INNOVATION AND TECHNOLOGY FUND: OVERALL MANAGEMENT

Executive Summary

1. Innovation and technology are drivers of economic development and competitiveness. The Government attaches great importance to the significant contribution of innovation and technology to the development of Hong Kong's economy and industries. It launched the Innovation and Technology Fund (ITF) in November 1999 to provide funding support for research and development (R&D) projects that contribute to innovation and technology upgrading in manufacturing and service industries. Up to 30 June 2013, approved ITF project funds amounted to $7.5 billion. The ITF has four programmes, namely the Innovation and Technology Support Programme (ITSP), the Small Entrepreneur Research Assistance Programme (SERAP), the University-Industry Collaborative Programme and the General Support Programme. ITSP and SERAP projects had accounted for 90% of the ITF funds. In April 2006, the Government established five R&D centres to coordinate R&D efforts in selected technology focus areas. The Innovation and Technology Commission (ITC) is responsible for administering the ITF.

2. The Audit Commission (Audit) has recently conducted a review of the ITF. The audit findings are contained in two separate Audit Reports: (a) ITF: Overall management (the subject matter of this Chapter); and (b) ITF: Management of projects (Chapter 10 of the Director of Audit's Report No. 61).

Review of ITF and performance monitoring

3. ***Review of ITF.*** In July 1999, when seeking the Finance Committee (FC) of the Legislative Council (LegCo)'s approval for the establishment of the ITF, the Administration pledged that it would: (a) review the ITF periodically, say, once every three years; and (b) conduct impact studies for selected projects to examine the projects' accomplishment in the longer term. Audit however noted that since 2004, apart from the conduct of a mid-term review in 2009 and a comprehensive review in 2011 of the five R&D centres, the ITC had not conducted an overall

comprehensive review or impact studies of the ITF as the Administration had pledged. By November 2013, the ITF would have operated for 14 years. Audit considers that the ITC needs to conduct the comprehensive review of the ITF without delay, and should work out a timetable with a target completion date for the review, so that the ITF can be timely fine-tuned to meet the changing needs of the community (paras. 2.4 to 2.10).

4. ***Post-completion evaluation of ITSP projects.*** The ITC conducts a post-completion evaluation for each project six months after project completion. Audit examined 25 ITSP R&D centre projects and noted that: (a) 13 projects had not been evaluated after project completion on their performance; and (b) for all the remaining 12 projects which had been evaluated, the evaluation results indicated that there was no "technology breakthrough" or "successful commercialisation" and the results of only two projects had been adopted by industry, but eight of these projects were still rated as "successful" by the ITC. Audit also considers that the conduct of a post-completion evaluation after a period of six months may be too soon and there may be a need for conducting follow-up evaluation. The ITC needs to review the appropriateness of the timeframe and improve its methodology adopted for post-completion evaluation of ITSP projects (paras. 2.11 to 2.13).

5. ***Performance measurement at programme level.*** The ITC measures the performance of the ITF by reporting: (a) in the Government's annual Estimates performance indicators (e.g. the number of applications received and processed) for each programme (see para. 1); and (b) in the annual progress report submitted to the LegCo Panel on Commerce and Industry performance indicators (e.g. the number of new projects) for each R&D centres. Audit performed a research of the performance indicators used by overseas R&D institutes and found that the performance indicators used by the ITC could be enhanced to provide more comprehensive information on the performance of the ITF at programme level (paras. 2.16 and 2.17).

Performance of R&D centres

6. The R&D centres had not been able to achieve the financial performance targets set in 2005. In June 2005, when seeking approval for the allocation of $273.9 million (excluding the allocation to the R&D Centre for information and communications technologies which was separately subvented) from the ITF for

setting up the five R&D centres, the Government informed the FC that: (a) each R&D centre would have an initial term of operation of five years, after which it was 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; (b) the centres were expected to be able to have up to 40% contributions from the industry towards R&D project costs as they ramped up to the fifth year of operation; and (c) the projected operating expenditure for each R&D centre would represent on average 16% of their total R&D project costs (para. 3.4).

7. In June 2009, the Government sought the FC's approval for a further allocation of $369 million from the ITF to support the continued operation of the five R&D centres up to 2013-14. The centres' industry contribution target was drastically reduced from 40% to 15% pending future review. In May 2012, the Government again sought the FC's approval for another allocation of $275.3 million from the ITF to support the continued operation of the R&D centres. The industry contribution targets were further adjusted to: (a) for three centres, 20% for their second five-year period; and (b) for two centres which had not achieved the 15% target, 18% for the two years of 2011-12 and 2012-13 (paras. 3.6 and 3.7).

8. Audit conducted an assessment of the performance of individual R&D centres and noted that: (a) the centres' performance results had deviated significantly from the estimated position as set out in 2005 when the FC's approval was sought for their setting up; (b) it was opportune to review the level of industry contribution for the centres in the forthcoming comprehensive review of the ITF; and (c) the chance for the centres to achieve the self-financing target in the near future was remote. The ITC needs to critically review the operations of the centres and set more realistic performance targets for their operations (para. 3.19).

Commercialisation of ITF project results

9. ***Commercialisation of ITSP project results.*** The ITSP provides funding for midstream and downstream applied R&D projects. In the years from 2009-10 to 2012-13, total licence fee income collected per year by the five R&D centres altogether ranged from $0.2 million to $12 million, representing less than 1% to some 9% of the total R&D project costs for the year. Audit examined 15 ITSP R&D centre projects and noted that: (a) there were differences among R&D centres' practices in setting licence fees; (b) there were variations in income sharing arrangements between R&D centres and public research institutes, and Audit could

not ascertain the bases for determining the sharing arrangements; and (c) there was scope for improving the collection of licence fees. For ITSP non-R&D centre projects managed by the ITC, although ITF expenditure spent from 1999-2000 to 2012-13 amounted to $2.8 billion, the ITC did not have a system to capture commercialisation information on such projects (paras. 4.5, 4.6, 4.10, 4.14 and 4.15).

10. ***Commercialisation of SERAP project results.*** SERAP provides funding on a dollar-for-dollar matching basis to small technology-based and entrepreneur-driven companies to undertake R&D projects that have innovation and technology content and business potential. The maximum SERAP funding for each project is $6 million. Funding is recouped from the recipient company if the SERAP project is commercially successful, i.e. the company is able to generate revenue from the project or attract follow-on investment by a third party. Audit however found that, up to 31 May 2013, only $22.8 million had been recouped, representing 7% of the $334 million disbursed. Audit analysed 239 completed projects and noted that: (a) no recoupment was received for 145 projects (60%); and (b) 61 projects (26%) had low recoupment rates of 10% or less. The ITC needs to be more vigilant in tracking the revenue and investments received by recipient companies and take more initiatives in detecting suspected abuses and safeguarding the public money (paras. 4.19, 4.20, 4.22, 4.23 and 4.30).

Audit recommendations

11. **Audit recommendations are made in PART 5 of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Commissioner for Innovation and Technology should:**

Review of ITF and performance monitoring

(a) **conduct a comprehensive review of the ITF without delay and work out a timetable with a target completion date for the review (para. 5.6(a));**

(b) **review and improve the existing mechanism for conducting post-completion evaluation of ITSP projects, and take steps to establish a more structured and coordinated approach in assessing the effectiveness of the projects in achieving their R&D objectives (para. 5.6(b));**

(c) **review and improve the existing performance measurement of the ITF, including the setting of more performance targets, on how the ITF has contributed to the industry (para. 5.6(c));**

Performance of R&D centres

(d) **conduct a cost-effectiveness review of the five R&D centres, taking into account the performance results Audit identified (para. 5.8(a));**

(e) **conduct a review on the target level of industry contribution for the R&D centres, and review the feasibility of achieving the self-financing target for individual centres in the longer term (para. 5.8(b));**

(f) **set realistic performance targets, including quantitative and qualitative ones, on the operation of the R&D centres (para. 5.8(c));**

Commercialisation of ITF project results

(g) **in collaboration with the R&D centres, co-develop a set of principles and policies on the setting of licence fees, sharing and collection of licence fee income for both ITSP R&D centre projects and ITSP non-R&D centre projects (para. 5.10(a));**

(h) **set up a proper system to monitor and follow up on the commercialisation of ITSP non-R&D centre projects (para. 5.10(c));**

(i) **consider reporting regularly the progress of commercialisation of ITF project results to senior management of the ITC and the Steering Committee on Innovation and Technology (para. 5.10(d)); and**

(j) **step up the ITC's follow-up action on recoupment of the Government's contribution to SERAP projects (para. 5.10(e)).**

Response from the Administration

12. The Commissioner for Innovation and Technology welcomes the value for money audit of the ITF and agrees with the audit recommendations.