

Hong Kong Computer Society 香港電腦學會

🚔 (852) 2834 3003 📔 Room 1801, 18/F., Times Tower, 928-930 Cheung Sha Wan Road, Kowloon, Hong Kong

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Dear Sir,

Legco Panel on Commerce and Industry Innovation and Technology Development and Re-industrialization Policy in Hong Kong

On behalf of HKCS (HK Computer Society) we wish to thank the Panel for the invitation to provide a written submission to the Panel on the captioned topic.

This submission is a consolidation of HKCS response on Innovation and Technology to the 2019 Policy Address, and the 2020 FS Budget speech, with timely updates from the ongoing deliberations of HKCS Policy Subcommittee in recent months in response to the impact of the coronavirus pandemic, the continual societal unrest in HK and the most recent US announcement of revoking HK's special trade status with the planned Mainland legislation on national security for HK.

The recommendations from Hong Kong Computer Society

- 1. Government needs a holistic approach for comprehensive digital skills development in conjunction with the specific employability program to support unemployed workers affected by COVID-19.
 - a. 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:

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- i. 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.
- ii. 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.
- iii. 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.
- iv. 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 ٧. 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.

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- vi. 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.
- **b.** Expand the vocational training grants a scheme to pay the displaced workers to reskill supported by certification for 'hands on' technology, that is immediacy employable by businesses in Hong Kong, such as offered by international certification agencies that match what business needs with worker availability,. In particular for cyber-security, data resilience, AI and ethics.
- c. Expand and deepen the funding support to training/upgrade of professional ICT knowledge among our workers, with the corresponding Singapore funding policy as food for thought.

2. Accelerate digital transformation for both public sector and business enterprises by adopting innovative technology and services to enhance differentiation / competitiveness

a. Encourage Cyberport and HKSTP (HK Science and Technology Park), as a systematic (rather than an ad-hoc) programme, to create more business matching opportunities for startups with corresponding industries and sectors to adopt and pioneer relevant new innovation for proof of concept and application refinement.



b. Similar to the startup community, adequate attention should be devoted by the Government to encourage innovation in our business and public and social enterprises, which are integral partners in the establishment of a smart city. **Reskilling of and enriching opportunities** for the 100k+ ICT talents working in our core industries and services should also be a priority in the Government innovation and technology policy.

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- Digital transformation is essential to evolve HK as an entrepot beyond just goods and c. logistics into a digital business and trade hub.
- **d.** 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 policy formulation.

3. Open Data Policy

- **a.** 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 Also, what data is of value to the business community and to the general public objective. 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; i.
 - ii. the consideration and actions at the various chronological stages of the Open Data Cycle;
 - iii. the transparency programme in awareness among and engagement of the community and stakeholders on the Open Data initiative;



- iv. where applicable the application and implication of various mitigating anonymisation techniques and administrative measures to minimise personal data privacy intrusion.
- b. Taking into account the best international practices, an overhaul of the Government Data Classification policy should be conducted for more transparency with the declassification of as much data as possible to ensure a viable digital business to be built upon open government data.
- c. Promote open and share data between government and private sectors to allow organizations of all sizes to realize the economic and societal benefits of big data.
- **d.** Building upon above, through data reclassification policies, **enable privacy-protected data to be made available for commercial use through digitization**. For example, company registry information to be made commercially available online with appropriate controls for suppliers and insurers to be able to offer through government websites services that companies may pull down as they wish. This protects the data within the registry while making it available to connect suppliers and customers.

4. Artificial Intelligence (AI) Policy, Regulations and Corporate Social Responsibility (CSR)

a. 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.

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b. There is a need for public regulations and corporate responsibility for AI technology (e.g. face recognition, security and privacy) adoption especially for smart city related services. Clearly controversial in today's political climate, therefore an approach based on principles for privacy and deployments is prevailingly relevant. Reference as food for thought, the AI Principles published by the EU or Australia (attached), and the AI status in China (attached), would help to formulate a proposal suitable for Hong Kong. Singapore also has a good model with its AI governance/ethics framework. https://www.imda.gov.sg/AI

There is also some good work done in Asia including HK as well.

- https://machinelearningtokyo.com/2019/12/08/ai-ethics-with-andrew-ng-andi. deeplearning-ai/
- ii. https://www.deeplearning.ai/blog/pie-ai-asia-on-ethical-ai-with-andrew-ng/

5. Smart City 2.0

With already at least three major smart City initiatives under active implementation, we look forward to 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 valuerich 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.

6. New measures to support companies impacted by the Coronavirus pandemic and the US's announcement of revoking HK's special status with the planned Mainland legislation on National Security for HK

The trade situation for Hong Kong with our traditional markets is not going to improve in the short to medium term, due to US, UK and EU politics and the ongoing coronavirus pandemic.

Non traditional markets therefore need to be explored and expanded. E.g. Africa provides a. an opportunity for Hong Kong to increase business, in particular after the enactment of the



African Continental Free Trade agreement (attached), the equivalent of the European EEC. The population of Africa is already the same as China and will double by 2050. Please refer the data in the attached paper for opportunities in the digital business area.

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- b. Hong Kong is the world's biggest air cargo hub and aircraft have been flying thousands of sectors recently delivering PPE (Personal Protection Equipment) to virus-affected countries globally. The opportunity relates to HK's logistics excellence to be a recognized logistics storage and hub for PPE for ready dispatch when needed with an agreed logistics plan in place and contracts with freight airlines/passenger airlines. This endeavor may possibly be financed by the WTO and other aid agencies including the Red Cross/Crescent.
- c. In conjunction with international agencies Hong Kong may also evolve to be a centre of excellence and manufacturing in specialized medical equipment and supporting supplies, including devices for life support, as a strategic activity of our Industrial 4.0 strategy.

Yours sincerely,

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