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Panel on Commerce and Industry

Meeting on 17 April 2012

**Updated background brief on Research and Development Centres
set up under the Innovation and Technology Fund**

Purpose

This paper provides background information on the review of the Research and Development (R&D) Centres set up under the Innovation and Technology Fund (ITF)¹. It also summarizes the views and concerns expressed by the Panel on Commerce and Industry (the Panel) on the subject during previous discussions.

Background

2. Following public consultation in 2004, the Government promulgated a new strategic framework in early 2005 which aimed for a more focused approach to promote innovation and technology development.
3. After consulting the Panel on 17 May 2005 on the proposal to implement the new strategic framework, the Administration submitted a funding proposal to allocate \$358.7 million from the ITF to take forward the new strategic framework. The proposal was approved by the Finance

¹ 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 Innovation and Technology Commission (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.

Committee (FC) on 24 June 2005.

4. In April 2006, the Government set up the following five R&D Centres to drive and co-ordinate applied R&D in the selected focus areas and to promote commercialization of R&D results and technology transfer:

- (a) Automotive Parts and Accessory Systems R&D Centre (APAS);
- (b) R&D Centre for Logistics and Supply Chain Management Enabling Technologies (LSCM);
- (c) Hong Kong Research Institute of Textiles and Apparel (HKRITA);
- (d) Nano and Advanced Materials Institute (NAMI); and
- (e) R&D Centre for Information and Communications Technologies (ICT)² under the Hong Kong Applied Science and Technology Research Institute (ASTRI).

Review of R&D Centres

5. Apart from conducting regular annual reviews on the performance of the Centres and project review of individual R&D projects, all R&D Centres are required to conduct two major reviews (i.e. the mid-term review and the comprehensive review), one in 2007 and the other in 2011. The mid-term review should critically examine the following -

- (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.

² 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. The operating cost of ICT is funded separately by the Government's annual subvention to ASTRI.

The mid-term review aimed to provide input to the Administration to decide whether the R&D Centre should continue to exist and receive funding support from the ITF.

6. The comprehensive review should critically examine the following -
- (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.

7. According to the Administration, 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 funding during the project period will be returned to the ITF.

Discussion by the Panel on Commerce and Industry

8. Since 2006, the Administration has periodically updated the Panel on the income and expenditure of the R&D Centres and their progress since their establishment in April 2006. In general, Panel members supported the role of R&D Centres to spearhead the advancement of R&D of Hong Kong, and hoped that the R&D results could help the local industries in the long run.

Mid-term review of the R&D Centres

9. At the meetings on 21 April and 19 May 2009, the Panel followed up on the mid-term review of the operation of the R&D Centres and discussed the funding proposal to extend the operation of the four R&D Centres, namely APAS, HKRITA, LSCM and NAMI, up to 2013-2014. Panel members in general supported the continuous development of the R&D Centres, and welcomed the Administration's proposal to adjust the industry

contributions to platform projects from 40% to 15% in response to members' suggestions.

10. Following consultation with the Panel, the Administration obtained FC's approval on 19 June 2009 to further allocate a total of \$369 million from the ITF to support the continued operation of the four R&D Centres up to 31 March 2014. The Administration undertook to:

- (a) conduct a review in 2010 to look into the modus operandi and operating costs of the R&D Centres to see if there was any room for achieving greater savings and higher cost-effectiveness;
- (b) conduct a full review in 2011 on the R&D Centres' operation and overall performance for the first five-year period, taking full account of their experience in technology transfer and commercialization; and
- (c) review the targeted level of industry contributions (which was adjusted from 40% in the original 2005 proposal to 15% in the context of the 2009 mid-term review).

Interim report on the comprehensive review of the R&D Centres

11. The Panel followed up the interim report on the comprehensive review of the R&D Centres on 15 June 2010. Panel members welcomed the Administration's initiative to promote the R&D deliverables in the public sector. Members expected that with the wider use of such R&D deliverables as the radio frequency identification technology and the light-emitting diode lighting amongst Government departments and public bodies, the cost of development and production would be lowered to enable more popular use of such technologies in the private sector.

Review of operating costs of the R&D Centres

12. The Panel was updated on 16 November 2010 on the operation of the R&D Centres and the findings, and observations from the review of operating costs of these Centres. As the expenditure on administrative support of some R&D Centres in 2009-2010 was over 30% of the total operating cost, some members called on the reduction of operating costs of the R&D Centres through centralizing the supporting services.

13. The Panel also noted that amongst the five R&D Centres under review, only ASTRI and NAMI were able to meet the targeted level of industry

contribution of 15%. Some members opined that the Administration should step up effort to enhance the level of industry contribution to the projects run by ASTRI and NAMI. Some other members however considered the current level of industry contribution of at least 10% for platform projects reasonable, given that the industry sponsors would not own the intellectual property of the projects. Since R&D was vital to the overall economic development of Hong Kong, some members considered that resources should be focused on NAMI and ASTRI to speed up commercialization. The Administration advised that with the completion of the comprehensive review in about one year's time, it would then be in a better position to determine the technology areas where resources should be focused.

14. Some Panel members expressed concern about the way forward for the R&D Centres, and the dwindling number of young talents joining the R&D industry. These members hoped that the Administration would nurture a more supportive atmosphere for scientific research in Hong Kong, encourage private participation and help the R&D Centres tap the business opportunities in the Mainland. The Administration advised that a scholarship programme would be organized in the coming year in collaboration with the private sector to stimulate the interest of the young people in R&D. At the strategic level, Hong Kong's R&D development would be geared toward complementing the implementation of the National 12th Five-Year Plan.

Performance of the R&D Centres and commercialization of R&D results

15. At the Panel meeting on 21 June 2011, the Administration briefed members on the operation of the five R&D Centres in 2010-2011. The Panel noted that NAMI had performed the best amongst the five Centres in terms of the level of industry contribution. NAMI was conducting projects of great potential demand, probably due to the fact that nanotechnology and advanced materials were upcoming areas with lots of applications in its focused market sectors. Panel members considered that more resources should be allocated to the R&D Centres which had performed better, in particular NAMI.

16. Panel members noted that one of the key issues to be looked at in the comprehensive review would be the institutional setup, including the relationship between the R&D Centres and the hosting organization(s), and whether there was any need for change. They called on the Administration to rationalize the institutional setup of the R&D Centres where necessary to avoid hindrance to the development of the R&D Centres.

17. Some Panel members opined that the Administration and the R&D Centres should step up efforts in promoting commercialization of R&D results and technology transfer. They also considered that the Administration should endeavour to raise the industry's awareness of the role and work of the R&D Centres, and to increase the industry participation. The Administration advised that it had helped linking up the R&D Centres with Government departments and public bodies to explore opportunities of collaboration, and provided the necessary funding under the ITF to cover the production of samples/prototypes and conducting of trial schemes by Government departments, public bodies and trade associations. It was hoped that this would facilitate realization of the R&D results by providing a "reference" (by public sector users) for the new technology as it found its way to the open market.

18. Panel members also called on the Administration to speed up the conducting of trial schemes of R&D deliverables by trade associations and the commercial sector, in particular the food waste processor and the radio frequency identification enabling technologies for retail industry.

Comprehensive review of the R&D Centres

19. At the Panel meeting on 20 December 2011, the Administration briefed members on the findings and recommendations of the comprehensive review of the R&D Centres. Panel members noted the Administration's recommendations as follows:

- (a) to extend the operation of NAMI and APAS both beyond 31 March 2014 to allow them to plan their work on a longer horizon, and to merge APAS with the Hong Kong Productivity Council (HKPC) in around mid 2012;
- (b) to set key performance indicators (e.g. increase in industry contribution) for HKRITA and LSCM, observe their performance for another two years and make recommendations on their future before 31 March 2014. Possible options included maintaining the status quo, disbandment, merger with an appropriate organization, etc.; and
- (c) to continue to fund ASTRI under Government's annual recurrent subvention.

20. Noting that the Administration might consider disbanding HKRITA and LSCM, some Panel members expressed concern whether it would affect

staff morale of the two R&D Centres. Some other members expressed concern about the autonomy of APAS in conducting R&D projects after the merger with HKPC. Members noted that the Administration saw a case to improve the performance of APAS and achieve higher cost-effectiveness by merging APAS with HKPC. It could facilitate closer collaboration between the two organizations in R&D projects while making greater use of HKPC's resources and experience in promoting commercialization (e.g. publicity and industry networking). APAS could then pool its resources to focus on R&D projects and technology matters, thus enhancing its R&D capacity. The Administration assured members that APAS could maintain its autonomy in conducting R&D projects since it would continue to be fully funded by the Administration after the merger.

Recent developments

21. At the special FC meetings to examine the Estimates of Expenditure 2012-2013 on 7 March 2012, Members enquired about the number of projects conducted and completed by the five R&D Centres and the expenditure incurred for the past years. The relevant statistics between April 2006 and December 2011 provided by the Administration are as follows:

	ITF funding (in \$ billion)	No. of R&D projects	No. of completed projects
ASTRI	1.54	217	158
APAS	0.14	53	34
LSCM	0.21	32	7
NAMI	0.18	63	24
HKRITA	0.18	64	35
Total	2.25	429	258

22. Hon LEE Wing-tat opined that funding should be reserved to conduct independent assessment on the cost effectiveness of the 258 projects and their commercial viability so as to know whether it was worthwhile to pursue these projects with public fund.

Latest position

23. The Administration will brief the Panel on 17 April 2012 on the funding proposals for extending the operation of the R&D Centres.

Relevant papers

Information papers provided by the Administration for the Commerce and Industry Panel meeting on 17 May 2005

<http://www.legco.gov.hk/yr04-05/english/panels/ci/papers/ci0517cb1-1496-3e.pdf>

Background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 17 May 2005

<http://www.legco.gov.hk/yr04-05/english/panels/ci/papers/ci0517cb1-1497e.pdf>

Minutes of the Commerce and Industry Panel meeting on 17 May 2005

<http://www.legco.gov.hk/yr04-05/english/panels/ci/minutes/ci050517.pdf>

Information paper provided by the Administration for the Finance Committee meeting on 24 June 2005

<http://www.legco.gov.hk/yr04-05/english/fc/fc/papers/f05-21e.pdf>

Minutes of the Finance Committee meeting on 24 June 2005

<http://www.legco.gov.hk/yr04-05/english/fc/fc/minutes/fc050624.pdf>

Information papers provided by the Administration for the Commerce and Industry Panel meeting on 21 February 2006

<http://www.legco.gov.hk/yr05-06/english/panels/ci/papers/ci0221cb1-903-5e.pdf>

Background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 21 February 2006

<http://www.legco.gov.hk/yr05-06/english/panels/ci/papers/ci0221cb1-904-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 21 February 2006

<http://www.legco.gov.hk/yr05-06/english/panels/ci/minutes/ci060221.pdf>

Information paper provided by the Administration for the Commerce and Industry Panel meeting on 21 April 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/papers/ci0421cb1-1286-7-e.pdf>

Updated background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 21 April 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/papers/ci0421cb1-1286-8-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 21 April 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/minutes/ci20090421.pdf>

Information paper provided by the Administration for the Commerce and Industry Panel meeting on 19 May 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/papers/ci0519cb1-1551-5-e.pdf>

Updated background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 19 May 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/papers/ci0421cb1-1286-8-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 19 May 2009

<http://www.legco.gov.hk/yr08-09/english/panels/ci/minutes/ci20090519.pdf>

Information paper provided by the Administration for the Finance Committee meeting on 19 June 2009

<http://www.legco.gov.hk/yr08-09/english/fc/fc/papers/f09-27e.pdf>

Minutes of the Finance Committee meeting on 19 June 2009

<http://www.legco.gov.hk/yr08-09/english/fc/fc/minutes/fc20090619a.pdf>

Report of the Panel on Commerce and Industry to the Legislative Council on 14 July 2010

<http://www.legco.gov.hk/yr09-10/english/panels/ci/reports/ci0714cb1-2437-e.pdf>

Information papers provided by the Administration for the Commerce and Industry Panel meeting on 16 November 2010

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci1116cb1-389-3-e.pdf>

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci1116cb1-389-5-e.pdf>

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Updated background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 16 November 2010

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci1116cb1-389-4-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 16 November 2010

<http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20101116.pdf>

Information paper provided by the Administration on the detailed breakdown of the industry contribution secured by the various R&D Centres by different types of projects in 2009-2010

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci1116cb1-1907-1-e.pdf>

Information paper provided by the Administration for the Commerce and Industry Panel meeting on 21 June 2011

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0621cb1-2481-10-e.pdf>

Updated background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 21 June 2011

<http://www.legco.gov.hk/yr10-11/english/panels/ci/papers/ci0621cb1-2481-11-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 21 June 2011

<http://www.legco.gov.hk/yr10-11/english/panels/ci/minutes/ci20110621.pdf>

Information paper provided by the Administration for the Commerce and Industry Panel meeting on 20 December 2011

<http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci1220cb1-624-5-e.pdf>

Updated background brief prepared by the Legislative Council Secretariat for the Commerce and Industry Panel meeting on 20 December 2011

<http://www.legco.gov.hk/yr11-12/english/panels/ci/papers/ci1220cb1-624-6-e.pdf>

Minutes of the Commerce and Industry Panel meeting on 20 December 2011

<http://www.legco.gov.hk/yr11-12/english/panels/ci/minutes/ci20111220.pdf>

Administration's replies to initial written questions raised by Finance Committee Members in examining the Estimates of Expenditure 2012-2013: serial no. CEDB(CT)033

http://www.legco.gov.hk/yr11-12/english/fc/fc/w_q/cedb-ct-e.pdf

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