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Panel on Commerce and Industry

Meeting on 18 November 2014

**Background brief on improvements to
the Innovation and Technology Fund to promote innovation
and application of research and development outcomes**

Purpose

This paper provides background information on the Innovation and Technology Fund (ITF) and a summary of views and concerns expressed by Members on related issues during previous discussions.

Background

2. The ITF was set up as a statutory fund under the Public Finance Ordinance (Cap. 2) by resolution of the Legislative Council on 30 June 1999 to provide financial support to a spectrum of activities that boost Hong Kong's innovation and technology capability, ranging from applied research and development (R&D), technology transfer and commercialization related activities to promotional activities that foster an innovation culture within the community. On 9 July 1999, the Finance Committee approved the proposed injection of HK\$5 billion into the ITF which came into operation on 1 November 1999. The ITF is currently administered by the Innovation and Technology Commission (ITC) and comprises the following four programmes:

- (a) Innovation and Technology Support Programme (ITSP) – for mid-stream/downstream applied R&D projects mainly undertaken by local public research institutes (including the five R&D Centres, local universities, Hong Kong Productivity Council, Vocational Training Council, etc). There are broadly two categories of projects:

- (i) platform projects which require industry contribution of at least 10% of the project cost from two or more companies. The industry sponsors will not be entitled to own the project intellectual property (IP); and
- (ii) collaborative projects which require industry contribution of at least 30% (for R&D Centre projects) or 50% (for non-R&D Centre projects) of the project cost. The industry partner will be entitled to exclusive right to utilize the project IP for a defined period or own the project IP;
- (b) University-Industry Collaboration Programme – for projects undertaken by a local university in collaboration with a company in conducting R&D. The company is required to contribute no less than 50% of the project cost;
- (c) Small Entrepreneur Research Assistance Programme (SERAP) – provides dollar-for-dollar matching grant for technology based small and medium enterprises (SMEs) under the size of 100 to undertake in-house R&D projects. The IP will be owned by the company contributing 50% of the project cost. Unlike collaborative projects in (a) and (b) above, the company will be required to pay back the funding grant from the ITF as and when they make profits from the project; and
- (d) General Support Programme (GSP) – supports non-R&D projects such as conferences, surveys, events, etc to help upgrade industry, promote the culture of innovation and technology in the community, etc.

3. As at the end of December 2013, the ITF has funded more than 3 600 projects at a total commitment of about \$7.9 billion. Taking into account the funding for the operation of the R&D Centres set up under the ITF, the uncommitted ITF balance of about \$1 billion is expected to be fully committed in mid-2015.

Improvements to the ITF to promote the development of innovation and technology

Promoting realization and commercialization of R&D results

4. Over the years, the Administration has regularly reviewed the operation of the ITF and introduced various enhancements to the ITF mechanism. In 2010, the Administration had conducted a review of the ITF mechanism with a

view to promoting realization and commercialization of R&D results. Some of the improvement measures implemented included:

- (a) extending the scope of the ITF funding by launching the Public Sector Trial Scheme which provided additional funding support to R&D projects undertaken by the R&D Centres for the production of tools/prototypes/samples and the conduct of trial schemes in the public sector;
- (b) refining the ITF project vetting criteria to give greater emphasis to relevant factors apart from scientific/technical considerations, such as the plan for realization/commercialization, relevance with Government policies or in overall interest of the community;
- (c) reviewing the industry contribution models so as to encourage a higher level of financial contribution where possible; and
- (d) shortening the ITF vetting process of project applications.

Details of the improvement measures were set out in the Administration's paper on "Creation of a favourable ecological environment to facilitate the realization of R&D results" for the Panel on Commerce and Industry (the Panel) meeting on 16 November 2010 (LC Paper No. CB(1)389/10-11(05)).

Enhancing the SERAP

5. In April 2012, the Administration implemented the following enhancements to the SERAP to support technology companies, in particular SMEs, in pursuing R&D activities:

- (a) increasing the funding ceiling for each project from \$4 million to \$6 million;
- (b) extending the programme to cover companies with venture capital investment; and
- (c) expanding the funding scope to facilitate commercialization, including industrial designs, testing and certification of prototypes, pre-clinical trials, etc.

Extending the coverage of the Public Sector Trial Scheme

6. In July 2012, the Public Sector Trial Scheme was extended from projects undertaken by the R&D Centres to all completed ITF projects to facilitate the realization and commercialization of R&D results. The trial projects were also

allowed to be applied in the public sector outside Hong Kong and in the Mainland.

Promulgating a new guide on IP arrangements

7. To further facilitate commercialization of R&D results, the ITC has promulgated in August 2013 a new guide on IP arrangements (covering ownership, licensing and benefit-sharing, etc) for R&D projects funded by the ITF. The new guide which sets out the latest policy aims to provide a clear, transparent, fair and consistent framework for IP arrangements, and allows greater flexibility for the R&D Centers and other local research institutions to determine the best terms of commercialization and benefit-sharing arrangements having regard to their individual circumstances.

Comprehensive review of the ITF commenced in 2013

8. The Administration has commenced a comprehensive review of the ITF in mid-2013 to identify areas of further improvements. It also took a critical look at the long-term funding arrangements for R&D projects/activities and the R&D Centres funded by the ITF.

9. The Administration has reported to the Panel on 18 February 2014 on the progress of the comprehensive review of the ITF and the proposed improvement measures, which included 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. 61¹; and making greater use of the General Support Programme to foster a strong innovation and technology 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" for the Panel meeting on 18 February 2014 (LC Paper No. CB(1)885/13-14(03)).

10. To accelerate technology transfer of upstream R&D results to translate more innovations into commercialized midstream and downstream R&D products or services, a number of new initiatives and improvement measures were announced in the 2014-2015 Budget. These included setting up an Enterprise Support Scheme (ESS) to replace the SERAP to encourage more private sector investment in R&D; extending the scope of funding of the ITF to

¹ Chapter 9 of the Report (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) 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.

provide stronger support to downstream R&D and commercialization activities; and providing funding support through the ITF to the six universities designated as local public research institutions² to encourage their teams to start technology businesses and commercialize their R&D results. Details of the new initiatives and improvement measures were set out in the Administration's paper on "New initiatives on promotion of innovation and technology" for the Panel meeting on 18 March 2014 (LC Paper No. CB(1)1072/13-14(07)).

Views and concerns expressed by Members

Private sector investment in R&D

11. Some Panel members expressed concern that the industry was not very keen on collaborating with the R&D Centres in conducting R&D projects. According to some industry stakeholders, 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. Some members were of the view that the industry contribution requirement of at least 50% of the University-Industry Collaboration Programme was not effective in encouraging local universities to take up more R&D projects. While agreeing with the need to ensure proper use of public funds, members considered that too much emphasis on industry contribution might hinder the development of new R&D initiatives. These members advised the Administration to consider making reference to overseas practices and adopting the performance-based research and quality evaluation models under which funds would be allocated to universities based on their performance in R&D so as to encourage local universities to initiate more R&D projects. There was also concern that for the avoidance of criticisms of transfer of benefits to certain large companies, the Administration might impose over-stringent requirements for assessing the applications and in monitoring the funded projects, which would discourage companies from applying. To maximise the benefits of the ITF, members called on the Administration to adopt new thinking in keeping the ITF mechanism as simple as possible to minimize constraints posed on projects.

12. Some members were concerned that local SMEs could not share the benefits of the R&D projects as substantial financial investment was required for participation in the projects. Pointing out the limitations of the existing SERAP, e.g. the industry regarded the terms not attractive enough, and the scope a bit too narrow, members considered that the Administration should

² These 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.

provide sufficient incentives (such as tax concessions and land resources) to motivate more private enterprises of the innovation and technology industry to conduct in-house research and invest in applied R&D. In this connection, members noted the Administration's proposal to replace SERAP with a new Enterprise Support Scheme to address the limitations of SERAP and encourage more private sector investment in R&D. The Administration would finalize the implementation details and consult the Panel in due course.

13. The Panel also followed closely the implementation of the R&D Cash Rebate Scheme (CRS). While the funding source of the CRS was independent from the ITF, members affirmed its important role in promoting R&D and reinforcing the research culture among private companies. The Administration was requested to consider further increasing the level of cash rebate from 30% to 50% to enhance the attractiveness of the CRS. Some members called on the Administration to collaborate with relevant chambers of commerce and trade associations to promote the CRS to SMEs and to arouse their interests in applying innovation and technology in their business operations, as well as strengthening their collaboration with local research institutions and academia on research projects. Efforts should also be made to publicize the successful R&D outcomes under the CRS to the general public.

14. Panel members also called on the Administration to build an effective and sustainable technology start-up ecosystem, in particular to consider formulating relevant financial policies and legislation to facilitate investments from angel investors, venture capitalist firms or crowdfunding in financing the start-ups at various stages.

Commercialization of R&D results and technology transfer to the industry

15. Panel members urged the Administration to allocate more resources to R&D development and 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 in the private sector. Hon Charles Peter MOK had raised a question on the Public Sector Trial Scheme at the Council meeting on 27 February 2013 enquiring about the statistics and details of the approved project applications under the scheme.

16. Some other 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.

IP ownership rights of ITF-funded projects

17. Panel members advised the Administration to clearly spell out the IP ownership right and benefit-sharing arrangements between designated research institutions and the collaborating private companies for ITF-funded projects to ensure fairness and transparency in the ITF's operation. Some members noted with concern that while it might be necessary to award the exclusive licence for the project IPs to collaborating private companies for quite a long period so as to provide sufficient commercial incentives for private companies to engage and invest in R&D projects, such arrangements however might attract criticism of transfer of benefits to particular companies as the projects supported by the ITF were funded by public money and the industry as a whole could not benefit from the new technologies. There was a suggestion that it would be more appropriate to confine the period of the exclusive licence for project IPs to three years or less so as to allow wider application of new technologies in the industry. The Administration was urged to address the issue in the comprehensive review of the ITF to strike a proper balance.

18. Given the limited life span of a new technology, some other members also suggested that the Administration should consider opening up the IP rights of platform projects of the ITF held by local research institutions for use by the industry in an open, transparent and non-exclusive manner to facilitate the realization and commercialization of the relevant technologies.

Way forward for the ITF

19. Some Panel members called on the Administration to engage and solicit views from the relevant stakeholders, including representatives from the universities, R&D Centres, industry associations and chambers of commerce when reviewing and refining the ITF mechanism. Members noted with concern that the uncommitted balance of the ITF at about \$1 billion as at end-December 2013 was expected to be fully committed by mid-2015, and enquired about the way forward for the ITF, including whether additional funding would be provided for its continued operation. The Administration advised that upon the completion of the comprehensive review of the ITF, the Administration would, based on the outcome of the review, recommend the way forward.

Latest position

20. The Administration will brief the Panel on 18 November 2014 on the findings and recommendations of the comprehensive review of the ITF.

Relevant papers

21. A list of relevant papers is shown in the **Appendix**.

Council Business Division 1
Legislative Council Secretariat
12 November 2014

Improvements to the Innovation and Technology Fund to promote innovation and application of research and development outcomes

List of relevant papers

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
30/6/1999	Council	Resolution establishing the Innovation and Technology Fund passed by the Legislative Council	http://www.legco.gov.hk/yr98-99/english/fc/fc/papers/pfc36ea2.pdf
9/7/1999	Finance Committee	Administration's paper Minutes of meeting	FCR(1999/2000)36 http://www.legco.gov.hk/yr98-99/english/fc/fc/papers/fc090736.htm FC8/99-00 http://www.legco.gov.hk/yr98-99/english/fc/fc/minutes/fcmm0907.htm
16/11/2010	Panel on Commerce and Industry	Administration's paper Updated background brief	CB(1)389/10-11(05) http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci116cb1-389-5-e.pdf CB(1)389/10-11(04) http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci116cb1-389-4-e.pdf

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
		Minutes of meeting	CB(1)1017/10-11 http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20101116.pdf
15/3/2011	Panel on Commerce and Industry	Administration's paper Background brief Minutes of meeting	CB(1)1531/10-11(03) http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0315cb1-1531-3-e.pdf CB(1)1531/10-11(04) http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0315cb1-1531-4-e.pdf CB(1)2014/10-11 http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20110315.pdf
20/3/2012	Panel on Commerce and Industry	Administration's paper Updated background brief Minutes of meeting	CB(1)1298/11-12(07) http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0320cb1-1298-7-e.pdf CB(1)1298/11-12(09) http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci0320cb1-1298-9-e.pdf CB(1)1787/11-12 http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20120320.pdf

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
27/2/2013	Council	Question No. 16 raised by Hon Charles Peter MOK	Hansard http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0227-translate-e.pdf#nameddest=wrq16
18/2/2014	Panel on Commerce and Industry	Administration's paper Background brief Minutes of meeting Follow-up paper	CB(1)885/13-14(03) http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-3-e.pdf CB(1)885/13-14(04) http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-885-4-e.pdf CB(1)1234/13-14 http://www.legco.gov.hk/yr13-14/english/panels/ci/minutes/ci20140218.pdf CB(1)1441/13-14(01) http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0218cb1-1441-1-e.pdf
18/3/2014	Panel on Commerce and Industry	Administration's paper	CB(1)1072/13-14(07) http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0318cb1-1072-7-e.pdf

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
		<p>Updated background brief</p> <p>Minutes meeting of</p>	<p>CB(1)1072/13-14(08)</p> <p>http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0318cb1-1072-8-e.pdf</p> <p>CB(1)1418/13-14</p> <p>http://www.legco.gov.hk/yr13-14/english/panels/ci/minutes/ci20140318.pdf</p>