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Panel on Commerce and Industry

Meeting on 21 November 2006

**Background Brief on
Current Strategic Framework for Innovation and Technology Development**

Purpose

This paper provides an overview on the current strategic framework for innovation and technology development in Hong Kong and a summary of views and concerns expressed by Members on the subject.

Background

2. On 30 June 2004, the Innovation and Technology Commission (ITC) issued a consultation paper to invite the public views on a new strategic framework which included the development of 13 proposed technology focus areas¹ and a proposal to set up research and development (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 were supportive of the general direction and key initiatives of the new strategy.

3. At the meeting on 17 May 2005, members of the Panel on Commerce and Industry (CI Panel) were informed of the Administration's plan to set up five R&D Centres for implementing the new strategy of innovation and technology

¹ 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.

development, including the R&D centre on Information and Communications Technologies (ICT) to be hosted by the Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI). In general, the Panel was supportive of the new strategic framework for innovation and technology development and the setting up of R&D centres. However, members stressed the need for the Administration to put in place a control mechanism to monitor the operation of the R&D centres to ensure that public funds were used in a prudent and cost-effective manner. Members also 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 are available for funding R&D projects.

4. The relevant funding submission was considered by the Finance Committee (FC) on 24 June 2005 and approved by the majority of FC members voting.

Current strategic framework for innovation and technology development

5. The key features of the current 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 the identified focus areas and R&D projects under specific focus themes to upgrade applied R&D efforts, facilitate technology transfer to the relevant industries and promote commercialization of the R&D deliverables in the relevant areas.

Three-tier funding model

6. Under the new strategic framework, the Administration adopts a three-tier funding model under the Innovation and Technology Fund (ITF)² to support applied R&D in Hong Kong. The three-tier funding model is :

- (a) tier one which involves the establishment of R&D centres for conducting R&D in specific focus areas for application in the relevant industries to enhance their competitiveness and longer-term technology development for transformation into high technology and high value-added industries;

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. 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.

- (b) tier two which involves the funding of R&D projects under different focus themes with a more specific and defined scope to help specific industries meet their identified technology needs; and
- (c) tier three which involves funding of more forward-looking and innovative R&D projects.

R&D centres

7. In order to strengthen collaborative applied research activities between the industries and research organizations, ITC has set up five R&D centres, which commenced operation in April 2006, for undertaking industry-oriented research in the following specific technology focus areas:

- (a) Automotive Parts and Accessory Systems;
- (b) Logistics and Supply Chain Management Enabling Technologies;
- (c) Nanotechnology and Advanced Materials;
- (d) Textile and Clothing; and
- (e) Information and Communications Technologies.

8. With the support of ITF funding, these 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.

9. Under the market-driven and demand-led approach, R&D centres, hosted by local universities and R&D institutions, 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. In addition, each R&D centre has set up its own Steering Committee and Technology Committee to provide guidance on the research direction and technical aspects of the research projects. Each R&D centre has also established detailed guidelines on its corporate governance, including:

- (a) the management and control of the operation of the centre;
- (b) mechanism for periodic update and review of the R&D programme;
- (c) project vetting, management and administration, and review mechanism;
- (d) reporting requirement, submission of annual report of the centre and progress report of the projects to the Steering Committee and Technology Committee; and
- (e) control and auditing arrangements.

R&D centre on ICT hosted by ASTRI

10. Unlike the other four R&D centres which have been established as independent legal entities, the R&D centre on ICT is established within the existing operational infrastructure of ASTRI, which is a limited company wholly owned by the Government. The R&D centre on ICT covers four research priority areas of communications technologies, consumer electronics, integrated circuit design and opto-electronics. Other than the institutional structure, the operation of R&D centre on ICT is similar to that of other R&D centres.

11. The Administration and ASTRI have examined carefully the financial implications of subsuming the R&D centre on ICT in the existing organizational framework of ASTRI. It has been estimated that ASTRI's operating expenses will need to be increased from \$93.3 million in 2005-2006 to \$119.9 million in 2006-2007 and for the following four years to meet the increase in the number of R&D staff from about 290 in 2005-2006 to about 350 in 2006-2007, and the increase in staffing support for finance, business strategy, market research, human resources, project and programme coordination, etc. As the Government has already supported ASTRI's operating cost through recurrent subvention, the Administration informed FC that it would review how to reconcile the extra R&D-related operating expenses with the recurrent subvention to ensure optimal and cost effective use of public resources.

Members' views and concerns

12. The CI Panel was briefed on the progress in establishing the R&D centre on ICT by ASTRI at its meeting on 21 February 2006. In general, members were supportive of the establishment of the R&D centre on ICT to foster development of ICT and enhance commercialization of the R&D products. Nevertheless, some members stressed the need for ASTRI to ensure that its resources would not be used by private enterprises to pursue their own R&D projects, and that there should be a proper mechanism for deciding intellectual property rights and the sharing of benefits generated from the projects. Members also expressed concerns on the

mix of R&D staff of the R&D centre on ICT, and suggested that a suitable proportion of R&D personnel should be recruited from places outside Hong Kong to instil an international vision into the researches. On the planning of the R&D projects, members commented that the R&D centre on ICT should focus on areas in which there were relatively few R&D results previously developed by other R&D institutions to avoid duplication of effort and resources. Moreover, before embarking on any projects, market research should be undertaken to ensure that there was a genuine market demand for the project deliverables.

Latest position

13. At the first meeting for the 2006-2007 session of the CI Panel held on 12 October 2006, members considered it timely for the Panel to follow up the operation of the R&D centres under the new strategic framework. They also referred to a series of letters sent by anonymous persons stating certain views on the management of ASTRI. Noting that the Secretariat has, on the direction of the former Panel Chairman, forwarded the letters to the Administration for follow-up and circulated ASTRI's written responses thereto, the Panel decided to include "Issues related to the operation and management of ASTRI" under the agenda item "Strategic framework for innovation and technology development" to be discussed at the regular meeting on 21 November 2006.

14. To facilitate discussion, the Panel has requested:

- (a) the Administration/R&D centres to update members on the operation and performance of the five R&D centres and the implementation of the new framework; and
- (b) ASTRI to brief members on its operation and management, strategic plans and how far it has been able to achieve its targets and goals, as well as how its R&D deliverables have enhanced Hong Kong's competitiveness in technology-based industries.

References

15. 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 on 18 January 2005	<ul style="list-style-type: none"> ✧ Administration's paper : "New Strategic Framework for Innovation and Technology development and Review of the Applied Research Fund" ✧ Background brief on funding support for innovation and technology development ✧ Letter dated 18 January 2005 from Hon SIN Chung-kai on "Review of the Innovation and Technology Fund and Applied research Fund" ✧ Letter dated 4 February 2005 from the Administration responding to Hon SIN Chung-lai's letter ✧ Minutes of meeting 	<p>CB(1)690/04-05(04)</p> <p>CB(1)688/04-05</p> <p>CB(1)747/04-05</p> <p>CB(1)882/04-05(01)</p> <p>CB(1)863/04-05</p>
Meeting of Panel on Commerce and Industry on 17 May 2005	<ul style="list-style-type: none"> ✧ Administration's paper : "Implementation of New Strategic Framework for Innovation and Technology Development" ✧ Background brief on new strategic framework for innovation and technology development ✧ Minutes of meeting 	<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	<ul style="list-style-type: none"> ✧ Administration's paper : INNOVATION AND TECHNOLOGY FUND HEAD 111 - INNOVATION AND TECHNOLOGY New Subhead "Establishment of Research and Development Centre for Nanotechnology and Advanced Materials" New Subhead "Establishment of Research and Development Centre for Textile and Clothing" New Subhead "Establishment of Research and Development Centre for 	<p>FCR(2005-06)21</p>

	<p>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>	FC125/04-05
<p>Meeting of Panel on Commerce and Industry on 21 February 2006</p>	<p>✧ Administration's paper : "Research and Development Centre on Information and Communications Technologies"</p> <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)903/05-06(05)</p> <p>CB(1)904/05-06</p> <p>CB(1)1148/05-06</p>
<p>Meetings of Panel on Commerce and Industry on 16 May and 20 June 2006</p>	<p>✧ Two letters from the Applied Science and Technology Research Institute (ASTRI) in response to the recent allegations against its management lodged by anonymous persons and a letter from the Administration regarding ASTRI's organization chart</p>	<p>CB(1)1418/05-06(01)</p> <p>CB(1)1451/05-06(01)</p> <p>CB(1)1546/05-06(01)</p>