

[Translation]

4 February 2005

Miss Polly Yeung  
Clerk to Panel on Commerce and Industry  
Legislative Council Secretariat  
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Hong Kong  
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Dear Miss Yeung,

With reference to the Hon Sin Chung Kai's request for a written response to his questions concerning the new strategic framework for innovation and technology development raised in his letter to the Legislative Council Secretariat dated 18 January 2005, I would like to reply as follows.

(1) Information and Communication Technologies (ICT)

ICT cover a wide spectrum of technologies and industries, and can help promote and support the development of other technology areas. As such, ICT-related projects have taken up a substantial share of the number of projects supported by the Innovation and Technology Fund (ITF) (34%) and the Applied Research Fund (ARF) (60%) as at the end of 2004.

The new strategy of innovation and technology development being implemented by the Government, however, emphasizes on identifying technology focus areas and focusing resources on the development of such areas where Hong Kong has competitive edge. Since the scope covered by ICT is too broad, it would be difficult for a new

research and development (R&D) centre in ICT to have a sharp focus and to define a clear development direction, which would be inconsistent with the objective of the new strategy. ICT is an important tool for supporting, instead of spearheading, the development of other technology areas and industries. Therefore, it would not be appropriate to set up an R&D Centre in ICT at this stage. Instead, we will continue to support the R&D in this area in the following ways:

- (a) we have identified three technology areas highly relevant to ICT, namely **communications technologies**, **consumer electronics** and **logistics/supply chain management (SCM) enabling technologies**, as our focus areas. The Applied Science and Technology Research Institute (ASTRI) will strengthen support for the first two areas. We also plan to set up a new R&D Centre in logistics/SCM enabling technologies;
- (b) ICT is the critical tool for the development of other technology focus areas. By setting up R&D Centres in other focus areas (for example, **automotive parts and accessory systems**), R&D projects related to ICT would also be supported; and
- (c) **Digital Entertainment Industry**, which is closely related to ICT, is a relatively new and evolving industry with huge market potential. The digital entertainment industry in Hong Kong comprises mostly new and small companies which are in immediate need of infrastructure, advanced equipment, advisory support as well as supply and training of local talents. Therefore, we are of the opinion that enhancing support for the industry through incubation programmes and the provision of facilities and training opportunities is more effective than setting up an R&D Centre in digital entertainment. The Cyberport would be a suitable location to take forward these initiatives. We would invite the Cyberport to submit a proposal on the establishment of an incubation cum training centre.

In view of the above, ICT will continue to play a significant role in our new strategic framework of innovation and technology development. ASTRI, the Cyberport and the new R&D Centres will all support projects that are relevant to ICT.

## (2) Three-tier Funding Model

Under the new strategic framework, the **Innovation and Technology Support Programme (ITSP)** of the ITF will mainly support the development of focus areas. However, to encourage innovation and to ensure that other novel technologies with good market potential in the longer term will not be missed out, R&D projects not covered in the selected focus areas will still be considered and funded if they can demonstrate exceptional merits. In view of this, ITSP will adopt a three-tier funding model as follows:

**Tier I:** Under the new strategic framework, we would establish R&D Centres in four focus areas (automotive parts and accessory systems, logistics/SCM enabling technologies, textile and clothing, and nanotechnology and advanced materials) and would invite ASTRI to lead R&D in five focus areas (communications technologies, consumer electronics, integrated circuit design, opto-electronics, and Chinese medicine). ITF will provide funding support for the establishment of four R&D Centres and the R&D projects undertaken by the Centres and ASTRI under Tier I. In addition to Government support, the new strategy also emphasizes on the involvement and participation of the industry. Therefore, the R&D Centres will proactively seek opportunities for collaboration with the industry. The industry are encouraged to support and participate in research projects through different modes of cooperation such as sponsorship, collaboration, contract research or forming consortia. The funding amount and participation approach for every project will be subject to negotiation between the R&D Centres and relevant organizations in the light of the actual situation. Apart from the provision of funding support and equipment, the industry can also consider setting up pilot production lines to support the commercialization of R&D results of the Centres.

**Tier II:** ITSP will support R&D projects of significant scale through an annual call for proposals on specific themes. Such themes must have high potential for development and receive substantial industry support. We would encourage universities to coordinate and collaborate with each other and also work with the relevant industries to come up with consolidated proposals. Examples of such themes include mechanical watch movements, medical diagnostics and devices, display technologies, etc.

**Tier III:** We will continue to provide funding to projects which are more forward-looking in nature and may not have immediate application in industries through ITSP by the present “bottom-up” approach. Applications will be invited once a year, with proposals being assessed on a competitive basis. Projects to be funded will have to demonstrate significant merits and good potential for developing valuable intellectual property rights. To encourage innovation and to ensure maximum flexibility, there would be no pre-identified themes under this tier.

As at the end of December 2004, the residual fund of the ITF was about HK\$4 billion. As the R&D Centres differ in terms of their manpower and equipment requirements, as well as the number and nature of projects to be initiated, it is difficult to provide accurate estimates of the amount of funding to be allocated for the R&D Centres under Tier I of the funding model at this stage. We plan to invite proposals for hosting the R&D Centres from relevant organizations in the first half of this year. We will brief the Legislative Council on the funding plans after receiving the proposals for hosting the R&D Centres and estimates on the expenditure of the Centres in the initial five years from the host organizations.

The amount of funding required under Tier II and Tier III of the funding model for supporting other technology areas will be subject to the number and nature of applications, as well as the amount requested.

### (3) Cooperation with Industry

- (a) One of the key elements under the new strategic framework is strengthening cooperation with the industry. In this regard, the R&D Centres will proactively seek industry support and participation in individual research projects through different modes of cooperation, such as forming consortia to implement R&D projects, seeking industry sponsorship for individual R&D projects, collaborating with the industry to carry out R&D on individual products or technologies, or conducting consultancy service and contract research for the industry. Besides, we will actively encourage collaboration among different R&D institutions and industries, and implement R&D projects in other technology areas under Tier I and Tier II of the funding model. Through these initiatives, we expect to encourage more private organizations to invest into innovation and technology activities and to engage in R&D activities.

Apart from ITSP, the **University-Industry Collaboration Programme (UICP)**, **General Support Programme (GSP)** and **Small Entrepreneur Research Assistance Programme (SERAP)** under the ITF will continue to encourage private organizations and technological entrepreneurs to invest and engage in innovative R&D activities. As at the end of December 2004, \$181 million was granted to support 148 projects on a matching basis under UICP, which encourages private companies to utilize the expertise and resources of universities in pursuing R&D activities. At the same time, GSP has also supported 67 projects that contribute to fostering an innovation and technology culture in the territory, such as conferences, exhibitions, seminars, etc as at the end of December 2004. The total amount of funding approved is HK\$87 million. SERAP, on the other hand, provides assistance for small entrepreneurs with outstanding technological research ideas at the pre-venture capital stage. A grant of up to HK\$2 million will be provided for each project on a dollar-for-dollar matching basis. As at the end of December 2004, 207 projects had been approved, involving a total funding amount of HK\$207 million.

- (b) The main objective of ITF is to provide assistance to applied R&D projects that contribute to technology upgrading in industry, whereas basic research are funded by the University Grants Committee (UGC). Therefore, the targets for ITF and the funding programmes under UGC are different, and there is no question of double funding for individual research projects. In addition, although some of the R&D Centres will be hosted by universities, they will operate as separate legal entities with their financial arrangement completely separated from those of the host organizations.
  
- (c) As the new strategy emphasizes on a demand-led, market-driven approach, R&D Centres should maintain close relationship with the industry in order to generate R&D results that are relevant to the need of the industry. To achieve this objective, every R&D Centre has to develop a specific plan setting out the following:
  - (i) technology roadmap for the relevant industries in the focus area; and
  - (ii) implementation plan, including short-term R&D projects that would be conducted to meet the industries' needs as well as R&D projects to be conducted in the medium and long term.

To fulfill this goal, R&D Centres will set up their own Steering Committees and Technical Advisory Committees to provide advice on the research direction and technical aspect of individual projects respectively. Representatives from the industry will be invited to serve as members of the two committees.

- (d) To encourage innovation, we will offer funding support to R&D projects that are more forward-looking in nature and may not have immediate application under Tier III of the funding model. Meanwhile, we will continue to provide financial support on a matching basis for small entrepreneurs with outstanding technological research ideas at the pre-venture capital stage under SERAP.
  
- (e) As the focal point for applied R&D activities, the R&D Centres will coordinate R&D efforts in the relevant focus areas to ensure that R&D deliverables would be relevant to the industry's needs and to support

the long-term development of the industry. To this end, the R&D Centres will be open for use by researchers of other R&D institutions and act as a focal point for information sharing on the latest technology and market development. The industries are welcome to seek assistance from the R&D Centres when they encounter technological problems.

Representatives from the industry and the academia will be invited to serve as members of the Steering Committees and Technical Advisory Committees of the R&D Centres. They can act as a bridge between the R&D Centres and the industry and academia respectively, and help ensure that the Centres maintain close relationships with different parties and promote transparency in terms of the Centres' operation.

[signed]

(Anthony S K WONG)  
Commissioner for Innovation and Technology