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Panel on Commerce and Industry

**Subcommittee on Issues Relating to the Stimulation of
Hong Kong's Economy**

Meeting on 30 April 2021

**Updated background brief
on innovation and technology development in Hong Kong**

Purpose

This paper provides updated background information on innovation and technology ("I&T") development in Hong Kong. It also provides a summary of views and concerns expressed by members of the Panel on Commerce and Industry ("the Panel") on related subjects.

Background

2. According to the Administration, it has been committed to promoting the development of I&T, with a view to injecting new impetus into the economy, improving people's quality of life, and creating quality jobs for young people. The Chief Executive ("CE") announced in the Policy Address delivered in October 2017 that the Administration would step up I&T development through eight major areas, including: (a) increasing resources for research and development ("R&D"); (b) pooling technology talent; (c) providing investment funding; (d) providing technological research infrastructure; (e) reviewing existing legislations and regulations; (f) opening up government data; (g) leading changes to procurement arrangements; and (h) strengthening popular science education. The relevant work progress is monitored regularly by the Steering Committee on Innovation and Technology, chaired by CE.

3. R&D is the foundation of I&T. The Administration set a goal in 2017 to double the gross domestic expenditures on R&D ("GERD") as a percentage

of the gross domestic product ("GDP") to 1.5% by the end of the current Government's five-year term of office; and to gradually reverse the ratio of public sector expenditure versus private sector expenditure on R&D from government-led to public-private participation, which would make R&D funding more sustainable. To this end, the current term Government has allocated over \$100 billion to support I&T development and launched various initiatives in respect of R&D investment, talent and infrastructure to attract enterprises to invest more in R&D activities.

4. According to the statistics released by the Census and Statistics Department, GERD of Hong Kong since 2017¹ are as follows:

<i>Year</i>	<i>GERD of Hong Kong</i>
2019	\$26.3 billion (equivalent to 0.92% of Hong Kong's GDP in 2019)
2018	\$24.5 billion (equivalent to 0.86% of Hong Kong's GDP in 2018)
2017	\$21.3 billion (equivalent to 0.80% of Hong Kong's GDP in 2017)

Latest measures to promote innovation and technology development

5. CE and the Financial Secretary ("FS") have respectively announced in the 2020 Policy Address and 2021-2022 Budget various measures to further promote I&T development. Details are set out in the ensuing paragraphs.

Hong Kong-Shenzhen Innovation and Technology Park

6. In the 2020 Policy Address, CE announced that the Governments of Hong Kong and Shenzhen were exploring the feasibility of leasing and managing some of the existing buildings in the Shenzhen Innovation and Technology Zone ("SZ I&T Zone") at the north side of Shenzhen River and adjacent to the Lok Ma Chau Loop ("the Loop") by the Hong Kong Science and Technology Parks Corporation ("HKSTPC"), in order to allow suitable and interested institutions and enterprises tapping into the Mainland market as soon as possible prior to the completion of the first batch of buildings in the Hong Kong-Shenzhen Innovation and Technology Park ("the Park").²

¹ The figures for 2020 are not yet available.

² The eight buildings in Batch 1 are estimated to be completed in phases from 2024 to 2027.

7. With the Panel's support, the Finance Committee ("FC") approved on 8 January 2021 the funding proposal for carrying out site formation and infrastructure works (at an estimated cost of \$13,217.3 million) and constructing a fire station and ambulance depot with departmental accommodations in the Loop (at an estimated cost of \$1,130 million) to dovetail and support the phased implementation of the Park. FC also approved on 5 February 2021 the injection of \$18,135 million to HKSTPC to support its wholly-owned subsidiary company, the Hong Kong-Shenzhen Innovation and Technology Park Limited ("HSITPL"), to commence Batch 1 development of the Park (\$17,258 million) and the initial operating cost of HSITPL from 2021-2022 to 2026-2027 (\$877 million).

Global STEM Professorship Scheme

8. As announced in the 2020 Policy Address, the Administration has proposed to launch a Global STEM Professorship Scheme for a period of five years at an estimated cost of \$2 billion. The Scheme would support the eight universities funded by the University Grants Committee in recruiting up to 100 internationally renowned I&T scholars and their teams to work in Hong Kong by subsidizing the remuneration of the scholars and their research teams and the establishment of laboratories.

Innovation and Technology Fund

9. FS has announced in the 2021-2022 Budget the injection of \$4,750 million per year to the Innovation and Technology Fund ("ITF") two years in a row to sustain its 17 funding schemes as well as the work of over 50 R&D laboratories in the next three years.

Previous discussions

10. The Panel discussed with the Administration on Hong Kong's I&T development at the meetings on 16 June 2020 and 15 January 2021. Members also gave views on related issues during the discussion on the development of the Park and the proposed Global STEM Professorship Scheme at the meetings on 17 November 2020 and 26 January 2021 respectively. The major views and concerns expressed by members are summarized in the ensuing paragraphs.

Increasing research and development investment

11. Members expressed concern on whether the Government's goal to double GERD as a percentage of GDP to 1.5% by end of its current term of office could be fulfilled. They suggested that the Administration should allocate resources to focus on those funding programmes and initiatives which

had prominent results. For example, the Administration should consider establishing R&D institutions in areas such as biotechnology which Hong Kong had a competitive edge.

12. Members pointed out that while many metropolises around the world were put into lockdown due to the Coronavirus Disease-2019 pandemic, making use of I&T in e-commerce and digitizing government services had become more and more important in people's daily lives. They thus urged the Administration to step up effort in developing Hong Kong's I&T, in order to boost the economy and improve people's livelihood.

Development directions

13. Some members were of the view that although the Administration had introduced multifarious programmes and measures to develop I&T and promote re-industrialization, it lacked an integrated and long term industrial policy by identifying Hong Kong's positioning and development directions in the international I&T arena. They enquired about the R&D directions of the Park and the Administration's views on which I&T subsectors in Hong Kong had competitive edge over its regional competitors.

14. The Administration advised that Hong Kong had become a popular I&T investment destination for venture capitalists. Investment by venture capitalists in Hong Kong had risen from \$1.2 billion in 2014 to close to \$17 billion in 2018. One of the I&T areas in which Hong Kong had potential competitive edge would be medical technology, and it was why healthcare technologies were the focus of one of the first two *InnoHK* research clusters.

15. The Administration also advised that the Park would focus on the development of six R&D areas in which Hong Kong had a competitive edge, i.e. healthcare technologies, big data and artificial intelligence ("AI"), robotics, new materials, microelectronics and financial technology. Over 50% and about 15% of the total gross floor area in the Park would be used for R&D and higher education purposes respectively. It was envisaged that the focus of the higher education institutions within the Park would be on applied R&D. With the geographical advantage of the Park, enterprises therein could leverage Shenzhen's strong production facilities for mass production and tap into the huge Mainland market, so as to expand their development scale and maximize their economic benefits.

Pooling technology talent

16. Members noted with concern that the ratio of R&D personnel as a percentage of total population in Hong Kong remained low, with only 3 400 R&D personnel out of every one million people, which was only half the

corresponding ratio of Singapore. Besides, the ratio of postgraduate students to professors was only 2.4 to 1, which was much lower than that of the United Kingdom, i.e. 4.1 to 1. They enquired whether the Administration had set relevant targets.

17. The Administration advised that grooming of talent was of utmost importance to the development of the I&T industry. The Administration had set a target for the number of employees in the I&T industry. In 2014, about 30 000 persons were employed in the I&T industry. When the Innovation and Technology Bureau was established in 2015, the Administration set a target for the number of employees in I&T industry to reach 42 600 in 2020. The target had largely been achieved in 2018 ahead of schedule as a result of the various support measures implemented by the Administration throughout the years.

18. The Administration also advised that promoting R&D was a crucial part of I&T development. The two *InnoHK* research clusters, one focusing on healthcare technologies and the other on AI and robotics technologies, had the mission of converging top-notch researchers from all over the world to conduct world-class and impactful collaborative researches.

Development of Hong Kong-Shenzhen Innovation and Technology Park

19. During the discussion of the Administration's proposal on the Batch 1 development of the Park, members enquired about the measures to attract Mainland and international I&T enterprises to set up bases and build a talent pool in the Park, including taxation and entry/exit arrangements for Mainland I&T talent working in the Park who would have to commute between Hong Kong and Shenzhen on a daily basis. They also urged the Administration to provide relevant supporting facilities, including sufficient school places for their children.

20. The Administration advised that accommodation units for some 5 000 persons would be available within the Park upon full development, i.e. about 10% of the estimated total working population in the Park. It would also look into possible facilitation measures, including the use of technology solutions, to facilitate cross border flow of people between the Park and the SZ I&T Zone.

Global STEM Professorship Scheme

21. Members considered that to avoid duplication of resources between the proposed Global STEM Professorship Scheme and ITF, the proposed Scheme should focus on certain key research areas (e.g. R&D areas essential to Hong Kong's future development including gerontechnology, medical and healthcare sciences) rather than a diverse array of areas. They also enquired about the research areas in which the I&T talent pool of Hong Kong needed to be

expanded.

22. The Administration advised that there were a number of key areas on which Hong Kong should focus its R&D efforts. These areas included medical, biotechnology, AI and robotics for which dedicated research clusters had been set up. Nevertheless, it was considered desirable for basic research at the university level to be broad-based to achieve a more balanced I&T development. The Assessment Panel for the Scheme would assess each application according to factors such as its potential impact on the society.

23. Members suggested that to attract more top-notch scholars to pursue R&D work in Hong Kong, the Administration should, in addition to the provision of subsidies under the proposed Global STEM Professorship Scheme, provide policy and technical assistance. Members also requested the Administration to foster cooperation between the awarded scholars and entrepreneurs to facilitate commercialization of R&D results.

24. The Administration advised that it would assist the awarded scholars in commercialization of their R&D results, for example, through the Public Sector Trial Scheme. Apart from fostering cooperation between the R&D scholars and entrepreneurs, the Administration would also assist the awarded scholars in leveraging the strength of the Guangdong-Hong Kong-Macao Greater Bay Area ("Greater Bay Area") in the commercialization of their R&D results.

Promotion of re-industrialization

25. On promoting re-industrialization, members called on the Administration to offer more incentives in areas such as tax concessions and rental subsidy to attract overseas and Mainland I&T talents and enterprises to set foot in Hong Kong. They also suggested that the Administration should explore strengthening collaboration with other cities of the Greater Bay Area to achieve synergy.

26. The Administration advised that it had introduced a number of policy measures to support re-industrialization in Hong Kong. Noting that the Greater Bay Area development would offer tremendous development opportunities for Hong Kong, the Administration would organize delegations comprising young entrepreneurs, scientists and researchers to visit other Greater Bay Area cities in search of development opportunities.

Removing legislative and administrative barriers

27. Members urged the Administration to take proactive steps to remove legislative and administrative barriers hampering I&T development. They also suggested that the Administration should draw reference from the Fintech

Supervisory Sandbox launched by the Hong Kong Monetary Authority and consider some industry associations' suggestion of introducing experimental sandboxes in different business sectors.

28. The Administration advised that the high-level inter-departmental Steering Committee on Innovation and Technology chaired by CE would review relevant legislation and policies, and implement the necessary changes through concerted efforts of the bureaux/departments ("B/Ds") concerned. For example, in order to remove institutional barriers and promote the development of the digital entertainment industry and electronic sports ("e-sports"), the Administration had exempted e-sports venues from the licensing requirements under the Amusement Game Centres Ordinance (Cap. 435).

Opening up of public data

29. Noting that the Administration had over the years failed to obtain information such as parking vacancy data held by private operators through moral persuasion and consultation, members urged the Administration to strive for opening up such public data by means of legislation.

30. The Administration advised that in the past year, B/Ds had been playing a leading role in actively promoting the opening up of public data. For certain public data kept by private enterprises or public bodies, the Transport and Housing Bureau and the Transport Department had been vigorously pursuing with the parties concerned. For example, certain datasets maintained by some of the franchised bus operators and the MTR Corporation Limited, and by some private car park operators (car parks in East Kowloon area in particular) had been opened up. In 2020, over 200 new datasets compiled by various B/Ds would be further released via the Public Sector Information Portal (data.gov.hk) for free access and public use, raising the total number of open datasets to 4 300.

Council questions

31. Mr CHAN Chun-ying asked a written question at the Council meeting of 16 December 2020 on whether the Administration had (a) drawn up a timetable for developing Hong Kong into an international centre for I&T; and (b) formulated indicators for measuring if Hong Kong had been developed into an international centre for I&T.

32. Mr LEUNG Che-cheung asked a written question at the Council meeting of 2 December 2020 regarding the policy on attracting top-notch biomedicine scientific research institutions and talents to establish their bases in Hong Kong, as well as attracting capital to the territory, so as to enhance the

competitiveness and sustainable development of Hong Kong's biomedicine industry.

33. The questions and the Administration's replies are hyperlinked in the **Appendix**.

Latest position

34. The Administration will update the Subcommittee on the latest measures to promote the development of I&T in Hong Kong, including encouraging enterprises to conduct R&D activities, facilitating industrialization of science and technology achievements and attracting I&T talents at the meeting on 30 April 2021.

Relevant papers

35. A list of relevant papers is in the **Appendix**.

Council Business Division 1
Legislative Council Secretariat
26 April 2021

List of relevant papers

Date of meeting	Meeting	Paper
16/6/2020	Panel on Commerce and Industry	<p>Administration's paper on "Innovation and technology development and the re-industrialisation policy in Hong Kong" (LC Paper No. CB(1)738/19-20(03))</p> <p>Updated background brief on the innovation and technology development and re-industrialization policy in Hong Kong prepared by the Legislative Council Secretariat (LC Paper No. CB(1)738/19-20(04))</p> <p>Minutes of meeting (LC Paper No. CB(1)934/19-20)</p>
17/11/2020	Panel on Commerce and Industry	<p>Administration's paper on "Development of the Hong Kong-Shenzhen Innovation and Technology Park in the Lok Ma Chau Loop" (LC Paper No. CB(1)150/20-21(04))</p> <p>Updated background brief on the Hong Kong-Shenzhen Innovation and Technology Park prepared by the Legislative Council Secretariat (LC Paper No. CB(1)150/20-21(05))</p> <p>Minutes of meeting (LC Paper No. CB(1)352/20-21)</p>
2/12/2020	Council	<p>Question No. 11 on "Development of the biomedicine industry" raised by Hon LEUNG Che-cheung (Government press release)</p>

Date of meeting	Meeting	Paper
9/12/2020	Public Works Subcommittee	Administration's paper on development of Lok Ma Chau Loop – Main Works Package 1 and Fire Station and Ambulance Depot with Departmental Accommodations in Lok Ma Chau Loop (PWSC(2020-21)20)
16/12/2020	Council	Question No. 16 on "Development of innovation and technology" raised by Hon CHAN Chun-ying (Government press release)
8/1/2021	Finance Committee	Recommendations of the Public Works Subcommittee (FCR(2020-21)79)
15/1/2021	Panel on Commerce and Industry	Administration's paper on "The Chief Executive's 2020 Policy Address - Policy initiatives of Innovation and Technology Bureau" (LC Paper No. CB(1)330/20-21(05)) Minutes of meeting (LC Paper No. CB(1)696/20-21)
26/1/2021	Panel on Commerce and Industry	Administration's paper on "Global STEM Professorship" (LC Paper No. CB(1)482/20-21(03)) Minutes of meeting (LC Paper No. CB(1)653/20-21)
5/2/2021	Finance Committee	Administration's paper on the Batch 1 development of the Hong Kong-Shenzhen Innovation and Technology Park and the initial operating cost of the Hong Kong-Shenzhen Innovation and Technology Park Limited (FCR(2020-21)87)