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**Panel on Commerce and Industry**

**Meeting on 19 January 2016**

**Background brief on the funding support for  
Technology Transfer Offices of local universities,  
Partner State Key Laboratories, and  
Hong Kong Branches of Chinese National Engineering Research Centres  
through the Innovation and Technology Fund**

**Purpose**

This paper provides background information on the funding support for Technology Transfer Offices ("TTOs") of local universities, Partner State Key Laboratories ("Partner SKLs"), and Hong Kong Branches of Chinese National Engineering Research Centres ("Hong Kong Branches of CNERCs") through the Innovation and Technology Fund ("ITF"). It also summarizes the views and concerns expressed by Members during previous discussions on the subject.

**Background**

Technology transfer activities of universities

2. Technology transfer is commonly used to describe the process of exploiting the commercial potential of an academic discovery or invention or a technological breakthrough from the laboratory to the marketplace. This process will enable technological developments to be accessible to a wider range of users who can then further develop the technology/knowledge into new products, processes, applications and services, etc. Technology transfer is a two-way process. Not only would the community enjoy realizable benefit from the knowledge/technology transferred from universities, but academics and researchers would also benefit by having closer ties with the community.

3. Local universities are an important pillar of Hong Kong's innovation and technology ("I&T") industry; they are the spawning ground for both I&T talents and inventions. Hong Kong has a world-class tertiary education system and the universities have been consistently ranked among the best in Asia. There are now six universities<sup>1</sup> being designated as local public research institutions by the Innovation and Technology Commission ("ITC") and engaging in research and development ("R&D") and technology transfer activities. These universities have set up their own TTOs to enhance their work in promoting knowledge (including technology) transfer in partnership with the industry and other stakeholders, and deal with the process of commercializing R&D results.

#### State Key Laboratories ("SKLs") and Chinese National Engineering Research Centres ("CNERCs") in the Mainland

4. The SKL Scheme and CNERCs are under the auspices of the Ministry of Science and Technology ("MOST"). They are the major innovation bases and serve as major initiatives in nurturing basic as well as applied technology R&D in the Mainland.

5. The SKL Scheme carries high status as it signifies recognition from MOST for the research work of a specific laboratory in a specific area. SKLs carry out innovative research taking into account the national technology development direction, national economy, social development and national security aspects.

6. Research centres approved by MOST as CNERCs have strong R&D capabilities and enjoy leading positions in their chosen areas of expertise both in the Mainland and internationally. CNERCs focus on providing engineering research and consultancy support to industries, including enhancing the core competency on transformation of technology achievements for productivity, promoting a higher level of maturity, compatibility and engineering standards in technology results, and provide technological innovation support for national socio-economic development.

#### Partner SKLs and Hong Kong Branches of CNERCs

7. A Partner SKL is a laboratory in Hong Kong recognized by MOST as an R&D partner of a corresponding Mainland's SKL for its research excellence in a particular technology area. Back in late 2007, in response to local universities' keenness to contribute to the nation's scientific and technological development

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<sup>1</sup> 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.

through the SKL Scheme, ITC agreed with MOST to coordinate the invitation of applications for the establishment of Partner SKLs in Hong Kong. At present, Hong Kong has 16 Partner SKLs<sup>2</sup> specializing in various technology areas, such as agrobiotechnology, chemistry, information and communication technology, life science, and precision engineering, etc. These Partner SKLs have gone through a vigorous admission process to demonstrate that they are in possession of high quality research capabilities.

8. In August 2011, the Central People's Government announced an initiative of establishing Hong Kong Branches of CNERCs. The purpose was to continually expand new forms of co-operation in science and technology between the Mainland and Hong Kong. In June 2012, MOST agreed to the application submitted by the Hong Kong Applied Science and Technology Research Institute as a pilot case to establish a Hong Kong Branch of the National Application-Specific Integrated Circuit System Engineering Research Centre in collaboration with the Southeast University in Nanjing. Currently, Hong Kong has six Hong Kong Branches of CNERCs covering different scientific research disciplines.

#### Funding support for TTOs of local universities, Partner SKLs and Hong Kong Branches of CNERCs

9. The Administration has been providing each of the Partner SKLs in Hong Kong with funding support up to \$10 million in five years (i.e. an annual funding up to \$2 million) starting from 2011-2012. The funding provides additional resources to enable Partner SKLs to map out a longer term development plan, strengthen their research capability, and build up the necessary infrastructure support such as equipment and relevant facilities.

10. To foster the development of the I&T sector, the Administration has implemented the following funding schemes starting from 2013-2014 –

- (a) to provide funding under ITF to the six universities being designated as local public research institutions to enhance their capabilities of technology transfer (i.e. a measure announced by the Financial Secretary in his 2013-2014 Budget). A funding up to \$4 million each year, initially for three years, has been provided to the TTOs of each university starting from 2013-2014. The aim is to enhance the universities' capabilities to transfer their R&D results into real world applications to the benefit of the community. The scope of the ITF funding includes professional support services such as legal advice and intellectual property ("IP") rights

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<sup>2</sup> See the reply by the Secretary for Constitutional and Mainland Affairs to Written Question 13 raised by Hon NG Leung-sing at the Council meeting of 6 January 2016.

protection, and promotion of R&D results to the industry, etc.;

- (b) to provide additional funding under ITF to Partner SKLs to further recognize their achievements, strengthen their R&D capabilities and promote joint effort with their Mainland counterparts. The funding support has been increased from the original ceiling of \$2 million each year to \$5 million each year for each Partner SKL from 2013-2014 to 2015-2016. In other words, for the five year period from 2011-2012 to 2015-2016, a Partner SKL can receive a maximum of \$19 million (i.e. \$2 million each year x 2 years for 2011-2012 to 2012-2013, plus \$5 million each year x 3 years for 2013-2014 to 2015-2016); and
- (c) to provide funding under ITF to Hong Kong Branches of CNERCs to enhance their R&D capabilities and collaboration with the Mainland. A funding up to \$5 million each year, initially for three years, has been provided to each Hong Kong Branch of CNERC starting from 2013-2014. In other words, during the three-year period, each Hong Kong Branch of CNERC can receive a maximum of \$15 million.

The Panel on Commerce and Industry at its meeting held on 16 April 2013 expressed support for the implementation of the above funding schemes for three years from 2013-2014. The above funding support will expire on 31 March 2016.

## **Previous discussions**

### Panel on Commerce and Industry

11. The views and concerns expressed by members during the relevant discussions at Panel meetings in respect of the three funding schemes set out in paragraph 10, the nurturing of I&T talents, as well as the collaboration in science and I&T between Hong Kong and the Mainland are summarized in the ensuing paragraphs.

#### *Funding support for TTOs of local universities, Partner SKLs and Hong Kong Branches of CNERCs*

12. The Panel in general welcomed the funding support for TTOs of local universities to facilitate more applications of R&D outcomes and commercial development of university IP. There was a view that in addition to funding support, technology transfer required sufficient technical know-how and knowledge about the commercialization process, and involved diverse activities

requiring specialized knowledge and professional support services in patent management, IP protection, financial management, and contract negotiations with angel investors and venture capitalists, etc. Members supported that the funding could be used for building up the necessary professional support services, and opined that a control mechanism should be in place to ensure that the funds were used on activities directly related to promoting knowledge and technology transfer. In this regard, the Administration advised that the activities or events should be directly related to technology transfer, and to avoid double subsidy, should not be financed by the recurrent funding from the University Grants Committee.

13. Members also supported in principle the funding support for the Partner SKLs and Hong Kong Branch of CNERC to strengthen their R&D capabilities and promote collaboration with the Mainland. Some members expressed concern on whether it would be possible for local universities and research institutes to set up SKLs without partnering with Mainland's research institutes. In view of the worsening environmental pollution problem and ageing population both in the Mainland and Hong Kong, and noting that Hong Kong universities had strong R&D capabilities in areas such as medicine and biotechnology, members encouraged the establishment of Hong Kong Branches of CNERCs focusing on environmental protection as well as biotechnology and medicines.

14. The Administration advised that under the "One Country, Two Systems" principle, universities and research institutes in Hong Kong had to partner with SKLs in the Mainland to be recognized as Partner SKLs. ITC had been working closely with MOST in the admission process of universities and research institutes in Hong Kong as Partner SKLs and Hong Kong Branches of CNERCs.

#### *Nurturing I&T talents*

15. Some members noted with concern that although local universities had strong and world class R&D capabilities, the society attached more importance to financial management techniques rather than technologies. In addition, rarely did university graduates choose to pursue a career in the I&T or R&D sector due to limited job opportunities. The majority of postgraduate students in local universities, particularly of science, engineering and technology subjects, were Mainland and overseas students. Members called on the Administration to increase public awareness and understanding of how science and technology would bring about socio-economic benefits, so as to foster wider public support and participation in strengthening the I&T sector. The Administration noted members' suggestions on placing more emphasis on human resource development in I&T, including creating more career opportunities for university graduates with science and technology background,

so as to encourage these graduates to consider pursuing R&D and I&T as a life-long career.

### *Collaboration with the Mainland*

16. Members supported closer collaboration in science and I&T with the Mainland and noted that ITC had been working closely with MOST through the Mainland/Hong Kong Science and Technology Co-operation Committee to identify and implement initiatives to promote I&T development in Hong Kong. In addition to establishing various platforms, such as Partner SKLs and Hong Kong Branches of CNERCs, for fostering technology co-operation, ITC also encouraged more local R&D institutions and research personnel to take part in national science and technology programmes, and nominated Hong Kong experts for the National Science and Technology Programmes Expert Database.

### Motion passed by the Council

17. The Council at its meeting of 16 October 2013 passed a motion on "Optimizing public finances and enhancing the impetus for innovation in Hong Kong's economy". The motion urged the Administration to formulate long-term, comprehensive and concrete policies on technologies, 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 further strengthen the economic impetus of Hong Kong.

### **Latest position**

18. The Administration will brief the Panel on 19 January 2016 on the implementation progress of the three funding schemes since 2013-2014, and seek the Panel's support for continuing the funding support under ITF for these schemes from 2016-2017 onwards.

### **Relevant papers**

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

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**List of relevant papers**

Date of meeting	Meeting	Paper
18/1/2011	Panel on Commerce and Industry	<p>Administration's paper on "Provision of Funding Support for Partner State Key Laboratories in Hong Kong" (<a href="#">LC Paper No. CB(1)1050/10-11(05)</a>)</p> <p>Background brief on financial support for Partner State Key Laboratories prepared by the Legislative Council Secretariat (<a href="#">LC Paper No. CB(1)1050/10-11(06)</a>)</p> <p>Minutes of meeting (<a href="#">LC Paper No. CB(1)1529/10-11</a>)</p>
16/4/2013	Panel on Commerce and Industry	<p>Administration's paper on "New Initiatives on Promotion of Innovation and Technology" (<a href="#">LC Paper No. CB(1)832/12-13(03)</a>)</p> <p>Background brief on promotion of innovation and technology prepared by the Legislative Council Secretariat (<a href="#">LC Paper No. CB(1)832/12-13(04)</a>)</p> <p>Minutes of meeting (<a href="#">LC Paper No. CB(1)1280/12-13</a>)</p>
16/10/2013	Council	<p>Motion on "Optimizing public finances and enhancing the impetus for innovation in Hong Kong's economy" moved by Hon Kenneth LEUNG as amended by Dr Hon Elizabeth QUAT, Hon Andrew LEUNG, Hon Ronny TONG and Hon Charles MOK (<a href="#">Wording of the motion passed</a>) (<a href="#">Progress report</a>)</p>

Date of meeting	Meeting	Paper
20/1/2015	Panel on Commerce and Industry	<p>Administration's paper on "2015 Policy Address—— Policy Initiatives of Commerce, Industry and Tourism Branch and Innovation and Technology Commission, Commerce and Economic Development Bureau"  <a href="#">(LC Paper No. CB(1)438/14-15(03))</a></p> <p>Administration's paper on "Injection into the Innovation and Technology Fund"  <a href="#">(LC Paper No. CB(1)438/14-15(05))</a></p> <p>Minutes of meeting  <a href="#">(LC Paper No. CB(1)582/14-15)</a></p>
6/1/2016	Council	<p>Written Question 13 on "Work to complement the country's Thirteenth Five Year Plan" raised by Hon NG Leung-sing and reply by the Secretary for Constitutional and Mainland Affairs</p> <p><a href="#">(Written Question 13)</a>  <a href="#">(Reply)</a></p>