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**Panel on Commerce and Industry**

**Meeting on 21 April 2009**

**Updated Background Brief on  
Research and Development Centres  
under the Innovation and Technology Fund**

**Purpose**

This paper provides background information on the establishment of the Research and Development (R&D) Centres under the Innovation and Technology Fund (ITF)<sup>1</sup> and a summary of views and concerns expressed by the Panel on Commerce and Industry (the Panel) in 2008.

**Background**

2. On 30 June 2004, the Innovation and Technology Commission (ITC) issued a consultation paper to invite public views on a new strategic framework which included the development of 13 proposed technology focus areas<sup>2</sup> and a proposal to set up R&D centres. Having considered how best Hong Kong might capitalize on its strengths and respond to the changing economic environment, the Administration proposed that the strategy of innovation and technology development should emphasize five key elements, namely focus, market relevance, industry participation, leverage on the Mainland, and better coordination among different elements of the innovation and technology programme. According to the Administration, the vast majority of respondents supported the general direction

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<sup>1</sup> 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. On 9 July 1999, the Finance Committee approved the proposed injection of HK\$5 billion into ITF which came into operation on 1 November 1999. The ITF is currently administered by ITC and comprises four programmes, namely the Innovation and Technology Support Programme, University-Industry Collaboration Programme, General Support Programme and Small Entrepreneur Research Assistance Programme.

<sup>2</sup> The 13 proposed focus areas are: (1) Advanced Manufacturing Technologies; (2) Automotive Parts and Accessory Systems; (3) Chinese Medicine; (4) Communications Technologies; (5) Consumer Electronics; (6) Digital Entertainment; (7) Display Technologies; (8) Integrated Circuit Design; (9) Logistics/Supply Chain Management Enabling Technologies; (10) Medical Diagnostics and Devices; (11) Nanotechnology and Advanced Materials; (12) Opto-electronics; and (13) Textile and Clothing.

and key initiatives of the new strategy.

3. After consulting the Panel on 17 May 2005 on the proposal to implement a new strategic framework and a three-tier funding model under the ITF, the Administration submitted a funding proposal to allocate a total of \$358.7 million from the ITF to take forward the new strategic framework. The proposal was approved by the Finance Committee (FC) on 24 June 2005. The key features of the new strategic framework for innovation and technology development are:

- (a) identification of technology focus areas in which Hong Kong has competitive edges and where there is the potential for meeting market needs; and
- (b) provision of funding support for the establishment of R&D centres in five identified focus areas and R&D projects under specific focus themes.

4. Under the new strategic framework, the Administration has adopted a three-tier funding model under the ITF to support applied R&D in Hong Kong. The three-tier funding model is:

- (a) tier one which involves the establishment of five R&D centres for conducting R&D in specific focus areas;
- (b) tier two which involves the funding of R&D projects under different focus themes with a more specific and defined scope; and
- (c) tier three which involves funding of more innovative R&D projects.

#### Research and Development Centres

5. In order to strengthen collaborative applied research activities between the industries and research organizations, the following five R&D Centres were set up in April 2006 for an initial operation of five years:

- (a) R&D Centre for Automotive Parts and Accessory Systems (APAS) (hosted by the Hong Kong Productivity Council);
- (b) R&D Centre for Logistics and Supply Chain Management Enabling Technologies (LSCM) (jointly hosted by the University of Hong Kong, the Chinese University of Hong Kong and Hong Kong University of Science and Technology);
- (c) R&D Centre for Nanotechnology and Advanced Materials (NAMI) (hosted by the Hong Kong University of Science and Technology);
- (d) R&D Centre for Textiles and Apparel (RITA) (hosted by the Hong

Kong Polytechnic University); and

- (e) R&D Centre for Information and Communications Technologies (ICT) (hosted by the Hong Kong Applied Science and Technology Research Institute (ASTRI)<sup>3</sup>)

6. Under the market-driven and demand-led approach, R&D Centres are responsible for coordinating R&D efforts and maintaining close relationship with the industry to ensure that the R&D deliverables would be relevant to the industry's needs and long-term development. With the support of the ITF, R&D Centres provide a one-stop shop for technology transfer and commercialization through the following roles:

- (a) undertaking industry research;
- (b) provision of technology and market intelligence;
- (c) provision of a platform for the exchange of Intellectual Property/innovation technology;
- (d) technology development, transfer and knowledge dissemination; and
- (e) intellectual property commercialization.

### Control mechanism

7. To ensure that public funds are used in a prudent and cost-effective manner, a comprehensive control mechanism is in place to monitor the operation of the R&D Centres and their projects. At the institutional level, the Administration plays a role in the composition and appointment of the Steering Committee and Technology Committee of each R&D Centre in order to ensure that there is an independent overview of the Centre. Each R&D Centre is required to establish detailed guidelines on its corporate governance which would need to be endorsed by the Board of Directors of the respective Centre and approved by the Administration.

8. The Administration monitors and controls all the R&D Centres at two levels. For the five-year operating cost of the R&D Centres, all Centres are required to conduct regular annual reviews, which critically assess the performance of the R&D Centre as a whole against its milestones as stated in the R&D Centre proposal during the five-year funding period. Each Centre is required to submit annual reports and quarterly financial statements to the Administration reporting on the income and expenditure of the Centre and the cashflow requirements.

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<sup>3</sup> Unlike the other four R&D Centres which are established as independent legal entities, ICT is established within the existing operational infrastructure of ASTRI, which is a limited company wholly owned by the Government.

9. Apart from conducting regular annual reviews and project review of individual R&D projects, all R&D Centres are required to conduct two major reviews, one in the second year and the other in the fourth year. The first major review will critically examine, inter alia :

- (a) whether the R&D programme and direction could actually meet the industry demand as reflected by the industry contribution and participation; and
- (b) whether the planned R&D programme would need to be adjusted to ensure that adequate industry contribution and income could be generated to sustain the programme for the whole five-year period.

The results of the review would provide input to the Administration to decide whether the R&D Centre should continue to exist and receive funding support from the ITF.

10. The second major review will critically examine, inter alia:

- (a) whether the R&D Centre would likely meet the objectives and target set at the beginning of its operation;
- (b) whether it is necessary for the Centre to continue to operate after the five-year funding period;
- (c) the funding source of the Centre beyond the five-year funding period if the Centre continues to operate; and
- (d) the plan to wind down the Centre if it ceases operation.

11. If an R&D Centre is to continue operation beyond the five-year period, it is expected to do so on a self-financing basis, counting on its ability to obtain adequate industry contribution and generate income to meet its operating cost. However, if the Centre has already completed its mission or for other reasons, ceases operation before or after the five-year funding period, all the residual funds and any surplus income generated from the ITF during the project period will be returned to the ITF.

### **Discussion at the Panel on Commerce and Industry**

12. The Panel has followed closely the implementation of the new strategic framework for innovation and technology development since 2005. Members were updated on the income and expenditure of the R&D Centres and their progress achieved since their establishment in April 2006 to June 2007. In general, Panel members supported the role of R&D Centres to take forward the new strategy and technology transfer. They hoped the R&D results could help the local industries in the long run.

### Projects and operating costs

13. At the Panel meeting on 17 June 2008, the Administration briefed members on the progress of the five R&D Centres for the period July 2007 to May 2008. The Panel noted that as in May 2008, a total of 75 platform projects, 6 collaborative projects and 40 contract research/service projects had been approved by the five R&D Centres. The total project cost of the platform projects and the collaborative projects was \$462.5 million. The R&D Centres were generally able to secure industry contribution at 10% of the total platform project cost despite the difficulties in finding private sponsorship. The actual expenditure on operation of each of these Centres was in the region of \$10 million to \$16 million whereas that of ICT was about \$100 million. The estimated expenditure on the operation of the five R&D Centres was estimated to increase by about 13% to 38% in 2008-2009.

14. Members had all along urged the Administration to ensure that the operating or administrative cost of the R&D Centres should not be too high in order that adequate resources were available for funding R&D projects. Members were concerned about the way the financial resources allocated to the Centres were used and the level of industry contribution secured by the Centres in undertaking such projects.

15. As the R&D Centres were only able to secure industry contribution of about 10% of the total project cost of the platform projects, Panel members queried whether the original target for the R&D Centres to progressively generate up to 40% of their expenditure from the industry would be achievable. Some members were of the view that the industry would be interested in making more contribution if the projects succeeded in bringing about economic gains in the end. The Panel also expressed concern about the financial independence or otherwise of the R&D Centres when they ramped up to the fifth year of operation. Members were keen to ensure that the R&D Centres were able to generate investment income to cover their relevant expenses. The Administration advised that the issue on industry contribution would be further studied under the upcoming review and the Panel would be briefed on the relevant findings and recommendations.

### Research deliverables and industry support

16. Some Panel members considered that the HK\$5 billion injection into the ITF in 1999 to support R&D in Hong Kong was way below that of the financial commitments in R&D in other places, such as Singapore. Stressing the importance of research deliverables, members opined that in assessing the achievement of the R&D Centres, emphasis should be placed on the research results and their impact on Hong Kong's economy in the long run rather than their expenditure. To attract more private investment in R&D projects, members suggested the R&D Centres to exhibit their research results, in particular ICT which was hosted by ASTRI and the only Centre which had completed R&D projects so far. This would also encourage young talents to join R&D work.

17. Panel members noted that there were 93 technology transfers by ASTRI from April 2006 to May 2008, and they criticized that a considerable portion of Hong Kong's commitments in R&D had been used to subsidize non-local enterprises. Members opined that the efforts made in investing in R&D should gear to facilitating the development of local industries, thereby achieving the best value for money in the long run. The Administration should also review regularly the effectiveness of its R&D strategy to enable timely adjustment to be made. The Administration advised that ASTRI had been collaborating with Hong Kong enterprises engaged in the semi-conductor industry and such collaboration was expected to bear fruit in the near future. ASTRI was mindful of the need to groom local talents and to enhance local network for the long term benefits of Hong Kong.

18. Members also expressed concern that many Hong Kong-owned enterprises operating in the Pearl River Delta Region were facing changes such as restructuring, upgrading and relocating. In addition, there were other changing circumstances on the Mainland, such as the development of new technology, which necessitated operational changes of the enterprises from time to time. Members hoped that the support given by the R&D Centres would be adjusted accordingly.

#### Mid-term review

19. Some Panel members reminded the Administration that objective assessment framework and criteria should be adopted for the mid-term review on the operation of the five R&D Centres. The Administration should phase out gradually those R&D Centres which failed to achieve their mission. With changes in circumstances and technological advancement, consideration should also be given to establishing new R&D centre(s) which would focus in areas with high potential for development.

#### **Latest position**

20. The Administration will brief the Panel on the outcome of the review at the Panel meeting on 21 April 2009.

#### **References**

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

## List of relevant papers

Committee	Paper	LC Paper No.
Meeting of Panel on Commerce and Industry (CI Panel) on 17 May 2005	<p>Administration's paper : "Implementation of New Strategic Framework for Innovation and Technology Development"</p> <p>Background brief on new strategic framework for innovation and technology development</p> <p>Minutes of meeting</p>	<p>CB(1)1496/04-05(03)</p> <p>CB(1)1497/04-05</p> <p>CB(1)1794/04-05</p>
Meeting of Finance Committee on 24 June 2005	<p>Administration's paper :</p> <p>INNOVATION AND TECHNOLOGY FUND HEAD 111 - INNOVATION AND TECHNOLOGY</p> <p>New Subhead "Establishment of Research and Development Centre for Nanotechnology and Advanced Materials"</p> <p>New Subhead "Establishment of Research and Development Centre for Textile and Clothing"</p> <p>New Subhead "Establishment of Research and Development Centre for Automotive Parts and Accessory Systems"</p> <p>New Subhead "Establishment of Research and Development Centre for Logistics and Supply Chain Management Enabling Technologies"</p> <p>New Subhead "Establishment of an Incubation-cum-Training Centre to support Digital Entertainment Development by the Hong Kong Cyberport Management Company Limited"</p> <p>New Subhead "Development of technologies and facilities to design and build mechanical watch movements by the Chinese University of Hong Kong"</p> <p>Minutes of meeting</p>	<p>FCR(2005-06)21</p> <p>FC125/04-05</p>
Meeting of CI Panel on 21 February 2006	Administration's paper : "Research and Development Centre on Information and Communications Technologies"	CB(1)903/05-06(05)

Committee	Paper	LC Paper No.
	<p>Background brief on establishment of research and development centres under the new strategic framework for innovation and technology development</p> <p>Minutes of meeting</p>	<p>CB(1)904/05-06</p> <p>CB(1)1148/05-06</p>
<p>Meeting of CI Panel on 21 November 2006</p>	<p>Background brief on Current Strategic Framework for Innovation and Technology Development</p> <p>Administration's papers :</p> <p>(a) Research and Development Centres</p> <p>(b) Issues related to the operation and management of the Applied Science and Technology Research Institute</p> <p>Minutes of meeting</p>	<p>CB(1)279/06-07</p> <p>CB(1)278/06-07(03)</p> <p>CB(1)278/06-07(04)</p> <p>CB(1)485/06-07</p>
<p>Meeting of CI Panel on 17 July 2007</p>	<p>Administration's paper : "Strategic Framework for Innovation and Technology Development — Progress Report on Research and Development Centres"</p> <p>Minutes of meeting</p>	<p>CB(1)2088/06-07(04)</p> <p>CB(1)120/07-08</p>
<p>Meeting of CI Panel on 17 June 2008</p>	<p>Background brief on Research and Development Centres under the Innovation and Technology Fund</p> <p>Administration's paper : "Strategic Framework for Innovation and Technology Development — Progress Report on Research and Development Centres"</p> <p>Minutes of meeting</p>	<p>CB(1)1865/07-08(04)</p> <p>CB(1)1865/07-08(03)</p> <p>CB(1)2257/07-08</p>