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**Legislative Council**

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**Panel on Commerce and Industry**

**Meeting on 18 March 2014**

**Updated background brief on promotion of innovation and technology**

**Purpose**

This paper provides background information on the promotion of innovation and technology (I&T) in Hong Kong. It also provides a summary of views and concerns expressed by Members on the subject in previous discussions.

**Background**

2. Innovation and technology are drivers for economic development and competitiveness. They help improve the efficiency and performance of enterprises which in turn contribute to the sustainable growth of an economy. To develop Hong Kong into a knowledge-based economy that thrives as an innovation hub in the region, the Administration has stepped up efforts to enhance collaboration among Government, the industry, academia and the research sector with a view to promoting research and development (R&D) as well as technology transfer. The Administration's approach in promoting I&T development is underpinned by the five core strategies as follows:

Providing world-class technological infrastructure

3. The Hong Kong Science Park (HKSP) provides facilities, services and a dynamic environment that enable companies to nurture ideas, innovate and develop. Phases 1 and 2 of HKSP currently provides 20 state-of-the-art laboratory-fitted buildings offering 220 000 m<sup>2</sup> of R&D office space. Construction of the \$4.9 billion HKSP Phase 3 is progressing on schedule and will be completed in phases by 2016. When fully completed, it will provide an

additional 105 000 m<sup>2</sup> of floor space to accommodate another 150 I&T companies and 4 000 related jobs.

4. The three Industrial Estates (IEs) in Tai Po, Yuen Long and Tseung Kwan O provide land for industries which would upgrade Hong Kong's manufacturing bases but could not be operated in traditional multi-storey industrial buildings. To capture opportunities in high-tech industries in the longer run, the Administration is exploring the feasibility of expanding the Yuen Long IE by about 16 hectares.

#### Offering financial support to R&D and technology transfer

5. At present, there are four major funding programmes under the Innovation and Technology Fund (ITF), namely Innovation and Technology Support Programme (ITSP), University-Industry Collaboration Programme, Small Entrepreneur Research Assistance Programme (SERAP), and General Support Programme, providing financial support to a spectrum of activities that boost Hong Kong's I&T capability. As at end-December 2013, ITF has supported over 3 600 projects at a total commitment of about \$7.9 billion. Taking into account the funding approved for the operation of the R&D Centres set up under ITF, the uncommitted ITF balance of about \$1 billion as at end-December 2013 is expected to be fully committed in mid-2015.

6. The Innovation and Technology Commission has started a comprehensive review of the ITF in 2013 to identify areas for further improvements. The Administration has reported to the Panel on Commerce and Industry (the Panel) on 18 February 2014 on the progress of the review and the proposed improvement measures, which include intensifying efforts to promote the application of R&D outcomes in the public sector; implementing improvements in response to Director of Audit's Report No. 61<sup>1</sup>; and making greater use of the General Support Programme to foster a strong I&T culture. Details of the improvement measures were set out in the Administration's paper on "Comprehensive review of the Innovation and Technology Fund — proposed improvement measures" (LC Paper No. CB(1)885/13-14(03)).

7. In April 2010, the Administration launched the \$200 million-R&D Cash Rebate Scheme to reinforce the research culture among private companies and

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<sup>1</sup> Chapter 9 of the Report ([http://www.aud.gov.hk/pdf\\_e/e61ch09.pdf](http://www.aud.gov.hk/pdf_e/e61ch09.pdf)) covers the Overall Management of the ITF and Chapter 10 ([http://www.aud.gov.hk/pdf\\_e/e61ch10.pdf](http://www.aud.gov.hk/pdf_e/e61ch10.pdf)) on Project Management. The Report included recommendations in the following main areas –

- (a) Comprehensive review of ITF and overall performance monitoring;
- (b) Performance and cost-effectiveness of the R&D Centres;
- (c) Processing and monitoring of projects under the ITSP;
- (d) Evaluation and commercialization of ITF projects; and
- (e) Processing and monitoring of projects under the SERAP.

encourage them to establish stronger partnership with local public research institutions. Under the Scheme, a company receives a cash rebate on its expenditure in two types of applied R&D projects, namely projects under the ITF and those commissioned by companies and conducted by designated local public research institutions<sup>2</sup>. To enhance the attractiveness of the Scheme, the level of rebate has been increased from 10% to 30% since February 2012. As at end-December 2013, the Scheme has approved 755 applications and \$65 million of cash rebate, benefitting more than 530 companies.

### Nurturing human resource development

8. The success of a knowledge-intensive I&T sector hinges on the availability of talents. As such, the Administration has placed increasing emphasis on human resource development, attracting the young generation to consider pursuing I&T as a life-long career, and providing exposure and incentives to them at different stages of their academic and intellectual development through various channels.

### Strengthening Mainland and international collaboration in science and technology

9. In the Mainland, the HKSAR Government has been working closely with the State Ministry of Science and Technology in Beijing through the Mainland/Hong Kong Science and Technology Co-operation Committee to identify and implement initiatives to dovetail the National 12th Five-Year Plan.

10. Internationally, the Administration has been actively promoting the strengths of Hong Kong to overseas universities and companies with a view to fostering research collaboration and the use of Hong Kong as a landing pad for access to the Mainland market.

### Fostering a vibrant innovation culture in the community

11. To instill a stronger innovation culture in the community, the Administration organizes various publicity programmes on a regular basis to sustain public interest in science and technology, such as the flagship event, InnoCarnival, as well as promotional videos, advertorials and interviews that feature the latest developments relating to I&T.

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<sup>2</sup> Designated local public research institutions include six local universities; five R&D Centres set up under the ITF; the Hong Kong Productivity Council; the Vocational Training Council, the Clothing Industry Training Authority and the Hong Kong Institute of Biotechnology.

## **Previous discussions**

12. The Panel has discussed the Administration's policy and strategy on promoting I&T development in Hong Kong at various Panel meetings. Members have also followed up issues relating to I&T development in Hong Kong by way of Council questions and motion debate. The major views and concerns expressed by Members are summarized in the ensuing paragraphs.

### Technological infrastructure

13. At the Council meeting on 7 November 2012, a question was raised on the occupancy rate, as well as the admission criteria of the HKSP. Panel members also expressed concern about the revitalization and repositioning of IEs to facilitate the upgrading of technology level and the broadening of industrial bases in IEs. The Administration was urged to explore the development of a fourth IE.

### Initiatives supporting R&D and development of I&T

14. Some Panel members expressed concern that the industry was not very keen on collaborating with the R&D Centres in conducting R&D projects. Some industry stakeholders were of the view that the existing funding arrangements under the ITF were too restrictive in confining its scope to collaborative projects with universities and the R&D Centres. The project vetting requirements and procedures were too complex and cumbersome to facilitate worthy projects to be undertaken quickly. Panel members were of the view that the ITF should be more progressive and proactive in supporting enterprises and start-ups in applied R&D and commercialization.

15. Some members were concerned that local small and medium enterprises (SMEs) could not share the benefits of the R&D projects as substantial financial investment was required for participation in the projects. At present, support for private companies' in-house research was only through SERAP, which had its limitations, e.g. the industry regarded the terms not attractive enough, and the scope a bit too narrow. Panel members were particularly concerned that Hong Kong's gross expenditure on R&D as a ratio to Gross Domestic Product remained low by international standard. These members urged the Administration to provide sufficient funding support and incentives (such as tax concessions) to motivate more private enterprises, including young technology entrepreneurs, to invest in applied R&D. Some members called on the Administration to step up the efforts in promoting the R&D Cash Rebate Scheme to SMEs, and to further increase the level of cash rebate from 30% to 50%, so as to arouse SMEs' interests in the application of I&T in their business operations, as well as collaborating with local research institutions on R&D.

16. Regarding the newly established Economic Development Commission, some Panel members were concerned that its Working Group on Manufacturing Industries, Innovative Technology and Cultural and Creative Industries covered a wide variety of industries and could not focus specifically on the development of I&T in Hong Kong.

17. At the Council meeting on 19 December 2012, a question was raised regarding the Administration's short, medium and long term policies on promoting the development of a diversified economy, particularly the I&T industries. At the Council meeting on 16 October 2013, Members passed a motion on "Optimizing public finances and enhancing the impetus for innovation in Hong Kong's economy", urging the Administration to formulate long-term, comprehensive and concrete policies on technology industries, including enhancing technology education, creating a good environment for starting up businesses, supporting the development of local applied scientific research and technology transfer, and assisting Hong Kong technological enterprises in developing the local, Mainland and overseas markets so as to enhance the impetus for innovation in Hong Kong's economy.

#### Commercialization of R&D results and technology transfer

18. Panel members urged the Administration to step up the efforts in promoting commercialization of R&D results and technology transfer. The Administration should also strengthen collaborations among the Government, industry, academic and research sectors to facilitate commercialization of R&D results to bring about wider social and economic benefits to the community. Some Panel members called on the Administration to take the lead to adopt more local R&D results, and to extend the scope of the Public Sector Trial Scheme to cover the conduct of trial projects of R&D results in the private sector. At the Council meetings on 16 May 2012, 23 January and 27 February 2013, Members raised questions on whether the Administration would put in place policies/guidelines requesting government departments to give priority to using local technology products, and called for incentives to promote the realization and commercialization of R&D results in the public sector (including government departments, public bodies and trade associations, etc) as well as the commerce and industry sectors. Questions were also raised in respect of the Administration's plans and measures to support local technology-based enterprises in developing the Mainland market.

19. Some Panel members opined that in addition to funding support, technology transfer involved diverse activities which required technical know-how, knowledge about the commercialization process and professional support services in patent management, IP protection, financial management, and contract negotiations with angel investors and venture capitalists, etc. The Administration should strengthen the nurturing and training of the requisite

talents to facilitate technology transfer and enhance commercialization of R&D results.

20. Some members highlighted the importance of a sound intellectual property (IP) protection system in facilitating the development of Hong Kong's I&T industries. These members considered that the Administration should provide a clear, transparent, fair and consistent framework for IP arrangements (covering ownership, licensing and benefit-sharing, etc) for R&D projects funded by the ITF to motivate more private sector enterprises to participate in conducting R&D projects in collaboration with the R&D Centres and other local research institutions. Some other members suggested that the Administration should make reference to practices of Finland, Israel and South Korea, where IPs generated from government funded R&D projects were open for use by interested parties at no cost to facilitate realization and commercialization of new technologies. Suggestion was also made to adopt the performance-based research and quality evaluation models in allocating funds of the University-Industry Collaboration Programme to universities on the basis of their performance on R&D.

#### Human resource development

21. Some Panel members noted that not many university graduates chose to pursue a career in the R&D sector due to the lack of job opportunities. These members opined that the Administration should foster an innovation culture that placed more importance in I&T, and step up efforts in attracting international technology enterprises to set up R&D bases in Hong Kong, so as to create more job opportunities for university graduates with science and technology background.

#### Proposed new Innovation and Technology Bureau

22. The Chief Executive announced in his 2014 Policy Address the Administration's decision to re-initiate the setting up of a new Innovation and Technology Bureau to work with various sectors to formulate the objectives and policies for the development of I&T in Hong Kong. Panel members generally supported the setting up of the new Bureau, and considered that, in addition to the technology sector, the new Bureau should also take into account the views of the commerce and industry sectors when formulating relevant policies. Dr Hon LAM Tai-fai however questioned whether it was an opportune time for setting up a new Bureau bearing in mind that implementing universal suffrage for the selection of the Chief Executive in 2017 was a major task of the current term of the Government.

## Recent development

23. In the 2014-2015 Budget, the Financial Secretary announced the following two new measures of the ITF to further boost R&D investment and commercialization activities among local private companies and attract companies from abroad to bring their R&D departments to Hong Kong to create a more diversified ecology for I&T development:

- (a) setting up an Enterprise Support Scheme (ESS) to replace the SERAP. The ESS will provide funding support for R&D activities of private sector companies, irrespective of size, with the funding ceiling for each project raised from \$6 million to \$10 million. While the recipient company must bear at least half of the cost, it may retain all the intellectual property rights of the project; and
- (b) extending the scope of funding to development work and system integration, industrial design, compliance testing and clinical trials so as to render stronger support to downstream R&D and commercialization activities, allowing full exploitation of the technological edge of local industries.

24. In addition, to create a better ecological environment for technology start-ups to collaborate with local R&D institutions and universities, the ITF will provide an annual funding of up to \$24 million to the six designated universities<sup>3</sup> to provide seed money for R&D projects that they recommend, encouraging their students and teachers to start downstream R&D businesses and commercialize their R&D results.

## Latest position

25. The Administration will brief the Panel at its meeting on 18 March 2014 on the new measures to further promote I&T in Hong Kong.

## Relevant papers

26. A list of relevant papers is in **Appendix**.

Council Business Division 1  
Legislative Council Secretariat  
 14 March 2014

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<sup>3</sup> The six designated universities are City University of Hong Kong, Hong Kong Baptist University, the Chinese University of Hong Kong, the Hong Kong Polytechnic University, the Hong Kong University of Science and Technology, and the University of Hong Kong.

## Appendix

### Promotion of innovation and technology

#### List of relevant papers

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
19/4/2011	Panel on Commerce and Industry	Administration's paper          Minutes meeting	CB(1)1893/10-11(05)  <a href="http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0419cb1-1893-5-e.pdf">http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0419cb1-1893-5-e.pdf</a>  of CB(1)2403/10-11  <a href="http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20110419.pdf">http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20110419.pdf</a>
20/3/2012	Panel on Commerce and Industry	Administration's paper          Minutes meeting	CB(1)1298/11-12(07)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0320cb1-1298-7-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0320cb1-1298-7-e.pdf</a>  of CB(1)1787/11-12  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20120320.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20120320.pdf</a>
25/4/2012	Council	Question No. 5 raised by Ir Dr Hon Raymond HO Chung-tai	Hansard (Page 8609-8619)  <a href="http://www.legco.gov.hk/yr11-12/english/counmtg/hansard/cm0425-translate-e.pdf">http://www.legco.gov.hk/yr11-12/english/counmtg/hansard/cm0425-translate-e.pdf</a>
15/5/2012	Panel on Commerce and Industry	Administration's paper	CB(1)1790/11-12(03)  <a href="http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0515cb1-1790-3-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0515cb1-1790-3-e.pdf</a>



Date of meeting	Meeting	Minutes/Paper	LC Paper No.
		Minutes of meeting	CB(1)2432/11-12 <a href="http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20120515.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20120515.pdf</a>
16/5/2012	Council	Question No. 7 raised by Dr Hon Samson TAM Wai-ho	Hansard (Page 9877-9881) <a href="http://www.legco.gov.hk/yr11-12/english/counmtg/hansard/cm0516-17-translate-e.pdf">http://www.legco.gov.hk/yr11-12/english/counmtg/hansard/cm0516-17-translate-e.pdf</a>
7/11/2012	Council	Question No. 16 raised by Hon Charles Peter MOK	Hansard (Page 1485-1487) <a href="http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm1107-translate-e.pdf">http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm1107-translate-e.pdf</a>
19/12/2012	Council	Question No. 17 raised by Dr Hon Elizabeth QUAT	Hansard (Page 3951-3955) <a href="http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm1219-translate-e.pdf">http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm1219-translate-e.pdf</a>
23/1/2013	Panel on Commerce and Industry	Administration's paper  Minutes of meeting	CB(1)436/12-13(03) <a href="http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0123cb1-436-3-e.pdf">http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0123cb1-436-3-e.pdf</a>  CB(1)694/12-13 <a href="http://www.legco.gov.hk/yr12-13/english/panels/ci/minutes/ci20130123.pdf">http://www.legco.gov.hk/yr12-13/english/panels/ci/minutes/ci20130123.pdf</a>
23/1/2013	Council	Question No. 18 raised by Dr Hon Elizabeth QUAT	Hansard (Page 5167-5174) <a href="http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0123-translate-e.pdf">http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0123-translate-e.pdf</a>

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
27/2/2013	Council	Question No. 16 raised by Hon Charles Peter MOK	Hansard (Page 7349-7358) <a href="http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0227-translate-e.pdf">http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0227-translate-e.pdf</a>
16/4/2013	Panel on Commerce and Industry	Administration's paper  Background brief  Minutes of meeting	CB(1)832/12-13(03)  <a href="http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0416cb1-832-3-e.pdf">http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0416cb1-832-3-e.pdf</a>  CB(1)832/12-13(04)  <a href="http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0416cb1-832-4-e.pdf">http://www.legco.gov.hk/yr12-13/english/panels/ci/papers/ci0416cb1-832-4-e.pdf</a>  CB(1)1280/12-13  <a href="http://www.legco.gov.hk/yr12-13/english/panels/ci/minutes/ci20130416.pdf">http://www.legco.gov.hk/yr12-13/english/panels/ci/minutes/ci20130416.pdf</a>
16/10/2013	Council	Motion on "Optimizing public finances and enhancing the impetus for innovation in Hong Kong's economy"  Administration's progress report on the motion	Hansard  <a href="http://www.legco.gov.hk/yr13-14/english/counmtg/hansard/cm1016-translate-e.pdf#nameddest=mbm02">http://www.legco.gov.hk/yr13-14/english/counmtg/hansard/cm1016-translate-e.pdf#nameddest=mbm02</a>  Wording of the motion passed  <a href="http://www.legco.gov.hk/yr13-14/english/counmtg/motion/cm1016-m2-wordings-e.pdf">http://www.legco.gov.hk/yr13-14/english/counmtg/motion/cm1016-m2-wordings-e.pdf</a>  <a href="http://www.legco.gov.hk/yr13-14/english/counmtg/motion/cm1016-m2-prpt-e.pdf">http://www.legco.gov.hk/yr13-14/english/counmtg/motion/cm1016-m2-prpt-e.pdf</a>

<b>Date of meeting</b>	<b>Meeting</b>	<b>Minutes/Paper</b>	<b>LC Paper No.</b>
21/1/2014	Panel on Commerce and Industry	Administration's paper	CB(1)749/13-14(03)  <a href="http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0121cb1-749-3-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0121cb1-749-3-e.pdf</a>
18/2/2014	Panel on Commerce and Industry	Administration's paper  Background brief	CB(1)885/13-14(03)  <a href="http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-3-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-3-e.pdf</a>  CB(1)885/13-14(04)  <a href="http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-4-e.pdf">http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-4-e.pdf</a>