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<u>HKCS's Feedback to the 2020 Budget:</u>
<u>Supports the Government to Continue to Invest in the Development of I&T, Related Infrastructure</u>
<u>and Scientific Research Applications</u>
<u>Encourage Enterprises to Make Good Use of Technology, Cultivate I&T Talents</u>
<u>And Support Technology Startups</u>

February 26, 2020. Hong Kong——The Hong Kong Computer Society (HKCS) expressed support to the 2020 Budget delivered by Mr. Paul Chan, the Financial Secretary today. The Budget clearly indicates its focus on the science and technology development in Hong Kong, for driving economic growth through innovation and technology. It also promotes scientific research, reindustrialization, development of innovation and technology infrastructure, and support youth innovation and entrepreneurship, and at the same time, support the establishment of Hong Kong as an innovation and technology centre in the Greater Bay Area in accordance with national policies, and support the further development of smart cities. HKCS welcomes Financial Secretary's efforts in strengthening the cultivation of innovative talents, encourage universities and enterprises in R&D work and realization of R&D results, and create encouraging investment environment for innovations. The Government demonstrates initiation in attracting more creative talents to Hong Kong, increasing technology voucher funding to encourage companies to introduce innovation and technology to improve efficiency, etc., and introducing related preferential policies and injecting funding, which are appreciated by the Hong Kong Computer Society.

In the budget announced today, there are various IT-related measures, which include:

1. **Promotion of R&D and Re-industrialisation**
- Developing two InnoHK research clusters at the Hong Kong Science Park (Science Park), one focusing on healthcare technologies and the other on artificial intelligence and robotics technologies. With the first batch of R&D centres expected to be set up progressively this year, the government is actively exploring the establishment of a third InnoHK research cluster.
- Continue to provide enhanced tax deduction for qualifying R&D expenditure incurred by enterprises.
- Subsidising local R&D work through the Innovation and Technology Fund (ITF), with a view to fostering technology transfer as well as application and commercialisation of R&D results.
- Starting in March, extending the coverage of the Public Sector Trial Scheme to all technology companies conducting R&D activities in Hong Kong.
- Injecting $2 billion into the ITF for launching the Re-industrialisation Funding Scheme to

provide financial support for manufacturers on a matching basis for setting up new smart production lines in Hong Kong.

- Providing the Hong Kong Science and Technology Parks Corporation (HKSTPC) with an additional funding of $2 billion for converting an old factory in the Yuen Long Industrial Estate into a Microelectronics Centre to provide modern manufacturing facilities.

- From April 2020 onwards, the Government will enhance the Technology Voucher Programme to promote the wider use of technological services and solutions among local enterprises. The Government's funding ratio will increase from the current level of two-thirds to three-fourths, and the funding ceiling from $400,000 to $600,000.   The ceiling on the number of approved projects will also rise from four to six.

2. Development of I&T Infrastructure

- The HKSTPC is exploring the feasibility of Phase 2 of the Science Park Expansion Programme, and $3 billion has been embarked for the programme.

- The Data Technology Hub and the Advanced Manufacturing Centre being developed by the HKSTPC in the Tseung Kwan O Industrial Estate will be completed as scheduled in the first half of this year and in 2022 respectively.

- Currently going through the statutory town planning procedures for the Cyberport 5 development site and plan to submit a funding proposal to LegCo in the first half of 2021. Construction is expected to complete in 2024 at the earliest.

- The Hong Kong-Shenzhen Innovation and Technology Park (the Park) in the Lok Ma Chau Loop is a key base for co-operation in scientific research for Hong Kong and Shenzhen in future. The Park will provide a maximum gross floor area of 1.2 million square metres, three times that of the Science Park. The first phase of ground treatment works is in good progress. The Government is seeking funding from the LegCo for commencing the Main Works Package 1 and construction works of the first batch of buildings.

3. Supporting Youth Entrepreneurship and Talent Cultivation

- Supporting start-ups through various means, including strengthening the support of the HKSTPC and Cyberport for their tenants and incubatees, backing university start-ups through the Technology Start-up Support Scheme for Universities, making use of the Innovation and Technology Venture Fund for co-investing with venture capital funds in local technology start-ups.

- On I&T front, the Researcher Programme (RP) and Postdoctoral Hub together have so far nurtured about 5 700 scientific research talent. The two programmes will be expanded in March this year to cover all technology companies conducting R&D activities in Hong Kong. Moreover, the two programmes will be consolidated to provide more flexibility for engaging R&D talent.

- Continue to implement the Re-industrialisation and Technology Training Programme, which provides subsidies to local enterprises for training their staff in high-end technologies.
- In January this year, the Technology Talent Admission Scheme was enhanced by doubling the technology areas covered by the scheme to 13. Its coverage was also extended to all companies engaging in relevant R&D activities in Hong Kong, which will help them attract more technology talent.
- Setting aside $40 million to subsidise short-term internships for undergraduates and postgraduates taking STEM programmes in local universities.
- The Youth Development Commission has already expended $500 million to implement a range of new programmes and measures, including injection of $300 million into the Youth Development Fund to support youth innovation and entrepreneurship and promote upward mobility. About $100 million under the Fund will be granted to support over 10 NGOs in implementing youth entrepreneurship projects, under which subsidies will be provided for nearly 200 young entrepreneurs who intend to start or have already started their businesses, while start-up support and incubation services will be rendered to about 4 000 young people.

4. Smart Cities Front:

- The Innovation and Technology Bureau (ITB) will announce the Smart City Blueprint for Hong Kong 2.0 this year to further promote smart city development.
- On the digital infrastructure front, major telecommunications operators will be launching 5G services in Hong Kong during the year. The Government will adopt a multi-pronged approach in facilitating the development and application of 5G network. This includes the implementation of a subsidy scheme for mobile network operators to expand optical fiber network to remote villages. The Government will also open up more suitable government properties, sheltered bus stops and telephone kiosks for the setting up of radio base stations by operators to support the development of 5G network.
- ITB will launch the "iAM Smart" one-stop personalised digital service platform in the fourth quarter of 2020. By the middle of next year, members of the public can gain access to more than 100 online government services through "iAM Smart".
- $1 billion has been embarked for the Smart Traffic Fund to provide funding support for enterprises or organisations to conduct research and application on vehicle-related I&T. The Fund is expected to commence operation in 2020-21.

Mr Ted Suen, President of the Hong Kong Computer Society, said: "As the most well-established and the largest IT professional association in Hong Kong, the Hong Kong Computer Society supports and welcomes the Budget this year. The Budget does not only demonstrates that the government will continue to invest in the development of innovative technology and related infrastructure, encourage scientific research, talent nurturing, encourage companies to make good

use of technology to enhance their competitiveness; it also will continue the development of smart cities to enhance Hong Kong's competitiveness in the long run, while announcing a number of innovative technology policies."

Recommendations to the Budget by the Hong Kong Computer Society

Mr Suen continued, before the Chief Executive announced her policy address last year, the Hong Kong Computer Society had suggested that the Government should try to fill the "digital skills gap" by supporting the large number of information and communication technology practitioners, to enhance their mastery of the new digital technology, and enhance the training of IT staff for the IT posts which are facing talent shortage, while these have been partly reflected in this year's Budget.

Mr Ted Suen said, in order to enhance the comprehensiveness of the Budget, it has been recommended by the HKCS that, the government should make good use of big data to collect the opinions of young people, formulate relevant policies for the development of open data and artificial intelligence, and invest more resources in e-learning, especially for disadvantaged groups and poor families. While promoting the development of smart cities, the Government should also strengthen the publicity, education and transparency, in order to allay the concerns by certain people in the society who claim that the privacy of their smart devices may be violated and personal data have been improperly collected.

The recommendations from Hong Kong Computer Society:

1. Closing the digital skills gap

In June 2019, APEC issued a regional survey on the "digital skills gap" that "Job seekers today lack the skills needed to work in the digital economy" and that 75 per cent of respondents – comprised of employers, government officials, and academics – report a significant skills mismatch".   Without more upskilling programs to improve digital expertise, the survey warns, many workers may lose their jobs to automation.   Skills mismatches hurt workers and the broader economy.   Productivity declines when key jobs remain vacant, while the digital economy is rapidly evolving but education systems are not adapting at the same pace.

At the APEC Forum, participants, including Hong Kong University of Science and Technology, finalized a roadmap to support and scale up upskilling and reskilling programs carried out by employers, governments, and educational institutions across APEC.

The HKCS recommends that the Government should take the initiative to formulate policies to close the digital skills gap, including:

- In terms of policy, the Hong Kong Government has not yet formulated policies to fill the gap in digital skills, such as helping information and communication technology practitioners to enhance their mastery of new digital technologies, and as well enhancing the training of the high-talent-demand professional IT positions such as artificial intelligence, data engineers or scientists, information security and so on, while providing support to local IT service providers and vendors on their service upgrades. It is recommended that the Government should refer to the APEC Roadmap as a model for filling the digital skills gap and to introduce or optimise Hong Kong's relevant policies based on the current situation; to encourage and subsidise tertiary institutions to develop and update the curriculum, so as to cater for future digital skills needs.

- Provide incentive for government and enterprises to retrain their employees with modern digital skills. Program should cover online training and accreditation which are more popular and flexible than attending classroom for many.

- An area that is increasing in demand for manpower is that of IT and cyber security, especially for the key industries including banking and finance. More security positions are advertised but are not being filled. To close this particular skills gap, more security courses with bigger class-size at universities and VTC should be created with relevant curricula updated in sync with the evolving security threats and the corresponding technological defenses.

- The Government to launch an initiative to encourage the creation of significant trainee positions for Hong Kong youths in major mainland and international organisations known for innovation in the digital economy, for example Baidu, Alibaba, Tencent, Huawei of Mainland China as well as international firms such as Amazon, Facebook, Apple, Google, Microsoft, which would help our youngsters to better understand global digital businesses and innovations, and provide focus and sense of purpose, responsibility and achievement to them.

- HKCS strongly believed that it is very important for the Government to support the promotion of STEM education, and HKCS recommends that the education experts should continue to optimize and improve the STEM education system of our schools. In addition, the Government should devote more resources to the development of e-learning, in particularly for the under-privileged or poor families. We also recommend to making use of one of the under-utilized digital TV Channels operated by RTHK for General Science Education for the students and our public as another effective conduit on STEM awareness and knowledge.

- Many ICT and digital professionals are an asset in helping to close the digital knowledge gap in our community and assist in digital transformation in our industries. The Government should set an example by including these professionals in relevant government committees and task forces as well as encouraging our public sector enterprises such as Hong Kong

Monetary Authority, Mandatory Provident Fund Schemes Authority, Airport Authority, Housing Authority, Insurance Authority and so on to adopt a similar organizational mindset.

2. Community Sentiments Analysis with Big Data

At present, many young generations in the society have different opinions and voices on government administration. It is necessary for the government to strengthen the reach-out to the public opinions. It is recommended to use big data and artificial intelligence technology to analyze the data of young generations that are collected through "reachout" and "connect" societal programmes, through analysis, to understand and predict changes in social sentiment, so that the Government would be able to more accurately access the public opinions as reference for formulating policies.

3. Open Data Policy

The government has declared Open Data as a policy objective in the policy addresses of the past two years.   However, progress remains seemingly slow and to be seen.   What is needed is to adopt a more effective policy agenda with clear mandates on how to achieve this objective. Also, what data is of value to the business community and to the general public need to be prioritized through a consultative process involving the key stakeholders.   In consultation with representatives of all key stakeholders including government departments, public and industry sectors, security and privacy professionals and open service providers, to develop an open data framework, in particular, guidance on
- the Data Privacy Risks and Benefits Analysis;
- the consideration and actions at the various chronological stages of the Open Data Cycle;
- the transparency programme in awareness among and engagement of the community and stakeholders on the Open Data initiative;
- Where applicable the application and implication of various mitigating anonymisation techniques and administrative measures to minimise personal data privacy intrusion.

4. Artificial Intelligence (AI) Policy

It is inevitable that Artificial Intelligence (AI) and Machine Learning (ML) technology will shape our economic and societal growth in the digital age. Government should develop an AI policy to support the technology deployment and govern the adoption of such technology in critical services and usage scenario. The policy should include ethical use of AI, skill development, alignment with specific industry regulations, data sharing policy, privacy and compliances, and the complementary need for Government to support universities in training more students in this

important field. It is recommended to form a high-level advisory committee to steer this effort. A key focus of the committee should analyze and anticipate the likely obsolescence of a number of traditional professions and vocations due to advances in AI within a generation. The impact and transformation of our workforce, the societal expectation management of the reshaping employment market, the reskilling and the retraining of our workforce, all these factors would require a government strategy to prepare our next generation for a digitally transformed society to ensure prosperity and stability of Hong Kong.

5. Smart City 2.0

With already three major smart City initiatives under active implementation, we look forward to the forthcoming Budget Speech to announce the launch of new major initiatives in accordance to the Smart City Blueprint announced in December 2017. Given the current sensitivity of alleged surveillance and alleged excessive/inappropriate collection of data by smart devices, it would be relevant for the Government to negate misconceptions in our community and to assure the public of the value-rich functions and objectives of the new endeavours with a high degree of transparency, openness and timeliness. Trust and confidence are essential ingredients for patronage and success in our Smart City Initiatives.

About the Hong Kong Computer Society (HKCS)

Founded in 1970, the Hong Kong Computer Society (HKCS) is a recognised non-profit professional organisation focused on developing Hong Kong's Information Technology (IT) profession and industry. Their members come from a broad spectrum of Hong Kong's IT community, from corporations to like-minded individuals, all coming together to raise the profile and standards of the IT profession and industry. As a well-established IT professional body, the Society is committed to professional and industry development as well as community services to ensure the IT sector continues to make a positive impact on peoples' lives with three main goals, namely, 1) talent cultivation and professional development, 2) industry development and collaboration, and 3) the effective use of IT in our community.

For more details, please visit http://www.hkcs.org.hk

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