly encourages staff members to get involved in various knowledge transfer activities.

In 2017-18, three US patent applications have been filed.

- "Improvement on the Preparative Methods for Acetate-binding Polymers and their Application Study"
- "Method of Producing DNA and DNA Library"
- "Antimicrobial Peptide, its Analog and Use"

Besides, Dr Vincent C C Ko's research team has engaged in an ITF project entitled "Development of Printable Electrodes for Simultaneous Monitoring Five Targeted Metal Ions in Water", which received a funding of HK\$500,000 from Veraqua Limited.

Department of Computer Science (CS)

The Department of Computer Science has received worldwide recognition for its outstanding research and pedagogical development. Ranked the 12th best Computer Science Department globally by the US News & World Report (2018), and top-50 worldwide by QS World University Rankings by Subject (2018), the Department is engaged in an on-going pursuit of excellence.

The Department conducts world-class fundamental and applied research. With more than 170 research projects in progress with total funding of over HK\$100m, the vital areas covered include bioinformatics, cloud computing, data science, evolutionary computation and metaheuristic, information security, machine learning, mobile computing, multimedia computing, software engineering, vision and graphics.

The Department has established strong reputation in the research community and actively participated in various KT activities. CS regularly hosts major international conferences and workshops such as the Workshop on Artificial Intelligence in the Era of Big Data with EiC Panel Discussion on 7 June 2018. CS colleagues have been serving as journal editors, committee members of international conferences, judging panels & committees for government, learned societies and professional bodies.

Collaboration with Industry

CS has developed a wide range of applied research initiatives in collaboration with leading edge institutions and companies. These include projects on advanced video coding, smart handwriting analysis, blockchain applications, and social media analysis which have attracted funding amounts of over HK\$20m from the Innovation and Technology Commission in the past year.

Nurture Entrepreneurship and Encourage Start-ups

CS recognizes the importance of nurturing students' entrepreneurial spirits in leveraging the knowledge to applicable business practices. Its efforts in promoting entrepreneurship have reaped fruits with a number of recent graduates starting up their own companies.

IT Professional Placement

The Department's IT Professional Placement (at least 9 months) is well received by industries. Around 87 companies offered placement opportunities in 2017-18. They included some very prestigious companies like HK Electric, HSBC, IBM, HK Exchanges and Clearing, Hutchison, Jardine Matheson, Hospital Authority, with extension to overseas institutions in recent years. CS successfully placed 137 students and received an average score of 3.96 out of 5 rated by employers in 2017-18.

Department of Electronic Engineering (EE)

Faculty members in EE department have been active in the engagement of knowledge transfer activities. They have produced respectable paper publications in top-notch journals such as IEEE transactions/magazines as well as books or book chapters. They have also delivered a number of technical seminars or workshops to both local and overseas communities. During the reporting year, the department joined the Hong Kong Science Festival 2018 organized by Hong Kong Science Museum. Four lectures in science and engineering related topics were delivered to the general public on that occasion. In collaboration with Knowledge Transfer Office of CityU, a series of Emerging Technologies Forum were held from September 2017 to June 2018, providing an exchange platform for the EE community and the industry on some hot topics in prevailing technologies. EE department also reached out to the public through different media – one Chair Professor was invited to be guest lecturer on topic “Application of Terahertz” for broadcasting on Phoenix TV in March 2018; one Associate Professor spoke as guest speaker on RTHK31 programme titled “Science Night” on topic “Co-exist with A.I.” in May 2018; two Associate Professors being interviewed for news articles about ‘Neural Interface/Brain-machine Interactions’ (released on Mingpao, May 2018) and “Robotics” (released on Ta Kung Pao, April 2018).

EE has built close connections for KT activities with the local community through providing consultancy services (15 projects amounting to HK\$3.94m) and contract research (8 projects amounting to HK\$4.63m). Besides, with its strong commitment on conducting fundamental and high impact research, there are more than 70 externally funded projects in progress with total funding of over HK\$144m (GRF/ ECS, CRF, TRS, ITF, NFSC-RGC, other-RGC joint schemes, AoE, CROU, donations, various mainland funding schemes, Contract Research). The research works carried out over the year have resulted in 16 active licenses.

In the area of professional services, our faculty members have taken up the role of editor or editorial board members for prestigious journals as well as the advisory roles for the government, professional institutions, tertiary education sector, etc. For example, two faculty members have served as the Appeal Board Panel Members and Disciplinary Tribunal Panel Members for the Electrical and Mechanical Services Department for three years.

Department of Mathematics (MA)

The Department of Mathematics has continued its effort in pursuing creativity and professional knowledge transfer during the reporting period. Faculty members' endeavor in knowledge transfer was evident through their active participation in government, industry and professional advisory bodies. In addition, they have made tremendous effort in community engagement activities e.g. serving as selection/advisory committee members for mathematical awards and competitions, coordinator in establishing a University programme to nurture gifted students and taught several sessions of a mathematics course under the extended programme "Talents, Aspirations and Excellence", member of the Curriculum Development Council Committee on Mathematics Education to review the senior secondary mathematics curriculum owing to fruitful outcome achieved last year. The Department achieved significant outcomes through supervising undergraduate students to participate in interdisciplinary and mathematical contests in modeling and obtained remarkable achievements including Meritorious Winner and First Prize in 2017-18.

A faculty member led two students to assist the Hong Kong Society for Rehabilitation in developing an upgraded and more efficient Rehabus booking system which is required to facilitate scheduling of booking for Rehabus and efficient management inspection. Two faculty members were invited by Education Bureau to give talks in the "Seminar on Curriculum Planning of Senior Secondary Mathematics Curriculum". Over 100 school principals and school career master attended the seminar. Another colleague gave a talk at "Mathematics and STEM Seminar Series" which was also organized by Education Bureau aiming to enrich participating teachers with the modern applications of mathematics in dealing with daily-life problems. In professional services, two MA colleagues become Fellows of European Academy of Sciences and Institute of Electrical and Electronic Engineers (IEEE) respectively in this year. These honors proved the outstanding contributions to the excellence of mathematics by MA's faculties.

MA always strives for a vigorous research culture to promote transfer of scientific research knowledge. Quality of the research publications are further enhanced with top journal publications. Achievements of research students and graduates include receiving Outstanding Research Thesis Award and Humboldt Research Fellowship. A faculty member was also awarded "Outstanding Supervisor Award" during the year. A PhD graduate who is a member of the expert team for "Intelligent Meteorological Monitoring Assistant system" of the Hong Kong Observatory won the Certificate of Merit in the Smart Business Award in the Hong Kong Information Communication Technology (ICT) Award Scheme in 2018.

Among the 94 on-going projects by MA's staff, some of which have direct significant impact on the society such as research works to establish the global existence of weak solutions of the incompressible viscoelastic flows in two spatial dimensions, which is helpful for engineering in

developing numerical algorithms and designing simulations for applications in biology or astrophysics, investigate discontinuous and multiscale finite element methods that contribute to the application of reduced basis methods to parametric partial differential equations which has great applications in computational sciences and engineering, develop novel statistical models and asymptotic theories for large-scale unstructured data including sentiment analysis, document tagging and recommender systems that can be applied in biomedicine, economics, e-commerce and information technology, research work on distributed learning and online learning for handling big data that estimates for high dimensional data statistics and analysis for learning algorithms dealing with heavy-tailed distributions, and research work focusing on sparse representation systems and their applications in image/video processing, data science and machine learning. Other research directions aiming to develop mathematical model of inflammatory bowel diseases, study of cell polarization with cell aging effect, investigate secure distributed fusion estimation for networked sensor systems under cyber-attacks, and establish advanced analysis technologies of networked complex systems with distributed event-triggered communication protocols are also actively in progress.

Department of Mechanical and Biomedical Engineering (MBE)

During the reporting year, 20 faculty members under MBE were engaged as members of external advisory bodies including professional, industry, government, statutory and non-statutory bodies, such as the Institute of Electrical and Electronics Engineers (IEEE), Materials Research Society (MRS), American Society of Mechanical Engineers (ASME), The Institute of Mechanical Engineers, International Federation of Medical and Biological Engineering, American Nuclear Society, Chinese Academy of Sciences, Atomic Energy Council of Taiwan, The Hong Kong Institution of Engineers (HKIE), Environment Bureau and Security Bureau of Hong Kong Government, The Research Grants Council of Hong Kong, Innovation and Technology Commission of Hong Kong, JUPAS Board of Management (Hong Kong), Hong Kong Examinations and Assessment Authority (HKEAA), Hong Kong Council for Academic Accreditation and Vocational Qualifications, and so on.

In addition, to improve related KT developments and practices, MBE also started to enhance the pool of patented innovations & technologies with commercialization potential. The Department has also made knowledge accessible to the community by research publications, delivering talks or speeches and organizing technical workshops/seminars. It has built close connections for KT activities with the society through providing consultancy services and contract research. There were a total of 28 on-going consultancy and collaborative projects at a total value of HK\$48.97m, and a mainland contract research project of RMB460,000 approved during the reporting year.

Department of Materials Science and Engineering (MSE)

Although MSE has just been established for one year, its colleagues have made impressive achievements in knowledge transfer activities such as contract research and patent applications. In addition, MSE colleagues are active in serving the community as editors or editorial board members for prestigious scientific journals. They are also invited to review research grant proposals for overseas research funding agencies. Several MSE colleagues serve as External Examiners for degree programme in overseas universities and for local tertiary education sectors.

Department of Physics (PHY)

The Physics Department has been renamed (formerly Department of Physics and Materials Science) since July 2017 with a smaller faculty size of 15 members. As before, PHY faculties played a wide variety of advisory roles in various academic and industrial institutions, as members in local and overseas government advisory bodies, professional institutions and editorial boards for top scientific journals in their respective areas. Locally our faculty members served in various

scientific as well as government agencies including as Chairman of Radiological Protection Advisory Group, Food and Health Bureau, HKSAR; member of the Public Affairs Forum of the Home Affairs Department; Advisory Panel Member in the Biomedical Discipline of the Hong Kong Institute of Engineers; member of the Assessment Panel for Competitive Research Funding Schemes for the Research Grants Council. These activities have directly or indirectly influenced the academic and public policies of the HKSAR government. Internationally, PHY faculties have been active members of the scientific community by serving as Scientific Advisor for Australian Centre for Neutron Scattering; as member of the Oversea Assessment Panel of Chinese Academy of Sciences; and as Associate Editor of the Journal of Applied Physics. In the industrial sector, one of the PHY colleagues is on the Board of Shenzhen CAS Morefound Co., Ltd., the Board of Plasma Technology Limited as well as the Board of Chengdu PulseTech Electrical Co. Ltd. Moreover, some of the PHY colleagues also served as External Examiners for degree programme and as reviewers for faculty promotion/tenure panels in overseas universities as well as reviewers for grant proposals for overseas research funding agencies. It is worth mentioning that in addition to contributed, invited and plenary lectures given in various international scientific conferences, PHY faculties have also been active in physics outreach including delivering a public lecture in the Hong Kong Science Museum targeting the general audience and public physics lectures for university students in the Southern University of Science and Technology.

The department strongly encourages colleagues to reach out and contribute directly to the society. Contribution to consultancy and patent application are recognized in faculty members' performance appraisal. The department also facilitates the application for industrial related research funding, e.g. ITF, and contract research by colleagues in order to build up direct collaborative relationship with industries. The PHY department will work towards maintaining high-level and high quality capabilities and external links for KT.

Department of Systems Engineering and Engineering Management (SEEM)

The Department of Systems Engineering and Engineering Management (SEEM) has continued its effort in knowledge transfer activities by engaging in various contract research projects. SEEM faculty members have established a strong network of industrial linkage worldwide.

SEEM proactively hosts and organizes international conferences and workshops, bringing together international academics, industry experts, CityU faculty and students to share their knowledge and research ideas. In the reporting year, SEEM organized and hosted the International Research Conference on Systems Engineering and Management Science 2018 (IRC-SEMS 2018) in Dalian, China which provided a platform for academic and researchers to share their experience and research findings in various disciplines of Systems Engineering and Management Science. SEEM also hosted two workshops on high-speed railway, disseminating research ideas and results on high-speed rail and metro systems with local, regional, and international professionals from government, academia and private sector for Safety and Reliability.

Division of Building Science and Technology (BST)

In 2017-18, BST staff have undertaken three consultancy projects with an amount of excess of HK\$1.15m, two on-going contract research for private companies and government departments, as well as delivered seven public lectures and seminars for various practitioners and professional bodies. As the Division is well connected with many related government departments and reputable professional institutions such as HKIS, CIOB, CIC, HKIE, BST staff have served more than 40 external advisory bodies, as well as holding various leading positions in these professional bodies and government departments. BST will continue to explore knowledge transfer opportunities in the areas of building energy and environmental technology, construction management and engineering, and surveying so as to benefit the community and promote the image of the Division.

Knowledge Transfer in College of Veterinary Medicine and Life Sciences

Over the past year, the College of Veterinary Medicine and Life Sciences (CVMLS) continued its efforts to contribute to the transfer of knowledge through various channels and platforms to benefit the community at large. The following highlights showcase CVMLS' knowledge transfer endeavors to make a difference at local, regional and international levels.

The CVMLS organized an exhibition display together with the Agriculture, Fisheries and Conservation Department of Hong Kong to support World Veterinary Day from 24 April to 10 May 2018. The World Veterinary Day celebrated and highlighted the importance of the veterinary profession and their work to protect public and animal health, ensure food safety and production and promote animal welfare. The event also presented a Virtual Reality video of sheep shearing that is used in immersive teaching and learning environment.

The Department of Biomedical Sciences under CVMLS and Zhongshan University's School of Pharmaceutical Science co-organized the first International Symposium for Graduate Students on Pharmaceutical Science 2018 cum Guangdong-Hong Kong-Macau Graduate Biomedical Research Forum in Qingyuan, China on 15 and 16 June 2018. The symposium was organized with strong support from Qingyuan government. The event aimed at enhancing academic and scientific exchanges, foster research collaborations and promote KT activities between tertiary institutions and pharmaceutical R&D industries in the Greater Bay Area. It offered a great opportunity for faculty members, postgraduate students and researchers to share and discuss their research interests, explore possible collaborations and enhance KT capabilities.

The Centre for Applied One Health Research and Policy Advice (OHRP) in CVMLS provides a pivotal platform to facilitate knowledge transfer activities. Its mission is to generate scientific knowledge that will lead to the development of evidence-led policies at local, national, regional and international levels for the prevention and control of infectious animal diseases affecting human health and animal production, welfare and health. It will also emphasize the societal impact of its outputs through effective science-policy communication.

Professor Dirk Pfeiffer, Director of OHRP and Chair Professor of One Health, has extensive membership of international advisory committees and expert panels, including with the Food and Agriculture Organization (FAO) of the United Nations and several national governments. He shared his knowledge, expertise and experience in veterinary epidemiology, with particular focus in Avian Influenza and zoonotic diseases. The knowledge transfer contributed to the capacity building in the government agencies and provided them with field veterinary epidemiologists who can respond effectively and rapidly to animal disease events.

In October 2017, Professor Pfeiffer participated in the "Joint Risk Assessment: Development of Multisectoral Approach, Processes, and Tools" workshop jointly organized by FAO, the World Health Organization (WHO) and the World Organization for Animal Health (OIE). The workshop focused on developing tools to aid the collaboration between the animal and human health sectors when dealing with risk assessment for avian influenza and other zoonotic disease threats occurring at the animal-human interface.

Professor Pfeiffer also spoke at the "Veterinary Public Health (VPH) Workshop" organized by the Centre for Food Safety of the Food and Environmental Hygiene Department of Hong Kong SAR in December 2017 as an invited guest speaker. The VPH Workshop is held annually to raise awareness and acquire knowledge on the latest issues related to veterinary public health and food safety. Prof. Pfeiffer gave two talks, one entitled "From Risk Analysis to Risk Governance" and the other on "Role of Food Systems in One Health".

Knowledge Transfer in School of Creative Media

In this reporting year, the School of Creative Media (SCM) has spearheaded development in knowledge transfer and achieved remarkable progress in the area. The School's performance in knowledge transfer is largely characterized by its community and public engagement through the organization of art events, exhibitions and research projects. As the region's leader in media art education and research, the School was invited to bring the *On the Road* exhibition to CityU for the first time under the chief curatorship of Prof Maurice Benayoun to showcase works of the young media artists in China. The show has fostered exchanges between the mainland and SCM faculty and alumni artists, and enabled the young artists from China to receive keen attention from local and international visitors.

The School has continued with its ongoing success in preserving intangible heritage with the application of top-notch motion capture and 3D visualization technologies. This year, the exhibition was set in the context of *Lingnan Hung Kuen*. The two-month exhibition, *Lingnan Hung Kuen Across the Century: Kung Fu Narratives in Hong Kong Cinema and Community*, exemplified the School's knowledge transfer by allowing visitors to revisit the Hung Kuen kung fu styles, aesthetics and tradition which are not easily accessible by the young generation nowadays.

As a pioneer in the integration of art and science, the School provided a five-day summer workshop on the application of artificial intelligence technologies which served a varied audience ranging from media professionals to public of general interest on the topic. This was the School's new initiative of knowledge transfer to offer a practical AI workshop with a focus on technological application to close the gap between the academia and creative industries.

With the support from Hong Kong Jockey Club Charities Trust, the School has championed the outreaching effort through a community-based research project "Technologies for the Elderly and Disabled People by Youths" (TEDY) under the leadership of Dr Lam Miu Ling. The project has created opportunities for students to be engaged with the elderly and disabled in order to custom-design and craft innovative tools to aid their living.

On the administrative level, the ACIM Research Fellowship has been launched this year to promote interdisciplinary and collaborative research among faculty and students. Funding support and research space have been awarded to individuals and teams to generate more outputs of knowledge transfer.

In addition, the School has practiced for years to reward faculty who have submitted GRF an extra travel grant to encourage faculty to exchange with overseas institutions and present their research findings abroad. The increased mobility of faculty members who serve as active agents of knowledge transfer, maximizes their influence to the world through delivering lectures, publishing research results and participating in external advisory bodies. Their artworks exhibited around the globe have successfully articulated the School's pioneering leadership in media art research, development and education. By involving staff, students and alumni in home-grown events with participation from international audience - exhibitions, performances, symposiums and conferences - SCM has continued to build and expand the knowledge transfer capacity of staff and students.

The University's Student Early Entrepreneurship Development Scheme (SEEDS), administered by the Knowledge Transfer Office, promotes innovation and entrepreneurship among students by funding student projects with high potential of producing new products for the market or intellectual property. This year, a final-year BScCM student Cheng Kai-hin has been granted the maximum funding of HK\$200,000 for his project *Bulky*, which transforms personal digital

footprint in the browser into anonymous data for use. The other competitively-funded project *Safety First* by BScCM final-year student Chiu Chun On with the award of HK\$169,700 is a social project which aims to inform construction workers better of the industry's safety rules and standards through a VR system. Our students' knowledge transfer and entrepreneurial capacity is evidenced in the recognition they earn from SEEDS.

Knowledge Transfer in School of Energy and Environment

The School of Energy and Environment (SEE) was founded in July 2009 with the mission to perform state-of-the-art research and provide professional education in energy- and environment-related issues. The faculty staff in SEE is enthusiastic in participating in knowledge transfer activities, like contract research, community service, external advisory bodies, etc. which developed interactive exchanges with government, collaborators, related organizations, and society in general.

Outside Practice

Faculty members in SEE have organized contract research with different institutions, AECOM Asia Company Limited, Hong Kong Federation of Insurers, Black & Veatch Hong Kong Limited and L'Oreal, from 1 July 2017 to 30 June 2018.

Efforts to build up KT capabilities

SEE worked with South China Morning Post by contributing articles to promote SEE and the respective research areas of faculty members, and also inspire the general public to care and recognize the importance of energy and environment issues, so as to promote CityU's excellence in research and professional education, and care for the community and environment. Faculty staff in SEE also contributed periodic articles on a particular subject to Skypost from July 1st to December 31st, 2017.

Besides, SEE faculty members have been interviewed by various media, such as RTHK Radio 3, Yahoo, South China Morning Post/Young Post, Sky Post, Ming Pao and other newspaper publishers on innovative research and technology. The interviews help transfer innovative knowledge to the general public. Dr. Denis Yu's research on waste carbon for supercapacitors, Dr. Walid Daoud's research on self-cleaning nano-coated textiles and Dr. Alicia An's research on Tseung Kwan O desalination plant have been selected as impact case studies for submission of RAE Exercises 2020 to University Grants Council (UGC).

Outstanding knowledge transfer initiatives

Two examples of outstanding knowledge transfer initiatives are given below:

Professor Michael Leung Kwok-hi has received an Innovation and Technology Fund (HK\$21m) under the Innovation and Technology Commission and Techskill (Asia) Limited. It is the first of its kind to develop novel technology that converts the waste heat from air conditioning systems into useful electricity. The electricity can then be used by the air conditioning unit itself, for lighting or for other home appliances.

To promote outreach/knowledge transfer on Advanced Environmental Technologies, SEE co-organized with Business Environmental Council (BEC), Energy Institute (Hong Kong), The Hong Kong Institution of Engineers (HKIE) for a Tech Talk Series on 16 June, 2018. Dr. Wen Zhou, Dr. Patrick Lee and Dr. Jin Shang were the speakers to present their ongoing research on advanced environmental technologies for various hit-hot topics.

Knowledge Transfer in School of Law

Below are highlights of the KT activities carried out by the School of Law (SLW) during 2017-18:

i) Research Contracting/Consultancy

- Prof Lin Feng serves as court appointed expert (High Court);
- Dr Chen Lei, Director of the Centre for Chinese and Comparative Law, carried out a research project entitled “Comprehensive Analysis on Diversity of Legal Systems in Asia-Pacific Region and Convergence towards Establishment of Rule of Law” for Chuo University in Japan.

ii) Professional Services

- Prof Geraint Howells is advisor of the Legal Education Fund Company Ltd and member of the Standing Committee on Legal Education and Training;
- Prof Lin Feng is member of the Law Reform Commission and member of the Telecommunications (Competition Provisions) Appeal Board;
- Stella Leung is a member of the Standing Committee on Legal Education and Training.

iii) Community Engagement Activities

During the reporting period, SLW together with its four research centres, namely the Centre for Chinese and Comparative Law, the Centre for Judicial Education and Research, the Hong Kong Commercial and Maritime Law Centre and Human Rights Law and Policy Forum, have organized 47 conferences /public lectures /seminars, most of which were open to the public for free. Some of these events are worth highlighting:

- Conference: “Legal Problems with the Application of Smart Contracts & the Way Forward”
- The Dean’s Forum – The Future of Legal Education
- The 22nd Goff Arbitration Lecture: Making the Best of Arbitration
- The 3+3 Conference: The role of Comparative Law in Teaching and Research
- The 3rd Law Forum of Hong Kong, Macau and Guangdong
- Conference on “Cross Border Insolvency and Maritime Matters”
- Symposium on Hedge Funds & Alternative Investment Funds in HK and Singapore
- Conference on “Dispute Resolution in Asia and Beyond: Progress and Trends”
- International Conference on “The Evolution of Constitutional Order of the HKSAR: Theoretical and Comparative Perspectives”
- China's Role in Reshaping Global Governance: Challenges and Opportunities

Apart from the above, SLW colleagues were also invited to participate in various conferences or seminars to share with different groups of audiences their professional knowledge.

iv) Mooting

Mooting competitions are important knowledge transfer activities for law students. By participating in mooting competitions, students not only learn substantive legal principles related to different moots but also develop oratory and advocacy skills. These skills equip students for future learning and their pursuit of a legal career. Competitions participated include:

- **The 2018 Philip C. Jessup International Law Moot Court Competition (Hong Kong Regional Round: 25 February 2018)**

HK Regional Round – First Runner-Up, Second Best Overall Memorial; Best Oralist

- **The 8th Asia-Pacific M&A Moot Competition (9 March 2018)**

Prize of the Best M&A Deal; Prize of the Best M&A Letter of Intent; Best Oralist; Best Team Member

- **The 15th Annual Willem C. Vis (East) International Commercial Arbitration Moot (11 – 18 March 2018)**

Eric Bergsten Award for prevailing team in Oral Arguments - Sixteenth Finals; Honorable Mention for David Hunter Award – Best Claimant Memoranda; Honorable Mention for Fali Nariman Award – Best Respondent Memoranda; Honorable Mention for Neil Kaplan Award – Best Oralists

- **The XI Belgrade Open Pre-Moot for the Twenty Fifth Annual Willem C. Vis International Commercial Arbitration Moot (17 – 18 March 2018)**

- **The 8th Annual Budapest Pre-Moot for the Twenty Fifth Annual Willem C. Vis International Commercial Arbitration Moot (19 – 22 March 2018)**

- **The 25th Annual Willem C. Vis International Commercial Arbitration Moot (23 – 29 March 2018)**

- Advanced to the top 64 out of 357 teams
- 3rd highest overall oralist score in elimination rounds
- Honorable Mention for Werner Melis Award Best Memorandum for Respondent, Honorable Mention for Pieter Sanders Award Best Memorandum for Claimant, Honorable Mention (Martin Domke Award for Individual Oralists) (two recipients)

- **Manfred Lachs Space Law Moot Court Competition 2018 (11 – 13 April 2018)**

Second Best Memorial, and Oralist Award

v) ***Training for Mainland Judges***

SLW collaborates with the Supreme People's Court of the PRC and its National Judges College to admit Chinese judges to SLW's Master of Laws programme and to offer a tailor-made Doctor of Juridical Science programme for Chinese senior judges, while a short-term and highly specialized programme is also organized for other Chinese senior judges.

As of May 2018, there are 216 Chinese judge graduates from the Master of Laws (Common Law) programme, 329 senior Mainland judges joined the Advanced Programme and 92 (88 of which are senior judges) Chinese judges joined the Doctor of Juridical Science programme.

vi) ***Student Placement***

Legal placement enhances students' hands-on experiences apart from their theoretical learning in Hong Kong. The students did placement in Hong Kong, mainland China, Seoul and Germany in a variety of organizations such as law firms, barrister chambers, international banks, insurance companies, NGOs, courts and international institutions.