CHAPTER 10

Innovation and Technology Commission

Innovation and Technology Fund: Management of projects

Audit Commission
Hong Kong
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This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

Report No. 61 of the Director of Audit contains 10 Chapters which are available on our website at http://www.aud.gov.hk

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INNOVATION AND TECHNOLOGY FUND: MANAGEMENT OF PROJECTS

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INNOVATION AND TECHNOLOGY FUND: MANAGEMENT OF PROJECTS

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. The former provides funding for comparatively larger applied R&D projects while the latter provides dollar-for-dollar matching grants to small, technology-based and entrepreneur-driven companies. 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. This includes processing applications of R&D projects under the ITF, disbursing funds to successful applicants, and monitoring the progress and achievements of the approved projects.

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 (Chapter 9 of the Director of Audit's Report No. 61); and (b) ITF: Management of projects (the subject matter of this Audit Report).

Processing of ITSP applications

3. ***Assessment mechanism and framework.*** Applications falling within the technology focus areas of R&D centres are vetted by the centres while other applications are vetted by the ITC. All applications will be further checked by the ITC for completeness of information and compliance with the relevant ITC guidelines. Applications are assessed under seven components, including innovation and technology component, technical capability and realisation/commercialisation. Audit noted that: (a) the ITC did not set a passing mark for applications vetted by the ITC, and the R&D centres adopted different practices in setting passing marks; and (b) both the ITC and the R&D centres did not identify and set a passing mark for key assessment components failing which would lead to rejection of a project proposal (paras. 2.6, 2.11, 2.14 to 2.18).

4. ***Processing time***. Audit analysed the processing time for applications of ITSP projects approved in the period from January 2011 to June 2013, and found that: (a) for applications of Tier 1 projects (monitored by the R&D centres), the average combined processing time taken by the R&D centres and the ITC ranged from 158 to 222 days. The overall average processing time was 192 days; and (b) for applications of Tier 2 projects and Tier 3 projects (overseen directly by the ITC), the average processing times were 257 and 162 days respectively. Given the rapid development of innovation and technology and keen competition in the industry, long processing time might dampen the interest of researchers, discourage support of the industry, delay the commercialisation of deliverables, and choke the advancement of innovation and technology. The long processing time needs to be shortened so that the R&D project work can commence earlier (paras. 2.3, 2.23 to 2.26).

5. ***In-kind sponsorship.*** For the period from 2006-07 to 2012-13, the R&D centres received $75.4 million in-kind sponsorship for their projects. Industry sponsorship constituted a large percentage of project costs for collaborative projects. However, the ITC has not promulgated detailed guidelines on valuation of in-kind sponsorship (paras. 2.30 and 2.32).

Monitoring of ITSP projects

6. ***Submission of reports and audited accounts.*** Applicants of ITSP projects have to submit to the ITC for approval: (a) half-yearly Progress Report within one month from the end of the period covered by the Report; (b) Final Report within two months after project completion; (c) annual audited accounts within three months after the end of the financial year; and (d) final audited accounts within three months after the project completion date. Audit analysed the submission of the Reports and accounts for the period from April 2006 to June 2013 and found that a large percentage of the Reports and accounts were submitted late (paras. 3.2, 3.4 to 3.8).

Processing of SERAP applications

7. ***Checking of applications.*** A company is eligible to apply for funding support from SERAP if it is incorporated in Hong Kong under the Companies Ordinance (Cap. 32), has less than 100 employees in Hong Kong, is not a large company, and is not a subsidiary of or significantly owned/controlled by a large company. The ITC only verifies the first eligibility criterion. For the other three criteria, the ITC relies on the information provided by the applicant without requiring the submission of any supporting documents. Audit examined 26 projects approved in 2011-12 and 2012-13. Audit noted that on average, 62% of the total project expenditure was on manpower. However, there were cases with large variations in the monthly salaries of similar proposed project posts, and cases where the applicants did not state the minimum qualifications/experience required of the posts in the budgets (paras. 4.8, 4.10 and 4.11).

Monitoring of SERAP projects

8. ***Helping applicants.*** Audit noted that the percentage of SERAP applications withdrawn was high and increasing, partly due to the applicants' misunderstanding of the assessment process and criteria. Furthermore, the approval rate of SERAP applications was low and declining. Unsuccessful applicants were only briefly informed of the reasons why their applications were not successful. They were not informed of their specific shortcomings or the comments made by the SERAP Project Assessment Panel (paras. 4.18 and 4.19).

9. ***Submission of Progress Reports and Final Reports.*** The ITC required the recipient companies to submit half-yearly Progress Reports and a Final Report after the completion of the project. For the period from 2008-09 to 2012-13, 287 Progress Reports and Final Reports were due for submission. Of these 287 Reports, 183 (64%) were submitted late. The average delay was 95 days (paras. 5.15 and 5.16).

10. ***Site visits.*** The ITC's Operation Manual requires that site visits to all the recipient companies should be conducted once every six months to assess their progress and check compliance with the terms in the Fund Agreement. The ITC had not issued detailed guidelines setting out the items to be checked or discussed during site visits, and the reporting requirements for documenting the visits (para. 5.19).

11. ***Projects not proceeded to Phase II.*** Prior to April 2008, each SERAP project had to be carried out in two phases. The two-phase system was changed to a single-phase one because the ITC considered that the system had drawbacks. For two-phase projects, the Fund Agreement stated that if the recipient company and the Government were unable to reach an agreement for Phase II by a prescribed date after the completion of Phase I, the company should refund to the Government all payments made to it unless it was the Government's discretion not to proceed with Phase II (i.e. the ITC rejected the application for Phase II). There were 72 such cases (which involved total SERAP fund of $23 million) and the ITC had not received such refund. Audit examined five cases and noted that the ITC had not taken adequate and timely follow-up action to recover SERAP fund made to the projects. These funds may have become irrecoverable due to the long lapse of time (paras. 5.25 to 5.28).

Audit recommendations

12. **Audit recommendations are made in the respective sections 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:**

Processing of ITSP applications

(a) **consider setting an overall passing mark on ITSP applications (para. 2.21(a));**

(b) **consider identifying the key assessment components, failure to achieve the passing marks of which would render an ITSP application not be supported (para. 2.21(b));**

(c) **review the procedures of processing ITSP applications with a view to finding out the reasons for the long processing time and identifying room for improvement (para. 2.27(a));**

(d) **promulgate guidelines on the valuation of in-kind sponsorship to ensure that the assessed value is well supported by evidence from independent parties (para. 2.33(a));**

Monitoring of ITSP projects

(e) **regularly remind the lead applicants of the need to comply with the submission requirements relating to Reports and audited accounts (para. 3.10(a));**

(f) **follow-up closely with the lead applicants of overdue cases with a view to expediting the submission of Reports/audited accounts (para. 3.10(b));**

Processing of SERAP applications

(g) **take necessary action to verify the eligibility of the applicants and information relating to the project teams (para. 4.15(a));**

(h) **ensure that the applicants state in the project budgets the minimum qualifications/experience of project staff to be hired (para. 4.15(b));**

(i) **issue guidelines to ITC staff and assessors of the SERAP Project Assessment Panel to facilitate their assessment on the reasonableness of the salary levels of the project staff stated in the project budgets (para. 4.15(c));**

(j) **consider publishing commonly made mistakes and shortcomings in the SERAP applications on the ITF website to help the prospective applicants (para. 4.20(c));**

Monitoring of SERAP projects

(k) **closely monitor the progress of the SERAP projects and take measures to ensure that recipient companies submit Progress Reports and Final Reports in a timely manner according to the reporting schedule set out in the Fund Agreement (para. 5.17(a)); and**

(l) **conduct a review of the 72 projects which did not proceed to Phase II to ascertain whether the SERAP fund disbursed to them should be recovered (para. 5.30(b)).**

Response from the Administration

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

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Background

1.2 Innovation and technology are drivers of economic development and competitiveness. They help improve the efficiency and performance of enterprises, which in turn contribute to the sustainable growth of the economy. The Government attaches great importance to the development of innovation and technology in Hong Kong. The Chief Executive of the Hong Kong Special Administrative Region has stressed in his 2013 Policy Address that the Government will focus on the development of the highly competitive sectors of the innovation and technology industries in the light of Hong Kong's strengths.

1.3 Over the years, the Government has been promoting research and development (R&D) and technology upgrading by:

(a) the funding of innovation and technology upgrading in industry under the Innovation and Technology Fund (ITF);

(b) the funding of research in higher education institutions via the University Grants Committee and the Research Grants Council's block grants or earmarked/indicated grants;

(c) the provision of technological infrastructure (such as the Hong Kong Science Park and the three Industrial Estates); and

(d) the conduct of other support work (e.g. nurturing human resource development and strengthening Mainland and international collaboration in science and technology).

1.4 In January 2004, the Government established a high-level Steering Committee on Innovation and Technology chaired by the Financial Secretary with members from the relevant Government bureaux, academia, industry and R&D organisations. The Steering Committee is responsible for coordinating the formulation and implementation of innovation and technology policies, and ensuring greater synergy among different elements of the innovation and technology programmes. Its terms of reference include:

(a) advising on the formulation of policies to support the development of innovation and technology and the commercialisation of R&D deliverables;

(b) determining focuses and priorities;

(c) ensuring effective alignment, coordination and synergy among the stakeholders;

(d) reviewing, where necessary, the institutional arrangements for effective policy and programme implementation;

(e) advising on the allocation of resources among major elements of the innovation and technology programme to optimise their utilisation; and

(f) exploring means to attract investments from overseas in the technology sector.

Hong Kong's ranking in competitiveness and innovation

1.5 International organisations regularly assess and publish rankings on the competitiveness and innovation of economies in the world:

(a) in the 2013-14 Global Competitiveness Index published by the World Economic Forum, Hong Kong was ranked seventh among 148 economies worldwide; and

(b) in the 2013 Global Innovation Index published by INSEAD and its associates, Hong Kong was ranked seventh among 142 economies worldwide.

1.6 While Hong Kong achieved high rankings in the two indices, its rankings in the innovation and technology sub-components of the indices were modest. For example, Hong Kong was ranked 23rd in the innovation sub-component of the Global Competitiveness Index, behind Taiwan, Singapore and South Korea.

1.7 The ITF is an important Government scheme that provides financial support for R&D projects to enhance Hong Kong's innovation and technology development. By November 2013, it would have operated for 14 years.

Innovation and Technology Fund

Aim and funding

1.8 The ITF aims to provide funding support for projects undertaken by research institutes, local companies, universities, industry support organisations, etc. that contribute to innovation and technology upgrading in manufacturing and service industries, so as to increase productivity and enhance competitiveness. It was established as a statutory fund under section 29 of the Public Finance Ordinance (Cap. 2) by a resolution of the Legislative Council on 30 June 1999 (Note 1). In July 1999, the Finance Committee of the Legislative Council approved the Government's proposal to inject $5 billion into the ITF. In November 1999, the ITF was launched. Any unexpended balance of the ITF is invested with the Exchange Fund, with investment income credited to the ITF. As at 30 June 2013, the fund balance of the ITF was $2.2 billion. Up to 31 March 2013, the following revenue had been received and expenditure incurred by the ITF:

Note 1: *In September 1998, the First Report of the Commission on Innovation and Technology recommended the establishment of the ITF to underline the Government's commitment to its policy and strategy for promoting innovation and technology, and to provide a secure source of funding for their implementation. The Commission recommended that the ITF should be used to finance projects that contributed to innovation and technology upgrading in both the manufacturing and service industries. The Chief Executive accepted the Commission's recommendations and pledged in his 1998 Policy Address an injection of $5 billion into the ITF.*

Table 1

Revenue and expenditure of ITF
(1999-2000 to 2012-13)

Particulars			Amount ($ million)
(a)	Setting up of ITF in November 1999		5,000
(b)	Revenue		
	— Investment income received from the Exchange Fund	3,490	
	— Commercialisation income received from ITF projects	47	
	— Refund of grants from ITF projects	393	
			3,930
(c)	Expenditure		6,551
(d)	Closing balance as at 31 March 2013 ((a) + (b) – (c))		2,379

Source: Records of Treasury and Innovation and Technology Commission

Innovation and Technology Commission

1.9 The Financial Secretary is designated as the administrator of the ITF. He has delegated his power of fund administration to the Commissioner for Innovation and Technology of the Commerce and Economic Development Bureau. The Commissioner heads the Innovation and Technology Commission (ITC), which is a department under the Communications and Technology Branch of the Bureau. Apart from promoting R&D, providing infrastructural support to facilitate technological upgrading and development of the industries and support to the industries, the ITC is responsible for processing applications of R&D projects and other ancillary projects of the ITF, disbursing funds to successful applicants, and monitoring the progress and achievements of approved projects under the ITF. It also oversees the performance of the R&D centres (see para. 1.11). As at 30 June 2013, the ITC had a headcount of 233 comprising 190 civil service posts and 43 non-civil service contract posts. For 2012-13, $181 million was paid from the general revenue of the Government to finance the ITC's day-to-day operation.

ITF programmes

1.10 The ITF has four programmes:

(a) ***Innovation and Technology Support Programme (ITSP).*** The programme provides funding for applied R&D projects undertaken by R&D centres, designated local public research institutes (e.g. universities) and private sector companies;

(b) ***Small Entrepreneur Research Assistance Programme (SERAP).*** This programme provides dollar-for-dollar matching grant for small technology-based enterprises to undertake projects that have innovative and technological content and business potential;

(c) ***University-Industry Collaborative Programme.*** This programme provides funding to R&D projects undertaken by local universities in collaboration with private sector companies; and

(d) ***General Support Programme.*** This programme provides funding to support projects that contribute to fostering an innovation and technology culture in Hong Kong (e.g. conferences and exhibitions).

Table 2 shows the number of approved projects and funds of these four programmes. Up to 30 June 2013, the total approved amount for these four programmes was $7,510 million. Up to 31 March 2013, the actual expenditure was $6,551 million (see para. 1.8). The difference was mainly due to the fact that funds were disbursed to projects by instalments based on their progress.

Table 2

Approved funds and number of projects of the ITF programmes (30 June 2013)

ITF programme	Number of approved projects	Approved project funds	
		Amount ($ million)	Percentage
ITSP	1,434	6,334.2	84%
SERAP	373	427.8	6%
University-Industry Collaboration Programme	240	273.0	4%
General Support Programme	1,329	475.4	6%
Total	3,376	7,510.4	100%

Source: ITC records

R&D centres

1.11 In 2004 (five years after the establishment of the ITF), the Government reviewed the development of innovation and technology and considered that since R&D projects were mainly initiated by individual researchers, they were not conducive to building the necessary technology focus. It therefore proposed to identify technology areas where Hong Kong had comparative advantages and the potential for meeting industry and market needs, and to establish R&D centres to drive and coordinate R&D efforts and promote commercialisation of R&D results in the selected technology areas. Following the public consultation exercise in 2004, in early 2005, the Government introduced a new strategic framework which aimed at a more focused approach to promoting innovation and technology development in five technology areas:

(a) automotive parts and accessory systems;

(b) logistics and supply chain management enabling technologies;

(c) nanotechnology and advanced materials;

(d) textiles and clothing; and

(e) information and communications technologies (ICT).

1.12 To take forward the strategic framework, in June 2005, the Government obtained the Finance Committee's approval to establish five R&D centres to undertake R&D projects in the five technology focus areas. In April 2006, the centres were set up. They were:

(a) Nano and Advanced Materials Institute (NAMI);

(b) Automotive Parts and Accessory Systems R&D Centre (APAS);

(c) Hong Kong Research Institute of Textiles and Apparel (HKRITA);

(d) Hong Kong R&D Centre for Logistics and Supply Chain Management Enabling Technologies (LSCM); and

(e) R&D Centre for ICT which was subsumed under the Hong Kong Applied Science and Technology Research Institute (ASTRI — Note 2).

1.13 As at 30 June 2013, the five R&D centres had in aggregate a workforce of 760, comprising research and administrative staff. Each of the centres is headed by a full-time Chief Executive Officer (CEO). The centres are hosted by local universities/ASTRI/Hong Kong Productivity Council. Their operating costs and the R&D projects undertaken by them are funded by the ITF, except the operating costs of the R&D Centre for ICT, which was funded by recurrent subvention provided to ASTRI from the Government's general revenue. Table 3 shows the operating expenditure of the R&D centres and approved R&D project costs managed by them.

Note 2: *ASTRI is an applied research institute wholly owned by the Government and was set up as a limited company in 2000. The Government provides annual subvention from the general revenue to ASTRI. ASTRI's CEO is responsible for overseeing and managing the operation of the R&D centre for ICT.*

Table 3

Funding for R&D centres

R&D centre	Hosting organisation	Operating expenditure (2012-13)		Approved project amount (April 2006 to June 2013) ($ million)
		Amount ($ million)	Source of funding	
NAMI	A local university	38.1	ITF	361.3
APAS (Note 1)	Hong Kong Productivity Council	15.8	ITF	192.3
HKRITA	A local university	19.1	ITF	277.5
LSCM	Jointly hosted by three local universities	20.9	ITF	309.4
R&D Centre for ICT (Note 2)	ASTRI	130.2	General revenue	2,103.8
	Total	224.1		3,244.3

Source: ITC records

Note 1: APAS was initially set up as an independent legal entity. In November 2012, it merged with and became a division of the Hong Kong Productivity Council in order to encourage synergy between the Hong Kong Productivity Council and APAS, rationalise overlaps in functions and achieve higher cost-effectiveness. The centre will be funded by the ITF until March 2017.

Note 2: The role of the R&D Centre for ICT was taken up by ASTRI in April 2006. Since ASTRI was an applied research institute set up as a limited company wholly owned by the Government in 2000, the organisation and management structure was already in place. Unlike the other four R&D centres, which were newly formed as limited companies, the R&D Centre for ICT was subsumed as a unit within ASTRI. In this Audit Report, the R&D Centre for ICT is hereinafter referred to as ASTRI except otherwise stated.

1.14 Following the establishment of the five R&D centres in April 2006, the Government adopted a three-tier funding framework for ITSP projects as follows (see Table 4):

Table 4

Three-tier funding framework for ITSP projects

	Tier 1	Tier 2	Tier 3
Technology focus area	Five focus areas of R&D centres (see para. 1.11)	Other than the focus areas of R&D centres	
Type	(a) platform projects (Note 1) (b) collaborative projects (Note 2) (c) seed projects (Note 4)	(a) platform projects (Note 1) (b) collaborative projects (Note 2)	N/A (Note 3)
Undertaken by	R&D centres	Designated public research institutes	Designated public research institutes or private sector companies

Source: Audit analysis of ITC records

Note 1: Platform projects require industry sponsorship from at least two private sector companies covering at least 10% of the project cost. The sponsorship can either be in cash or in-kind or a combination of both. These projects aim to benefit the whole industry instead of a single company (a company may use the technology developed by the project by paying a licence fee). Intellectual property rights generated from the project are owned by the R&D centre or the designated public research institute.

Note 2: Collaborative projects require industry sponsorship of at least 50% of the total project cost (or at least 30% in the case of projects undertaken by the R&D centres). Depending on the percentage of sponsorship, the industry sponsor may be entitled to utilise the intellectual property rights generated exclusively for a defined period or may own the intellectual property rights.

Note 3: Tier 3 projects are exploratory and forward looking projects, and industry sponsorship is not mandatory. Tier 3 projects are not subdivided into other types.

Note 4: Seed projects are exploratory and forward looking projects similar to Tier 3 projects except that they fall within the focus areas of the R&D centres.

Audit review

1.15 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 (Chapter 9 of the Director of Audit's Report No. 61); and

(b) ITF: Management of projects (the subject matter of this Chapter).

1.16 In this Chapter, Audit has selected two of the four ITF programmes, namely the ITSP and SERAP, for review. The focus of the review was on the management of the projects of the two programmes. These two programmes accounted for 90% of the cumulative approved ITF funds since the ITF's establishment (see Table 2 in para. 1.10).

1.17 This Chapter focuses on the following areas:

(a) processing of ITSP applications (PART 2);

(b) monitoring of ITSP projects (PART 3);

(c) processing of SERAP applications (PART 4); and

(d) monitoring of SERAP projects (PART 5).

1.18 Audit has found that there is room for improvement in the above areas and has made a number of recommendations to address the issues.

General response from the Administration

1.19 The Commissioner for Innovation and Technology welcomes the audit review of the ITF and agrees with the audit recommendations. She has said that the review can help improve the overall management and operational effectiveness of the ITF.

Acknowledgement

1.20 Audit would like to acknowledge with gratitude the full cooperation of the staff of the ITC and R&D centres during the course of the audit review.

PART 2: PROCESSING OF ITSP APPLICATIONS

2.1 This PART examines the issues relating to the processing of ITSP applications.

Background

2.2 According to the Government, the ITF aims to increase the added value, productivity and competitiveness of Hong Kong's economic activities. The Government hopes that, through the ITF, companies in Hong Kong could be encouraged and assisted to upgrade their technological level and introduce innovation to their businesses. The ITSP is the largest of the four ITF programmes. Up to June 2013, approved funding for ITSP projects had amounted to $6.3 billion. Over the three years ended 31 March 2013, ITF funds disbursed to ITSP projects amounted to $1,515 million.

2.3 ITSP supports midstream/downstream R&D projects undertaken mainly by R&D centres, universities, industry support organisations, professional bodies and trade and industry associations. ITSP projects within the technology focus areas of the R&D centres are monitored by the respective centres (i.e. Tier 1 projects), while other projects are overseen directly by the ITC (i.e. Tiers 2 and 3 projects). ITF funds disbursed to ITSP projects overseen by the R&D centres and ITC during the period from 2006-07 (the establishment of the R&D centres) to 2012-13 were $2,294 million and $1,025 million respectively.

2.4 There are four types of ITSP projects:

(a) ***Platform projects (see para. 1.14).*** Platform projects may be proposed by the R&D centres or local public research institutes such as universities. Project costs are funded by the ITF with a small amount of sponsorship from the industries. Research results of platform projects are owned by the applicants (R&D centres or local public research institutes). As such, more companies in the industries can apply for and make use of the research results (especially the small and medium enterprises which may not have financial resource to sponsor a collaborative project);

(b) ***Collaborative projects (see para. 1.14).*** Collaborative projects are generally proposed by the R&D centres or local public research institutes such as universities. The Government's share of project cost on these projects is the lowest among the different types of ITSP projects. These projects receive larger industry contributions and have a higher chance of successful commercialisation. However, benefits (such as intellectual property right) are mostly accrued to the sponsoring companies and not to the industries; and

(c) ***Seed projects and Tier 3 projects (see para. 1.14).*** These projects are exploratory and forward looking in nature to provide the foundation for future R&D projects. Seed projects are proposed by R&D centres and Tier 3 projects are proposed by local public research institutes/private sector companies. Project costs are almost fully funded by the ITF. Successful projects can attract industrial sponsors to, based on the research findings of the seed/Tier 3 projects, carry on further research under platform/collaborative/contract research projects (Note 3).

Since March 2011, applicants of completed ITF projects (not limited to ITSP projects) can also apply for support under the ITSP for the production of prototypes/samples and for the carrying out of trial schemes in the public sector to facilitate and promote the realisation and commercialisation of R&D results generated by ITF projects. These projects are referred as Public Sector Trial Scheme (PSTS) projects.

2.5 Table 5 shows the number of different types of projects undertaken by the R&D centres and those directly under the oversight of the ITC for the period from 2006-07 to 2012-13.

Note 3: *For contract research projects, the sponsor will fund the full project cost. This type of project is outside the scope of the ITF.*

Table 5

Projects undertaken by R&D centres and projects under direct oversight of ITC (2006-07 to 2012-13)

Type of projects	Number of projects						
	Undertaken by R&D centre						Under direct oversight of ITC
	APAS	ASTRI	HKRITA	LSCM	NAMI	Total	
Platform	33	125	65	34	27	284	168
Collaborative	9	17	7	5	29	67	22
Seed/Tier 3	13	117	—	1	26	157	362
PSTS	4	2	12	7	—	25	1
Total	59	261	84	47	82	533	553
Approved project costs ($ million)	178.0	2,026.2	260.5	309.4	358.9	3,133.0	1,036.4

Source: ITC and R&D centre records

Processing of applications

2.6 Every year, the R&D centres and the ITC invite applications for the funding of ITSP projects. The Government adopts a three-tier funding framework (see para. 1.14). There are different requirements pertaining to projects of Tiers 1, 2 and 3, as follows:

(a) for Tier 1 projects, the application has to fall within the technology focus areas of the five R&D centres. The application is submitted by the R&D centre as the lead applicant;

(b) for Tier 2 projects, the lead applicant has to be a designated local public research institute (e.g. a local university or the Hong Kong Productivity Council);

(c) for Tier 3 projects, the lead applicant has to be a designated local public research institute or a company incorporated under the Companies Ordinance (Cap. 32); and

(d) for collaborative projects (all collaborative projects are Tier 1 or Tier 2 projects), there has to be an industry co-applicant. The co-applicant is normally a company incorporated under the Companies Ordinance.

2.7 For each project, the applicant has to appoint a project coordinator to oversee the project, monitor its expenditure and ensure the proper usage of project funds in accordance with the approved budget and other guidelines and instructions set for the projects, liaise with and answer enquiries/requests raised by the ITC, and attend progress meetings on the project.

2.8 The ITC publishes on its website a set of ITSP Guidelines on the scope of funding, information to be provided (such as project details, expenditure and industry sponsorship) by the applicants, assessment framework, commercialisation plan and intellectual property rights and benefit sharing.

2.9 ITSP applications are subject to the following processing procedures (see Figure 1):

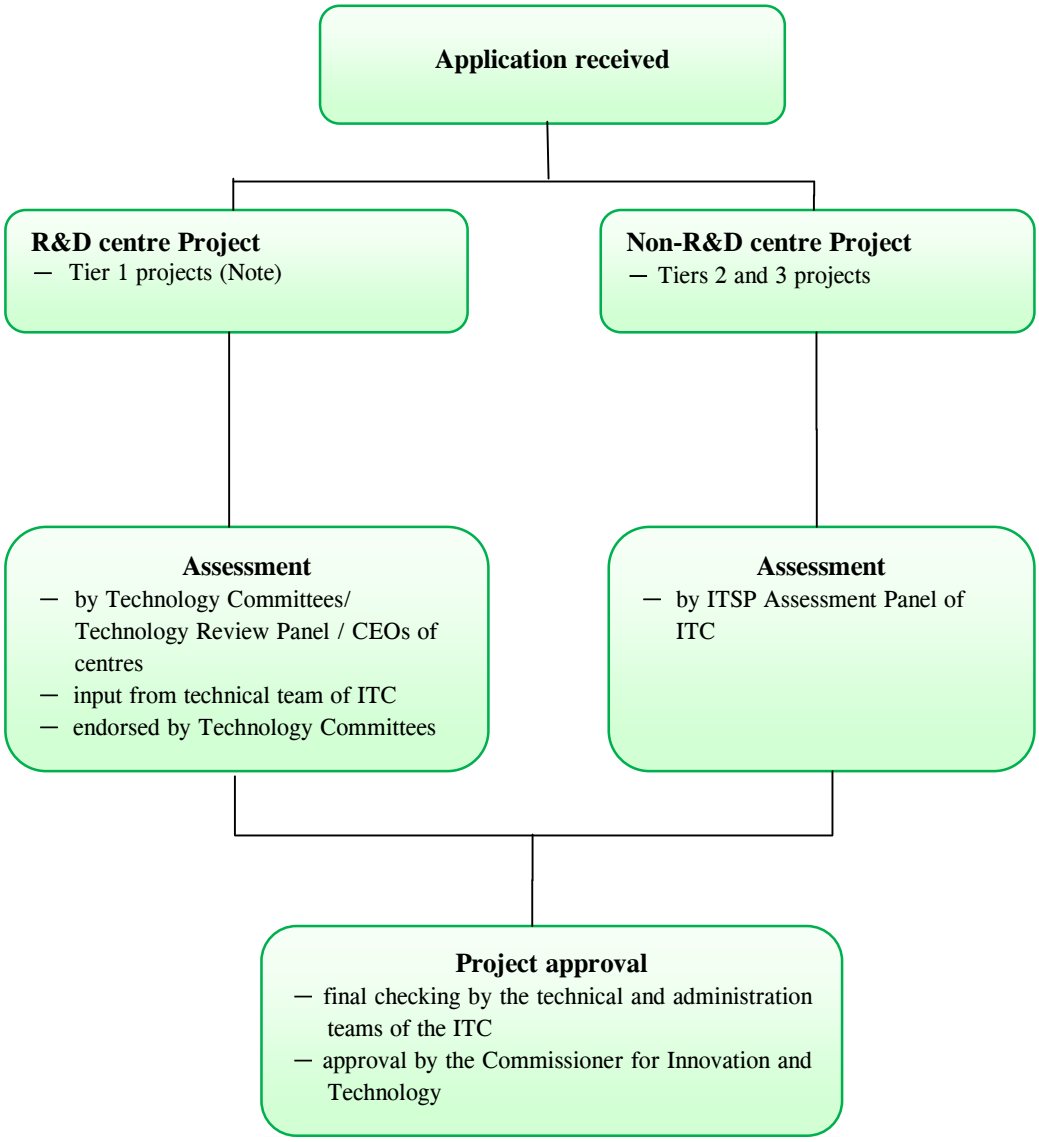
(a) for R&D centre projects, initial screening on project scope, R&D content, budget and implementation details by the centres;

(b) assessment by Technology Committees (or Technology Review Panel) of R&D centres or the ITSP Assessment Panel of the ITC, as appropriate. Members of these Committees/Panels include government officials and appointed members from industries and academic sector; and

(c) submitting the applications to the Commissioner for Innovation and Technology for approval.

Figure 1

Processing of ITSP applications



Source: *Audit analysis of ITC and R&D centre records*

Note: *From November 2012 onwards, application for projects of APAS have been assessed by the ITSP Assessment Panel of the ITC.*

Assessment mechanism and framework

2.10 An effective assessment mechanism and framework should be able to identify projects that will achieve the objectives of the ITSP and enhance transparency and accountability of the process of approving ITSP fund to selected project applications.

Assessment mechanism

2.11 The assessment mechanism for ITSP projects is as follows:

(a) Tier 1 projects (i.e. those of R&D centres):

(i) platform projects and collaborative projects are vetted by each centre's Technology Committee/Technology Review Panel and collaborative project assessment panel respectively (Note 4), of which the Commissioner for Innovation and Technology or her representative is a member; and

(ii) seed projects are vetted by the centre's CEO, after consulting internal technical staff and/or external experts, as appropriate;

(b) Tier 2 platform projects and Tier 3 projects are vetted by the ITSP Assessment Panel of the ITC; and

(c) Tier 2 collaborative projects are vetted by an internal assessment panel comprising technical staff of the ITC.

2.12 After vetting, all applications are subject to checking by the ITC's administrative team and technical team for completeness of information and compliance with the relevant ITC guidelines before submission to the Commissioner for Innovation and Technology for approval.

Note 4: *The collaborative project assessment panel normally comprises representatives of the centre's Technology Committee/Technology Review Panel, the centre's CEO or his representative, industry sponsors, ITC staff and representatives from implementing organisation (if applicable).*

Assessment Framework

2.13 The present Assessment Framework of the ITSP was promulgated by the ITC in March 2011. The Framework aims to achieve the following:

(a) encouraging and selecting projects with greater prospect of realisation/commercialisation;

(b) facilitating the trial of R&D outcomes (especially in the public sector), so that researchers and industry can gain actual experience to fine-tune their products, build up 'reference' for subsequent marketing, and bring about wider economic and social benefits to the community;

(c) motivating the private sector to invest more in R&D activities in Hong Kong; and

(d) enhancing cooperation among Government, industry, academia and research institutes.

2.14 Under the Assessment Framework, project applications are assessed under the following seven components (see Table 6):

Table 6

Assessment Framework of ITSP applications

Component	Example of criteria	Weighting	
		Tiers 1 & 2 platform and collaborative project	**Seed/Tier 3 project**
Innovation and technology component	• Potential for new technologies or enhancement to existing products	20%	36%
Technical capability	• Viability of technical proposal and competence of technical team	20%	32%
Financial considerations	• Proposed financial contribution to project cost	16%	8%
Realisation/ commercialisation	• Chance of realisation/ commercialisation	16%	4%
Relevance to government policies or in overall interest of the community	• Support important government initiatives • Great social benefit and upgrade of industry	12%	8%
Intellectual property rights and benefit sharing	• Patentable R&D result • Formula of benefit sharing	8%	4%
Management capability	• Support from university or research partners and capacity of the project team	8%	8%
	Total	100%	100%

Source: ITC records

Practices of R&D centres and ITC relating to passing mark

2.15 The ITC has not issued detailed guidelines on the assessment framework such as the awarding of marks and the passing marks for applications. As a result, different practices were adopted among the R&D centres and the ITC (see Table 7).

Table 7

Practices relating to passing marks adopted by R&D centres and the ITC

Passing mark	R&D centre	ITC
For the project as a whole	• NAMI: 50 marks or higher in general • HKRITA: 70 marks or higher in general (Note 1) • ASTRI: 50 to 55 marks • APAS: No (Note 2) • LSCM: No	No
For each assessment component	No	No

Source: *Audit analysis of ITC and R&D centre records*

Note 1: *HKRITA (the centre that set the highest passing mark) informed Audit that at a Technology Committee meeting held in June 2011, a representative of the ITC indicated that:*

(a) the ITC would normally support a proposal which scored 70 marks or over;

(b) more discussions would be required for a proposal that scored between 50 and 70; and

(c) a proposal with mark below 50 would not be supported.

Since then, the centre has set the passing mark at 70 and projects with scores less than 70 would not be supported.

Note 2: *In November 2012, APAS became a division of the Hong Kong Productivity Council and the assessment work of project applications was carried out by the ITSP Assessment Panel of the ITC.*

Overall passing mark for a project

2.16 Audit reviewed the practices of the ITC and the R&D centres relating to the setting of passing mark. Audit noted that:

(a) regarding Tier 1 projects, the ITC did not request the centres to set passing mark in assessing applications. Three R&D centres uses different passing mark (i.e. from 50 to 70), while one centre did not set a passing mark; and

(b) regarding Tiers 2 and 3 projects, the ITC did not set a passing mark.

2.17 In response to Audit's enquiry in June 2013, the ITC informed Audit that in assessing an application, it would not only focus on its scientific component, but would also consider its relevance to government policies or the overall interest of the community. The ITC also said that it had not set a passing mark for the total score in order to cater for special circumstances where a particular application might not be able to have high marks but was worth supporting.

Passing mark for individual assessment components

2.18 Audit noted that the ITC and the R&D centres did not set a passing mark for key assessment components failing which would lead to rejection of a project proposal. The ITC explained that, besides the need to cater for special circumstances where a particular application might not be able to score a high mark but worth supporting, there might be proposals which scored low marks in terms of technology and commercialisation, but had great benefits to the community or was relevant to government policies. The ITC was of the view that setting a passing mark for individual assessment component might result in such projects being rejected (Note 5).

Note 5: *The ITC cited an example where a project proposal involving technologies which are particularly beneficial to law enforcement but may not have immediate application in the commercial market. The ITC said that the proposal might thus score low in terms of technology component or plan for realisation/commercialisation, but has great benefits to the community or relevant to government policies (e.g. crime prevention).*

2.19 The objective of the ITF is to support R&D projects which are innovative and help upgrading the technology capabilities of the industry through commercialisaton and technology transfer of project deliverables. Therefore, assessment components like "innovation and technology component", "commercialisation" and "technical capability", which carry significant weightings in the assessment framework, are crucial to achieving the ITF objective. Inadequacy of a proposal in these key assessment components could not be compensated by high scores in other components. If a project applicant fails to meet a pre-set standard expressed as a passing mark in one or more key assessment components, the application should be rejected. The senior management of the R&D centres generally agreed that it was desirable to identify the key assessment components and set a passing mark for these components failing which a project should not be supported.

2.20 Assessments of the various ITSP projects are graded by different groups of technical experts. Audit considers it desirable to have a more structured and consistent numerical approach in grading projects in the Assessment Framework because:

(a) different R&D centres adopting their own standards would give applicants an impression of inconsistency in the administration of the ITSP funding mechanism;

(b) a more structured approach in marking (for example, suggesting the passing mark for each assessment component and an overall passing mark) would assist the different assessment panels and groups to achieve more consistency in their grading of projects; and

(c) having a passing mark can ensure a more objective measure in gauging the quality of applications submitted by different groups and in different years.

Audit recommendations

2.21 **Audit has *recommended* that the Commissioner for Innovation and Technology should, in collaboration with the R&D centres, consider:**

(a) **setting an overall passing mark on ITSP applications; and**

(b) **identifying the key assessment components, failure to achieve the passing marks of which would render an ITSP application not be supported.**

Response from the Administration

2.22 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) the ITC will work closely with the R&D centres and adopt an overall passing mark for ITSP applications. This passing mark will be applied not only to projects conducted by the R&D centres, but also to other ITSP projects; and

(b) the ITC will identify the key assessment components for which the passing marks must be achieved as suggested by Audit. For instance, the management capability of the project applicant will likely be one of them.

Processing time

2.23 Processing time is the number of calendar days counting from the date of receipt of an ITSP application to the date of approval of the application. The date of receipt is recorded in the Internet-based ITF project management system, namely the Innovation and Technology Commission Funding Administrative System (ITCFAS). Given the rapid development of innovation and technology and keen competition in the industry, there is a need to process ITSP applications swiftly so that promising projects could commence without unnecessary delay. Long processing time might dampen the interest of researchers, discourage support of the industry, delay the commercialisation of deliverables and, choke the advancement of innovation and technology.

Processing of ITSP applications

2.24 Audit analysed the processing time of ITSP projects approved in the period from January 2011 to June 2013 (see Table 8). Audit found that:

(a) ***Applications of Tier 1 projects.*** The average processing time taken by the five R&D centres ranged from 105 to 125 days (the overall average processing time was 122 days, representing 64% of the total processing time) before passing the applications received to the ITC for further processing. The average time taken by the ITC to process applications received from the five centres ranged from 46 to 100 days (the overall average processing time was 70 days, representing 36% of the total processing time). Thus, the total processing time for an application ranged from 158 to 222 days (overall average total processing time was 192 days); and

(b) ***Applications of Tier 2 projects and Tier 3 projects.*** The ITC took an average of 257 days to process a Tier 2 project application and 162 days to process a Tier 3 project application.

Table 8

Processing time of ITSP project applications
(January 2011 to June 2013)

R&D centre/ ITC	Number of applications	Average processing time (calendar day)					Average proposed project duration as stated in application	Average processing time as percentage of average project duration
		Centre		ITC		Total		
		Day (a)	Percentage of total processing time (b) = (a) ÷ (e) × 100%	Day (c)	Percentage of total processing time (d) = (c) ÷ (e) × 100%	Day (e) = (a) + (c)	Day (f)	(g) = (e) ÷ (f) × 100%
R&D centre (Tier 1 projects)								
APAS	9	105	66%	53	34%	158	614	26%
ASTRI	87	125	64%	71	36%	196	380	52%
HKRITA	25	122	55%	100	45%	222	592	38%
LSCM	14	121	65%	65	35%	186	501	37%
NAMI	25	115	71%	46	29%	161	536	30%
Overall	160	122	64%	70	36%	192	461	42%
ITC (Tiers 2 and 3 projects)								
Tier 2	59	N/A	N/A	257	100%	257	666	39%
Tier 3	128	N/A	N/A	162	100%	162	526	31%

Source: Audit analysis of ITC and R&D centre records

2.25 Compared with the average proposed project duration, the time used for processing a Tier 1 project application is equivalent to, on average, 42% of the proposed project duration. The corresponding percentages for Tier 2 and Tier 3 project applications were 39% and 31% respectively. Audit noted that the long processing time might arose because of long time taken in the following:

(a) negotiation of benefit sharing agreements with all parties concerned (for Tier 1 projects);

(b) negotiation with sponsors on the terms of sponsorship;

(c) waiting for response from project coordinators to questions raised; and

(d) arrangement of meetings with ITC personnel.

2.26 Long processing time of ITSP applications could affect the interest of project coordinators and sponsors who might withdraw the applications. During Audit's interviews with the senior management of the five R&D centres in July and August 2013, they expressed their general agreement that there was a need to shorten the processing time to a reasonable level to facilitate the early commencement of the R&D project work.

Audit recommendations

2.27 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **review the procedures of processing ITSP applications with a view to finding out the reasons for the long processing time and identifying room for improvement; and**

(b) **in the light of the results of the review, identify ways to streamline the application processing procedures.**

Response from the Administration

2.28 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC will, in collaboration with the R&D centres, review the application processing procedures and, where appropriate, identify ways to streamline them. However, in some cases, there may be factors that are beyond the control of the ITC, such as the time required for the project applicant to obtain formal sponsorship letters from its sponsors.

In-kind sponsorship

2.29 According to the ITSP Guidelines, industry sponsorship to platform projects and collaborative projects refers to sponsorship from companies which are not related to the lead applicants in terms of ownership or management and should in general be a user of the project deliverables (Note 6). The sponsorship can either be in cash or in-kind (such as equipment and consumables) or a combination of both. The ITSP Guidelines also state that in-kind sponsorship in the form of equipment or consumables will only be accepted if:

(a) it is essential to the project and is contributed specifically for the project; and

(b) documentary proof of the value of sponsorship has been provided to facilitate a fair assessment of the value of contribution.

2.30 For the period from 2006-07 to 2012-13, the R&D centres received $75.4 million in-kind sponsorship ($57.4 million for platform projects and $18 million for collaborative projects). Details are at Table 9.

Note 6: *Industry sponsorship requirement is not mandatory for seed projects and Tier 3 projects. However, applicants are encouraged to obtain sponsorship for such projects.*

Table 9

In-kind sponsorship for Tier 1 projects
(2006-07 to 2012-13)

	Platform project			Collaborative project		
R&D centre	**In-kind sponsorship (a) ($ million)**	**Total industry sponsorship (b) ($ million)**	**Percentage (c) = (a) ÷ (b) × 100%**	**In-kind sponsorship (d) ($ million)**	**Total industry sponsorship (e) ($ million)**	**Percentage (f) = (d) ÷ (e) × 100%**
APAS	0.2	16.0	1.3%	—	11.3	—
ASTRI	39.1	179.1	21.8%	15.2	41.5	36.6%
HKRITA	3.3	27.8	11.9%	—	4.7	—
LSCM	13.1	30.7	42.7%	0.5	4.2	11.9%
NAMI	1.7	11.8	14.4%	2.3	66.9	3.4%
Overall	57.4	265.4	21.6%	18.0	128.6	14.0%

Source: *Audit analysis of R&D centre records*

Remarks: *There were 284 platform projects, of which 119 (41.9%) had in-kind sponsorship. For collaborative projects, 13 (19.4%) of 67 projects had in-kind sponsorship.*

Valuation of in-kind sponsorship

2.31 The ITC has not promulgated detailed guidelines on valuation of in-kind sponsorship. Audit found that valuations were generally based on documents (e.g. invoices/estimation) provided by the sponsors and assessed by R&D centre staff and/or ITC staff based on their judgment. The supporting documents were mainly quotation from one single supplier and sometimes estimations made by the sponsor himself. Senior management of some R&D centres had also indicated that they had difficulties in ascertaining the fair value of in-kind sponsorship, and as such, they would prefer to receive cash sponsorship instead.

2.32 Industry sponsorship constitutes a large percentage of project costs for collaborative projects (at least 30% for Tier 1 projects and 50% for Tier 2 projects — see Note 2 to Table 4 in para. 1.14) and may affect the future benefit sharing (e.g. intellectual property rights) with the sponsors. The ITC needs to ensure that there is adequate proof of the value of in-kind sponsorship (e.g. professional valuation by independent third party) and consider whether a suitable ceiling on the percentage of in-kind sponsorship (of total project cost) should be set for collaborative projects.

Audit recommendations

2.33 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **promulgate guidelines on the valuation of in-kind sponsorship to ensure that the assessed value is well supported by evidence from independent parties; and**

(b) **consider setting a ceiling on the percentage of in-kind sponsorship for collaborative projects.**

Response from the Administration

2.34 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC notes Audit's suggestion that the assessed value should be supported by evidence from independent parties. The ITC will improve the current system in view of Audit's recommendations. However, there may be rare cases where a certain piece of equipment is unique in terms of say, intellectual property ownership or quality requirement, and hence there may be no comparable alternative or it may be difficult to obtain such evidence from an independent party.

PART 3: MONITORING OF ITSP PROJECTS

3.1 This PART examines the issues relating to the ITC's monitoring of ITSP projects.

Submission of reports and audited accounts

3.2 The ITC promulgated a set of ITSP Guidelines. Successful applicants need to comply with the requirements stipulated in the Guidelines. According to the Guidelines, the lead applicant is required to submit the following:

(a) ***Progress Reports and Final Report.*** According to the Fund Agreement, the lead applicant is required to submit to the ITC for approval a Progress Report half-yearly and a Final Report after the completion of the project. The Reports have to be prepared in a standard format and submitted through the ITCFAS. The Reports contain information on project progress, updates on project team and financial position of the project. Funds are disbursed if the ITC is satisfied with the progress and has approved the Progress Reports. The ITC has the right to defer payment until the milestones have been met, or terminate the project if there is a lack of material progress; and

(b) ***Annual and final audited accounts.*** The lead applicant is required to submit audited accounts annually and the final audited accounts after the completion of the project to the ITC for approval. The purpose of the submission is to facilitate the ITC in ensuring that ITSP funds are applied to the project in accordance with the approved budget and in compliance with the terms and conditions for the project. The accounts have to be audited by a certified public accountant (practising) registered under the Professional Accountants Ordinance (Cap. 50).

3.3 The ITCFAS maintains, for each project, information on the due dates and submission dates of the Reports and audited accounts.

Progress Reports and Final Reports

3.4 According to the Fund Agreement:

(a) Progress Reports have to be submitted within one month from the end of the period covered; and

(b) Final Report has to be submitted within two months after project completion.

3.5 Timely reporting of the project progress by the lead applicants and close monitoring by the ITC are important in ensuring that the projects are progressing as planned. Timely submission of Progress Reports allows the ITC to identify projects with technical or other issues so that it may provide additional assistance and feedbacks to them. Audit reviewed the timeliness of the submission of Progress Reports and Final Reports. Audit noted that a large proportion of the Reports were submitted late (see Tables 10 and 11).

Table 10

Late submission of Progress Reports
(April 2006 to June 2013)

	Number of Reports						
	Tier 1 project					Tier 2 project	Tier 3 project
	APAS	ASTRI	HKRITA	LSCM	NAMI		
Submitted on time	6 (6%)	28 (9%)	152 (82%)	6 (6%)	1 (1%)	155 (37%)	220 (44%)
Late by 1 to 30 days	16 (16%)	166 (54%)	25 (13%)	9 (8%)	34 (22%)	231 (54%)	264 (52%)
Late by 31 to 60 days	43 (42%)	75 (25%)	4 (2%)	18 (17%)	59 (39%)	28 (6%)	12 (2%)
Late by 61 to 90 days	22 (21%)	11 (4%)	3 (2%)	22 (21%)	24 (16%)	3 (1%)	5 (1%)
Late by >90 days	15 (15%)	24 (8%)	1 (1%)	51 (48%)	33 (22%)	7 (2%)	4 (1%)
Total	102	304	185	106	151	424	505
Average number of days of delay (Note)	63	39	21	94	77	20	13

Source: *Audit analysis of ITC records*

Note: *Reports submitted on time were excluded from the calculation.*

Remarks: *The number of Reports included those which were still outstanding as at 30 June 2013. For the outstanding Reports, the number of days of delay was counted from the due date to 30 June 2013.*

Table 11

Late submission of Final Reports
(April 2006 to June 2013)

	Number of Reports						
	Tier 1 project					Tier 2 project	Tier 3 project
	APAS	ASTRI	HKRITA	LSCM	NAMI		
Submitted on time	1 (2%)	2 (2%)	30 (59%)	—	2 (4%)	38 (32%)	93 (36%)
Late by 1 to 30 days	5 (10%)	50 (40%)	14 (27%)	1 (3%)	5 (11%)	49 (41%)	117 (45%)
Late by 31 to 60 days	8 (17%)	27 (22%)	1 (2%)	—	10 (21%)	9 (8%)	22 (8%)
Late by 61 to 90 days	2 (4%)	25 (20%)	2 (4%)	—	8 (17%)	7 (6%)	13 (5%)
Late by >90 days	32 (67%)	20 (16%)	4 (8%)	28 (97%)	22 (47%)	16 (13%)	16 (6%)
Total	48	124	51	29	47	119	261
Average number of days of delay (Note)	138	57	57	337	175	56	38

Source: *Audit analysis of ITC records*

Note: *Reports submitted on time were excluded from the calculation.*

Remarks: *The number of Reports included those which were still outstanding as at 30 June 2013. For the outstanding Reports, the number of days of delay was counted from the due date to 30 June 2013.*

3.6 Audit noted that large percentages of Progress Reports and Final Reports were submitted late or were still outstanding. For APAS and the LSCM, over 60% of the Final Reports were submitted more than three months after the due dates (i.e. five months after the project completion). Late submission of Progress Reports and Final Reports not only represented non-compliances of the Fund Agreements but also affected the efficiency and effectiveness of the ITC's work in monitoring the progress of the projects and ensuring that prescribed milestones were achieved in a timely manner.

Annual and final audited accounts

3.7 According to the Fund Agreement, fund recipients are required to submit:

(a) annual audited accounts within three month after the end of the financial year; and

(b) final audited accounts within three months after the project completion date.

3.8 Audit reviewed the submission of annual audited accounts and final audited accounts. Audit noted that large percentages of the accounts were submitted late (see Tables 12 and 13).

Table 12

Late submission of annual audited accounts
(April 2006 to June 2013)

	Number of accounts						
	Tier 1 project					Tier 2 project	Tier 3 project
	APAS	ASTRI	HKRITA	LSCM	NAMI		
Submitted on time	7 (27%)	1 (2%)	—	—	—	38 (32%)	11 (18%)
Late by 1 to 30 days	7 (27%)	—	—	—	—	25 (21%)	17 (28%)
Late by 31 to 60 days	1 (4%)	—	2 (5%)	—	2 (6%)	11 (9%)	10 (16%)
Late by 61 to 90 days	2 (8%)	—	2 (5%)	—	5 (15%)	14 (12%)	3 (5%)
Late by >90 days	9 (34%)	54 (98%)	40 (90%)	36 (100%)	26 (79%)	31 (26%)	20 (33%)
Total	26	55	44	36	33	119	61
Average number of days of delay (Note)	264	285	184	598	305	121	134

Source: *Audit analysis of ITC records*

Note: *Accounts submitted on time were excluded from the calculation.*

Remarks: *The number of accounts included those which were still outstanding as at 30 June 2013. For the outstanding accounts, the number of days of delay was counted from the due date to 30 June 2013.*

Table 13

Late submission of final audited accounts
(April 2006 to June 2013)

	Number of accounts						
	Tier 1 project					Tier 2 project	Tier 3 project
	APAS	ASTRI	HKRITA	LSCM	NAMI		
Submitted on time	8 (17%)	—	—	—	—	20 (17%)	72 (28%)
Late by 1 to 30 days	9 (19%)	1 (1%)	—	—	1 (2%)	26 (22%)	46 (18%)
Late by 31 to 60 days	3 (6%)	3 (2%)	3 (6%)	—	—	14 (12%)	31 (12%)
Late by 61 to 90 days	5 (10%)	3 (2%)	3 (6%)	—	1 (2%)	7 (6%)	26 (10%)
Late by >90 days	23 (48%)	114 (95%)	44 (88%)	29 (100%)	44 (96%)	51 (43%)	81 (32%)
Total	48	121	50	29	46	118	256
Average number of days of delay (Note)	227	240	193	515	315	174	136

Source: *Audit analysis of ITC records*

Note: *Accounts submitted on time were excluded from the calculation.*

Remarks: *The number of accounts included those which were still outstanding as at 30 June 2013. For the outstanding accounts, the number of days of delay was counted from the due date to 30 June 2013.*

3.9 Audit noted that late submission of the audited accounts to the ITC was common. Large percentages of the accounts were submitted three months after the due dates or were still outstanding. Late submissions of audited accounts were non-compliances with the Fund Agreements. They also affected the ITC's monitoring of project expenditure, and resulted in delays of the return of residual funds to the Government for financing new ITF projects.

Audit recommendations

3.10 **Audit has *recommended* that the Commissioner for Innovation and Technology should take action to ensure that the Progress Reports, Final Reports, annual audited accounts and final audited accounts of ITSP projects are submitted in a timely manner in accordance with the Fund Agreements, including:**

(a) **regularly reminding the lead applicants of the need to comply with the submission requirements relating to Reports and audited accounts;**

(b) **following-up closely with the lead applicants of overdue cases with a view to expediting the submission of Reports/audited accounts; and**

(c) **regularly generating management information (such as ageing analysis of overdue cases and list of projects with overdue submissions) to facilitate monitoring and follow-up work.**

Response from the Administration

3.11 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) the ITC is fully aware of the importance of the timely submission of outstanding Progress Reports, Final Reports and audited accounts of ITSP projects;

(b) the ITCFAS currently keeps track of all ongoing ITSP projects and will issue reminders automatically to the project coordinators on submission of outstanding Progress Reports, Final Reports and audited accounts of ITSP projects. The ITC is aware that the present ITCFAS is not sophisticated enough and it will enhance the system to facilitate better project monitoring and following-up of outstanding Reports; and

(c) the ITC will liaise with the senior management of the R&D centres and universities and solicit their assistance as fit to facilitate better monitoring of projects.

Project equipment management

Requirements stipulated in ITSP Guidelines

3.12 The ITSP Guidelines stipulate the following requirements regarding the acquisition and utilisation of project equipment:

(a) the lead applicant should critically examine how the equipment required for the project can be obtained in the most economical manner;

(b) existing equipment should first be made use of; and

(c) the lead applicant and project coordinator are encouraged to share the use of existing equipment within their organisations or with other organisations where possible (e.g. local universities).

3.13 Furthermore, for any equipment whose acquisition cost is $500,000 or above:

(a) the ITC can, where necessary, require the applicant to transfer the equipment to the Government or another party within a period of two years after project completion; and

(b) the lead applicant is required to seek prior consent from ITC for change in the equipment.

3.14 Upon project completion, the project coordinator has to submit a list of equipment procured to the ITC. The ITC will check the list against the Final Report and the audited accounts. For each item with acquisition cost of $500,000 or above, the ITC will publish the relevant information (such as product name, brand, model number, unit price, quantity and date of purchase) on the ITC's website (ITSP Equipment List). The purpose is to facilitate the identification and sharing of equipment amongst the R&D centres and the designated local public research institutes. Interested parties can search the website and approach the project coordinator concerned direct for exploring the use of an item of equipment for R&D work. As at July 2013, there were 152 such items with a total acquisition cost of $244 million.

ITSP Equipment List

3.15 Audit selected 25 Tier 1 projects (5 per R&D centre), 15 Tier 2 projects and 15 Tier 3 projects and cross-checked the equipment details (items each costing $500,000 or above) of the Final Reports/Asset Registers of the R&D centres to the ITSP Equipment List. Audit noted that the information on the ITSP Equipment List was inaccurate and incomplete (see Table 14).

Table 14

Inaccurate and incomplete information on ITSP Equipment List (30 June 2013)

Project	R&D centre/ITC	Inaccuracy and incompleteness
Tier 1	APAS	Two items of equipment with a total cost of $1.18 million were not shown on the ITSP Equipment List (Note 1).
	ASTRI	(a) Seven items of equipment/software with a total cost of $29,555 were incorrectly included in the ITSP Equipment List as $29.6 million; and (b) tools with a total cost of $667,316 were found in the ITSP Equipment List. However, ASTRI advised Audit that the license of the tools expired in December 2008.
	LSCM	The license of a software (costing $738,000) shown on the ITSP Equipment List had expired.
	NAMI	The information of two items of equipment costing $7.5 million and $1.7 million were submitted to the ITC by NAMI in February and March 2013 respectively but was not included in the ITSP Equipment List (Note 2).
Tier 2	ITC	Two items with a total cost of $2.1 million procured under two projects were not shown on the ITSP Equipment List.

Source: Audit analysis of ITC and R&D centre records

Note 1: In September 2013, the ITC informed Audit that the omissions were due to late submission of equipment lists by APAS.

Note 2: The ITC explained that it needed to reconcile the costs of these items with the relevant final audited accounts before the details of the equipment could be published. In this connection, Audit noted that the relevant projects were completed in August and December 2012 and the relevant final audited accounts should have been submitted to the ITC in November 2012 and March 2013 respectively. Up to the time of audit, the accounts had not been submitted to the ITC.

3.16 To ensure that designated local public research institutes and project applicants are aware of the existing items of equipment and can make use of them, the ITC needs to ensure the completeness and accuracy of the items on the ITSP Equipment List.

Equipment costing below $500,000

3.17 In addition to the 152 items of equipment each costing $500,000 or above, some 20,000 items each costing below $500,000 were acquired for ITSP projects. The total cost was $225 million. Details are as follows:

Table 15

Number and total cost of items of equipment with unit cost below $500,000 (30 June 2013)

Project	R&D centre/ITC	Number of items	Total cost ($ million)
Tier 1	APAS	56	4.0
	ASTRI	3,690	43.9
	HKRITA	902	12.7
	LSCM	2,379	22.9
	NAMI	309	7.5
Tier 2	ITC	8,485	68.8
Tier 3	ITC	3,790	65.6
	Total	19,611	225.4

Source: ITC and R&D centre records

3.18 Unlike equipment items costing $500,000 or above, the availability of these items were not made known to the public on the ITC website to facilitate interested parties and project applicants to identify and make use of them. Audit considers that there are merits in lowering the threshold of $500,000 with a view to avoiding duplicated purchases using ITF fund as far as possible.

Audit recommendations

3.19 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **strengthen the controls on the updating of the ITSP Equipment List to ensure that the information is correct and complete;**

(b) **regularly confirm and update the information on the ITSP Equipment List with the R&D centres and project coordinators; and**

(c) **consider lowering the cost threshold of items of equipment to a level below $500,000 for inclusion in the ITSP Equipment List.**

Response from the Administration

3.20 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) the ITC will review the current mechanism and strengthen control on the updating of the ITSP Equipment List with a view to ensuring its accuracy to better facilitate sharing of equipment; and

(b) the ITC will also review the current threshold of $500,000 for equipment to be included in the ITSP Equipment List.

Post-project evaluation

3.21 Upon completion of an ITSP project, the ITC requires the following documents to be submitted within six months:

(a) ***Post-project Completion Survey Questionnaire for Project Coordinator (Project Coordinator Questionnaire).*** The questionnaire is completed by the project coordinator. It contains 12 questions on technology achievement, commercialisation and adoption by industry;

(b) ***Post-project Completion Survey Questionnaire for Sponsor (Sponsor Questionnaire).*** The questionnaire is completed by the sponsors. It contains nine questions mainly on the usefulness of the project results to the company and the industry, adoption and impacts of the project results and plans on further development of the product/technology; and

(c) ***Project Evaluation Form (ITC Evaluation Form).*** It is completed by ITC staff on-line using the ITCFAS. The form contains eight questions by which the ITC assesses whether the project has achieved technology breakthrough, successful commercialisation and adoption by industry, and is successful and whether reassessment is required in future.

Project Coordinator and Sponsor Questionnaires

3.22 In July 2013, Audit examined five Tier 1 projects of each R&D centre and five Tiers 2 and 3 projects, and found that many questionnaires (particularly Sponsor Questionnaires) were missing in the project files. Details are shown at Table 16.

Table 16

Availability of Project Coordinator/Sponsor Questionnaires (July 2013)

Project	R&D centre/ ITC	Project Coordinator Questionnaire			Sponsor Questionnaire		
		Number required to be submitted	Percentage of submitted questionnaire available		Number required to be submitted	Percentage of submitted questionnaire available	
			at R&D centre	at ITC		at R&D centre	at ITC
Tier 1	HKRITA	5	80%	80%	16	63%	63%
	APAS	5	0%	0%	8	0%	0%
	LSCM	5	20%	20%	18	39%	39%
	ASTRI	5	40%	80%	5	40%	40%
	NAMI	5	0%	40%	5	0%	0%
Tiers 2 and 3	ITC	5	N/A	20%	8	N/A	0%

Source: Audit analysis of ITC and R&D centre records

3.23 Audit's examination revealed that:

(a) there was no evidence showing whether the missing questionnaires were misplaced or not submitted. In response to Audit's enquiry in July and August 2013, the R&D centres said that under the present arrangement, the project coordinators/sponsors sent the questionnaires directly to the ITC and they were not required to copy the questionnaires to the centres; and

(b) much of information required to be filled in the questionnaires were either left blank or filled in with just a "Yes" or "No" answer without further elaboration.

3.24 Audit noted that neither the R&D centres nor the ITC had followed up on the missing questionnaires or the missing information. The information in the questionnaires was essential for monitoring technology breakthroughs and achievements, usefulness of the technology to industries, potential for further investment and research, and successful commercialisation. For effective evaluation of the achievements of projects and to effectively gauge whether the projects are achieving technology breakthroughs or usefulness to industries, the ITC needs to ensure that the project coordinators and sponsors submitted duly completed questionnaires in a timely manner. The ITC should also review the desirability of copying all the questionnaires of Tier 1 projects it received to the R&D centres for their comments and evaluation. It should also devise a system to track the overall achievements of the ITF's funding support in such R&D work from year to year.

ITC Evaluation Form

3.25 The ITC Evaluation Forms are completed by ITC staff and are maintained in the ITCFAS. Audit analysed the Forms for 166 Tier 1 projects (including 20 seed projects), 105 Tier 2 projects and 162 Tier 3 projects. The results are shown in Table 17.

Table 17

Project assessment stated on ITC Evaluation Forms

Assessment item	Tier 1 projects		Tiers 2 and 3 projects	
	Yes (%)	No (%)	Yes (%)	No (%)
The project has been satisfactory completed	98	2	99	1
The project has achieved technology breakthrough	10	90	13	87
The project has achieved successful exploration of concept (applicable to seed/Tier 3 projects only)	20	80	83	17
The project has achieved successful commercialisation	17	83	20	80
The project has achieved adoption by industry	68	32	75	25
Comments and remarks provided	39	61	41	59
The project is successful	68	32	75	25
Reassessment is required in future	0	100	5	95

Source: *Audit analysis of ITC records*

Remarks: *In calculating the percentages, projects for which assessments were not provided or not applicable were excluded.*

3.26 The results of Audit analysis indicated that a large percentage of the ratings for some assessment items were not positive. For instance, of the 166 Tier 1 projects, 90% were regarded as having no technology breakthrough, 83% were regarded as not successful in commercialisation, and 80% of the seed/Tier 3 projects were regarded as not having achieved successful exploration of concept.

Similar results for technology breakthrough and commercialisation were also noted for Tiers 2 and 3 projects. Audit noted that the ITC's assessment results were not conveyed to the R&D centres or the project coordinators/sponsors for review or follow-up action. Audit also noted that the ITC did not analyse and track the statistics outlined in Table 17 from year to year to gauge the trend in success rates over time.

Post-project evaluation framework of R&D centres

3.27 The R&D centres have standing procedures for performing some post-project evaluation activities (such as carrying out customer satisfaction surveys). However, they have not established a comprehensive post-project evaluation framework. In response to Audit's enquiry in July 2013, the R&D centres informed Audit that they recognised the importance of a comprehensive post-project evaluation framework. Some centres planned to develop such a framework and some centres were developing such a framework.

Recent development

3.28 Since April 2013, the ITC has put on trial at R&D centres a revamped methodology for conducting post-project evaluation of ITSP projects. The ITC has not set a target date for the full implementation of the new methodology (see PART 2 of Chapter 9 of the Director of Audit's Report No. 61 "Innovation and Technology Fund: Overall management" for more details). Audit supports the ITC's initiative and considers that the ITC should, in the meantime, also strengthen the controls over the timely submission of duly completed questionnaires by project coordinators, sponsors and its staff.

Audit recommendations

3.29 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **ensure that the project coordinators and sponsors submit duly completed Project Coordinator Questionnaires and Sponsor Questionnaires respectively in a timely manner;**

(b) **consider the desirability of copying all the Questionnaires of Tier 1 projects the ITC received to the R&D centres for their comments and evaluation;**

(c) **consider providing the evaluation results in ITC Evaluation Forms to the R&D centres, project coordinators and sponsors, and take necessary follow-up action with them based on the evaluation results;**

(d) **in collaboration with the R&D centres, consider developing a comprehensive post-project evaluation framework for adoption by the R&D centres; and**

(e) **consider designing and implementing reporting system to analyse and track the success rates of the different types of projects over time.**

Response from the Administration

3.30 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) in the past, much emphasis was placed on the assessment of project applications and she agrees entirely that evaluation of completed projects is equally important. Hence, earlier this year, the ITC has, in consultation with the R&D centres, developed a more comprehensive/systematic post-project evaluation framework to better assess the results of completed ITSP projects as well as keep track of the progress of realisation and commercialisation of R&D results; and

(b) a trial run of the new evaluation framework among the R&D centres has just been completed. In the light of the outcome of this trial run as well as the latest audit recommendations, the ITC will further review the evaluation framework to see what further improvements should be made.

PART 4: PROCESSING OF SERAP APPLICATIONS

4.1 This PART examines the issues relating to the processing of applications of SERAP projects.

Background

4.2 SERAP is a technology entrepreneur fund with an aim to provide funding up to $6 million on a dollar-for-dollar matching basis to small, technology-based and entrepreneur-driven companies to undertake projects with innovative and technology component and a reasonable chance of successful development of a new product, process or service that can be brought to the market. From the inception of SERAP to 30 June 2013, 373 projects with a total funding of $427.8 million were approved.

4.3 The ITC accepts applications for SERAP funding throughout the year. Applicants have to submit their applications through the ITCFAS. The ITC has promulgated on its website details about SERAP, including the application procedures and the vetting mechanism, in the Guide to the Small Entrepreneur Research Assistance Programme (the SERAP Guide). The ITC has also issued an Operation Manual on the processing of SERAP applications and the monitoring of the SERAP projects. A flow chart of the processing of SERAP applications, monitoring of SERAP project progress and post-completion procedures is at Appendix A.

4.4 Upon receipt of an application, the ITC staff will arrange an interview with the applicant to discuss the project proposal, company and shareholding structure, and business portfolio of the applicant. The eligibility, processing procedures and vetting criteria will also be explained during the interview. After the interview, the ITC staff will conduct a preliminary assessment on the application using a marking scheme (Note 7) on four assessment criteria (see Table 18). Details about the assessment criteria are shown at Appendix B.

Note 7: *Prior to 1 April 2012, project proposals were assessed either as "pass" or "fail" on each vetting criterion without a marking scheme. The use of a marking scheme has been adopted by other ITF funding programmes since 2011 and was extended to SERAP in April 2012 following a review of SERAP in late 2011.*

Table 18

Assessment criteria for SERAP applications

Criterion	Full mark	Passing mark
Innovation and technology component	30	15
Commercial viability of the project	30	15
Team capability and commitment	30	15
Relevance to Government's policies or in overall interest of the community	10	5
Total	100	50

Source: ITC records

4.5 Based on the marks scored by the applications, the ITC will prepare a shortlist. Sometimes, the applicants may withdraw the application after meeting the ITC staff (see para. 4.19(a)). Therefore, the total number of applications, including shortlisted and non-shortlisted applications, submitted for the SERAP Project Assessment Panel's (Note 8) consideration is less than the total number of applications received by the ITC. Usually, a SERAP Project Assessment Panel meeting will be held every month. During the Panel meeting, the ITC's technical staff will discuss the applications with three to five assessors selected from relevant categories of expertise. For non-shortlisted applications, the ITC staff will inform the Panel the reasons for not shortlisting them. For each of the shortlisted applications, the panel will discuss with the applicant for about 30 minutes.

4.6 For each application, the SERAP Project Assessment Panel assigns marks to each of the four assessment criteria. The Panel will make recommendation to the ITC on whether funding support should be approved. Funding support will be recommended if the application has obtained passing marks on all the four assessment criteria.

Note 8: *The SERAP Project Assessment Panel, chaired by the Commissioner for Innovation and Technology or the Commissioner's representative, comprises independent assessors drawn from a pool of technologists, professionals, academics and venture capitalists.*

4.7 For projects which are recommended for funding support, the applicants may be required to revise the project proposals to take into account the SERAP Project Assessment Panel's comments on project scope, deliverables, budget and duration. The revised project proposals will be submitted to the Commissioner for Innovation and Technology for approval. For applications which are rejected, the ITC will notify the applicants the assessment results and the reasons of the Panel's decisions.

Checking of applications

Eligibility of applicants

4.8 A company is eligible to apply funding support from SERAP if:

(a) it is incorporated in Hong Kong under the Companies Ordinance;

(b) it has less than 100 employees in Hong Kong;

(c) it is not a large company (Note 9); and

(d) it is not a subsidiary of or significantly owned/controlled by a large company.

In order to minimise abuse, the applicant is required to declare in the application that the information provided is accurate. It has to submit copies of Business Registration and Certificate of Incorporation to the ITC to support that the company is incorporated in Hong Kong under the Companies Ordinance. For the other three eligibility criteria, the ITC relies on the information provided by the applicant in the

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Note 9: *Under SERAP, a large company generally means a company that meets one of the following criteria:*

(a) a publicly listed company;

(b) a positive cash flow generated from operating activities in the ordinary and usual course of business of at least $20 million in aggregate for the two most recent financial years; or

(c) has a market capitalisation (or company asset) of at least $100 million.

application without requiring the submission of supporting documents or carrying out verification.

Capability and commitment of project team

4.9 One of the assessment criteria is the project team's capability and commitment. Applicants are required to submit the curricula vitae of the key members of the project team showing their professional/academic qualifications and working experience. Copies of certificates of professional/academic qualifications are submitted. In some cases, copies of supporting documents for working experience (e.g. reference letters or work experience certificates) are also submitted. However, in respect of working experience, the ITC did not follow up with those applicants who did not submit supporting documents.

Project budget

4.10 An applicant is required to include the budget in the project proposal covering expenditure on manpower, equipment and other direct costs. In most cases, expenditure on manpower makes up a very large proportion of the total project expenditure. For the 26 projects approved in 2011-12 and 2012-13, the expenditure on manpower is, on average, 62% of the total project expenditure.

4.11 The ITC has not issued guidelines to its staff or assessors of the SERAP Project Assessment Panel on how the salary levels of project staff should be assessed. Audit's examination of the budgets of the 26 projects approved in 2011-12 and 2012-13 revealed that:

(a) there were large variations in the monthly salaries of similar proposed project posts. For example, for a post of Software Engineer in two projects, the salaries were $13,000 and $40,000 respectively. In both cases, only the main duties of the posts but not the minimum qualifications/experience required of the posts were stated in the project budgets;

(b) in some cases, the candidates for the project posts had already been selected before commencement of the projects and their curricula vitae were included in the applications; and

(c) in some other cases, the project posts were only stated as "to be hired" and the minimum qualifications/experience required of the posts were also stated in the budgets. However, some other "to be hired" posts were not provided with the minimum qualifications/experience required. After the approved projects had commenced, the ITC would require the recipient companies to forward copies of the employment contracts and the curricula vitae of the project staff employed to the ITC.

4.12 Salary levels of project staff are determined by the job nature of the posts and the required qualifications and working experience. Hence, for different projects, different salary levels are assigned to the posts with the same title. To enhance accountability and transparency in vetting project budgets, the ITC should require the applicant to state in the project budget the minimum qualifications/experience of project staff to be hired. It should also issue assessment guidelines setting out the yardsticks (e.g. the range of reasonable monthly salary levels of project staff) to facilitate the assessment of manpower cost in project budgets.

Past performance of applicants

4.13 To avoid double funding the same R&D project, the ITC required the applicant to state in the SERAP application form details of any previously related projects undertaken by the applicant and/or key project team members in the past five years and supported by the ITF. The applicant is not required to report other ITF funded projects if the projects have no relation to the current project applying for SERAP funding support.

4.14 Audit reviewed the information maintained in the ITCFAS and noted that there were 23 companies which received SERAP funding in more than one project. Audit's examination revealed that a recipient company who failed to comply with SERAP requirements in a previous ITF project submitted an application for a new project in June 2005 (see Case 1 in para. 5.27). As the two projects were not related, the company did not mention the previous project in the application form of the new project. The new project was approved by the ITC in September 2005 without taking into account the company's non-compliances in the previous project. Audit considers that the ITC needs to consider requiring applicants to disclose all their previous ITF projects in the new application irrespective of whether they are related projects. In vetting the applications, the applicants' past performance in

compliance with the funding requirements in the previous projects (e.g. timely submission of Progress/Final Reports and audited accounts — see paras. 5.15 and 5.16) should also be taken into account in vetting the applications.

Audit recommendations

4.15 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **take necessary action to verify the eligibility of the applicants and information relating to the project teams (e.g. their working experience);**

(b) **ensure that the applicants state in the project budgets the minimum qualifications/experience of project staff to be hired;**

(c) **issue guidelines to ITC staff and assessors of the SERAP Project Assessment Panel to facilitate their assessment on the reasonableness of the salary levels of the project staff stated in the project budgets; and**

(d) **require applicants to disclose in their applications all their previous ITF projects and take into account their past performance (such as compliance with the funding requirements) when vetting their applications.**

Response from the Administration

4.16 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) the ITC will take necessary action to verify the eligibility of applicants and information on the project teams (e.g. working experience). Apart from checking the records of the Companies Registry, the ITC will consider asking applicants to provide statutory declarations; and

(b) the ITC will devise and issue comprehensive guidelines to its staff and assessors and such guidelines will include measures to assess the reasonableness of the salary levels of the project staff stated in the project budgets.

Helping applicants

Success rate of applications

4.17 In late 2011, the ITC conducted focus group meetings with relevant stakeholders (including recipient companies, trade associations and assessors) to gauge their views on improving the operation of SERAP and encouraging more applications. In April 2012, the ITC introduced a number of enhancement measures, such as increasing the funding ceiling from $4 million to $6 million, adopting a marking scheme for project assessment and describing the vetting criteria in more details in the SERAP Guide (see Appendix B).

4.18 Subsequent to the enhancement measures implemented by the ITC, the number of applications increased by 39.5% from 76 in 2011-12 to 106 in 2012-13. However, Audit noted that the percentage of applications withdrawn increased from 37.6% in 2008-09 to 51.3% in 2011-12 as well (the withdrawal rate for 2012-13 could not be ascertained since the processing of applications received in 2012-13 had not yet been completed at the time of audit). Furthermore, the approval rate of the applications remained at a low level and was declining (28% in 2011-12 and 27% in 2012-13). The approval rate in 2012-13 was the lowest in the past five years from 2008-09 to 2012-13 (see Table 19).

Table 19

Number of SERAP applications withdrawn and approved (2008-09 to 2012-13)

Year	Received	Withdrawn	Vetted by SERAP Project Assessment Panel (Note 1) (a)	Approved (b)	Approval rate (c) = (b) ÷ (a) × 100%
2008-09	125	47	40	14	35%
2009-10	142	63	82	34	41%
2010-11	109	52	63	21	33%
2011-12	76	39	50	14	28%
2012-13	106	29 (Note 2)	44	12	27%
Overall	558	230	279	95	34%

Source: ITC records

Note 1: The number of applications vetted by the SERAP Project Assessment Panel in a financial year includes those received in the previous financial year as lead time is required to process the applications.

Note 2: The number of withdrawn applications for 2012-13 may increase as the processing of applications received in the year had not yet been completed at the time of this audit.

Room for improving success rate

4.19 Audit noted that:

(a) many applicants withdrew their applications before they were submitted to the SERAP Project Assessment Panel (see Table 19). According to the ITC, the high withdrawal rate was partly due to the applicants' misunderstanding of SERAP. Some of these applicants modified and re-submitted their applications after they had discussed with the ITC

during the interview. The ITC may help reduce the withdrawal rate by stepping up its publicity efforts and conducting briefing sessions to explain in more details the vetting procedures and criteria so that the applicants can have better understanding of SERAP; and

(b) unsuccessful applicants were only briefly informed of the reasons why their applications were not successful. For instance, applicants were informed that the SERAP Project Assessment Panel had reservations on the innovation and technology content and commercial viability of their projects. They were not informed of the specific shortcomings or the comments made by the Panel. In this connection, Audit noted that during the focus group meetings held in late 2011 (see para. 4.17), some SERAP applicants voiced their need of more explanations on their failure to pass individual assessment criteria. To enhance transparency and enable unsuccessful applicants to benefit from the experience of the SERAP Project Assessment Panel and improve their project proposals, the ITC should consider providing them the comments of the Assessment Panel on their applications. In addition, the ITC should also consider publishing commonly made mistakes and shortcomings in the SERAP applications on the ITF website to help the prospective applicants.

Audit recommendations

4.20 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **step up the publicity on SERAP with a view to helping prospective applicants to better understand SERAP. For instance, the ITC may organise briefing sessions to explain in more details the vetting procedures and criteria of SERAP;**

(b) **provide unsuccessful applicants with information on the comments of the SERAP Project Assessment Panel as far as practicable; and**

(c) **consider publishing commonly made mistakes and shortcomings in the SERAP applications on the ITF website to help the prospective applicants.**

Response from the Administration

4.21 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC will strengthen its existing publicity efforts on SERAP, including organising seminars and briefings for prospective applicants, publicity in the print media, etc.

SERAP Project Assessment Panel

Appointment of assessors

4.22 All applications are vetted by the SERAP Project Assessment Panel comprising assessors of various backgrounds including the business, industrial, academic and technology sectors. In the vetting of applications, usually three to five assessors will be invited to serve in each Panel meeting. The Panel will advise the ITC whether the applications should be approved. The term of appointment of assessors of the SERAP Project Assessment Panel is two calendar years. The number of assessors in the latest three terms was decreasing. The number decreased by 32% from 44 in the term 2009/10 to 30 in the term 2013/14 (see Table 20).

Table 20

Number of assessors on SERAP Project Assessment Panel (2009/10 to 2013/14)

2009/10 (Note 1)	2011/12 (Note 1)	2013/14 (Note 2)
44	34	30

Source: *ITC records*

Note 1: *Position as at the end of the term.*

Note 2: *Position as at 30 June 2013.*

4.23 According to the ITC, the number of assessors in the past years followed the trend of the number of applications received. However, Audit noted that following the SERAP enhancement measures introduced in April 2012 (see para. 4.17), the number of applications had increased from 91 in 2012 to 63 in the first half of 2013. The ITC needs to closely monitor the increase in the number of applications and consider appointing new assessors to the SERAP Project Assessment Panel with a view to ensuring that there will not be shortage of experts in any technology area. Furthermore, a larger pool of experts would enable the ITC to have greater flexibility in inviting assessors for assessing applications of different nature.

Panel service of assessors

4.24 According to the Government' relevant guidelines, the ITC will not re-appoint serving assessors whose length of panel service exceeds six years. To ensure that the SERAP Project Assessment Panel is most efficient and effective in assessing applications, the assessors should have the best mix of years of panel service experience. Ideally, one-third of the assessors should have four to six years of service, another one-third should have two to four years of service and the remaining one-third should be newly appointed. Table 21 shows the distribution of the years of panel service experience of assessors serving the current term of 2013/14.

Table 21

Years of panel service experience of assessors
(2013/14)

Projected years of panel service as at 31 December 2014	Number of assessors
5 to 6 years	13
3 to 4 years	1
2 years	16
Total	30

Source: Audit analysis of ITC records

4.25 Audit noted that of the 30 assessors serving in the current term 2013/14, 13 will have served the Panel for five or six years by December 2014 and hence would not normally be re-appointed in accordance with the Government's guidelines. Of the remaining 17 assessors who are eligible for re-appointment, 16 of them only have two years of panel service by December 2014. For the 2015/16 term, to maintain a membership size same as the current Assessment Panel, the ITC will need to appoint 13 new members. Hence, the great majority of the assessors of the next term 2015/16 will either have two years of service or none at all. The ITC needs to monitor the term of the assessors more closely to ensure that the years of panel service of the assessors in each term are more evenly spread.

Audit recommendations

4.26 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **closely monitor the increase in the number of SERAP applications and consider appointing new assessors to the SERAP Project Assessment Panel with a view to ensuring that there will not be shortage of experts in any technology area; and**

(b) **monitor the term of the assessors more closely to ensure that the years of panel service experience of the assessors are more evenly spread.**

Response from the Administration

4.27 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC will appoint assessors taking into account the caseload of SERAP applications and the need to maintain a good mix of experienced assessors and new blood in the pool, and sufficient number of assessors in individual technology areas.

PART 5: MONITORING OF SERAP PROJECTS

5.1 This PART examines the monitoring of SERAP projects by the ITC.

Background

5.2 For a project which is recommended by the SERAP Project Assessment Panel for funding support, the ITC will discuss with the applicant on the project budget and milestones, taking into account the Panel's comments on the project. The finalised project proposal will be submitted to the Commissioner for Innovation and Technology for approval. The recipient company of the approved project will sign a Fund Agreement with the Government.

5.3 Prior to April 2008, each SERAP project had to be carried out in two phases, with a maximum funding of $2 million on a dollar-for-dollar matching basis. Phase I was for trial purpose and should be completed within six months with a funding support of not more than $0.4 million. After successful completion of Phase I, the applicant needed to submit an application for Phase II, which had to be carried out within 18 months with a funding support of not more than $1.6 million. The two-phase system was changed to a single-phase system with a project period no longer than two years with effect from April 2008 as the ITC considered that there were drawbacks of having a two-phase system, such as difficulties in arbitrarily splitting a project into two phases, discontinuation of project work and cash flow problems for the applicants, and extra administrative work for both the ITC and the applicants to process two applications for one project.

Disbursement of fund

5.4 The recipient company is required to open a bank account for processing receipts and payments of the project. All project funds including the SERAP fund and the recipient company's matching contributions would be deposited into the account and payments applied to the project would be paid out from the account. SERAP fund is disbursed to the recipient company by quarterly instalments according to the estimated cash flow of the project as follows:

(a) the first instalment is disbursed upon confirmation of the recipient company's matching contribution and proof of project expenditure using the matching contribution;

(b) subsequent instalments are disbursed quarterly if:

(i) the project meets the prescribed milestones and the ITC is satisfied with its progress; and

(ii) there is evidence showing contribution of matching fund by the recipient company; and

(c) the last instalment is disbursed to settle any outstanding Government's contribution after the ITC has accepted the audited accounts and the Final Report of the project.

Monitoring of projects

5.5 The recipient company is required to keep a set of books of accounts and records for the project. After the completion or termination of the project, the recipient company has to submit to the ITC audited accounts of the project within three months (for a project with cost of $1 million or more) or one month (for a project with cost below $1 million) together with the auditor's opinion as to whether the company and the interim/final audited accounts of the project have complied with all the requirements of the Fund Agreement. Based on the audited accounts, the recipient company should return to the Government its pro rata share of all residual funds.

5.6 To enable the ITC to monitor the progress of projects against the milestones stated in the project proposals, recipient companies are required to submit Progress Reports and a statement of income and expenditure for the reporting period until project completion according to the reporting schedule in the Fund Agreement. Within two months from the project completion date, the recipient company is required to submit a Final Report, which covers the period from project commencement to project completion and includes a synopsis of the

project results (both technical and financial). The Final Report should set out clearly the deliverables, the competitive advantages gained as a commercial product and the marketing plan. The Progress Reports, the Final Report and the audited accounts are essential for the ITC to ensure that SERAP fund is used only on allowable items set out in the Fund Agreement.

5.7 The ITC conducts progress meetings or site visits to assess the progress of the projects. Prior to April 2012, site visits were conducted quarterly. Following the SERAP review in late 2011, site visits were conducted half-yearly to reduce disruptions to the companies and progress meetings were held at the ITC's office between two site visits to monitor the project progress. During the progress meeting or site visit, the ITC staff will check whether the technical milestones set out in the Fund Agreement have been completed satisfactorily.

Termination of projects

5.8 The ITC may terminate a project or suspend the SERAP fund at any time for reasons which include:

(a) lack of material progress;

(b) slim chance of completion in accordance with the Fund Agreement;

(c) the original objectives of the project are no longer relevant to the needs of the industry as a results of material change in the circumstances; and

(d) failure to produce evidence of the company's matching contributions or produce the required reports or accounts.

5.9 With prior approval of the Commissioner for Innovation and Technology, a recipient company may also terminate the project.

5.10 Irrespective of whether the project is terminated by the ITC or by the recipient company, the ITC has the right to demand full repayment of fund disbursed to the recipient company.

Information kept in ITCFAS

5.11 The ITCFAS maintains information on the project status. According to the ITCFAS, in the period from the inception of SERAP in November 1999 to March 2008, 272 two-phase projects were approved and from April 2008 to May 2013, 100 single-phase projects were approved. Of the 272 two-phase projects, 170 proceeded to Phase II. The remaining 102 projects did not proceed to Phase II either because the relevant Phase II applications were not approved by the ITC or the recipient companies of Phase I had not submitted applications for Phase II for various reasons. Table 22 is an analysis of the status of the 372 projects as at 30 June 2013 as recorded in the ITCFAS.

Table 22

Status of SERAP projects as recorded in ITCFAS
(30 June 2013)

Status	Number of two-phase projects	Number of single-phase projects	Total
Completed (Note)	249	74	323
Withdrawn/terminated	10	1	11
Ongoing	13	25	38
Total	272	100	372

Source: Audit analysis of ITC records

Note: The number of completed projects included those with Final Reports not yet submitted by the recipient companies and those with Final Reports submitted but not yet accepted by the ITC. It also included those projects which had completed Phase I (regardless of whether they proceeded to Phase II or not).

Follow-up action by ITC on long outstanding projects

5.12 Recipient companies are required to complete the projects within the timeframe agreed with the ITC. According to the ITCFAS, for the 38 projects recorded as ongoing as at 30 June 2013, 16 projects remained uncompleted after the scheduled completion dates. The average delay counting from the

scheduled completion date up to 30 June 2013 was 73.9 months, ranging from 4 to 122 months. Audit examination of five long outstanding projects revealed that the action taken by the ITC in following up long outstanding projects was not timely or adequate (see Table 23).

Table 23

ITC's follow-up action on long outstanding projects
(30 June 2013)

Project	Fund disbursed (Note) ($)	Follow-up action
1	200,750	The recipient company submitted the Phase I Report after the completion of the project in December 2004 as scheduled. However, the company did not submit the audited accounts and the application for the Phase II project. The ITC had not taken any follow-up action (such as issuing warning letters), except sending the regular reminders automatically generated by the ITCFAS to the company.
2	1,451,500 (339,859)	The scheduled project completion date was April 2008. The recipient company did not submit the Final Report and audited accounts. In May 2009, about one year after the due date, the ITC sent a letter to the company but no reply was received. The ITC conducted company searches in July 2009 and April 2010 and found that the company was reported as dormant since June 2009. The ITC did not take any further follow-up action, except sending the regular reminders automatically generated by the ITCFAS to the company. The company also did not respond to the ITC's letters requesting the company to make declaration on the amount of revenue generated and follow-on investments received on the project for recoupment purpose.

Table 23 (Cont'd)

Project	Fund disbursed (Note) ($)	Follow-up action
3	1,270,000 (400,000)	The scheduled project completion date was December 2003. The recipient company did not submit the Final Report and audited accounts. In September 2007, the ITC sent a letter to the company but no response was received. The recipient company submitted the Final Report and audited accounts in December 2011. In February 2012, the ITC asked the company to return the residual fund of $95,426 of the Phase I project but without success. Since then, the ITC had not taken any further follow-up action.
4	1,234,172 (400,000)	The project was suspended since 2004 and the final instalment was withheld. In December 2009, the recipient company was in the process of winding up. The ITC informed the liquidator in January 2010 that a SERAP fund of $1.63 million should be repaid to the Government. Since then, the ITC had not taken any further action for the repayment. The company was dissolved in July 2010.
5	1,599,993 (370,178)	The recipient company did not submit the Final Report and the audited accounts after the scheduled project completion date of February 2010. It did not respond to the ITC's repeated reminders (the latest one was an unsuccessful phone call made on 26 April 2013). The company also did not respond to the ITC's request to make declaration on the amount of revenue generated and follow-on investments received for recoupment purpose.

Source: *Audit analysis of ITC records*

Note: *Projects 2 to 5 were Phase II projects. For these projects, the figures in the bracket denote the net SERAP fund (i.e. disbursed fund less residual fund returned) of the related Phase I project. With effect from April 2008, the ITC did not disburse the last instalment (not less than 10% of Government's contribution) until the company had submitted all reports and audited accounts.*

Audit recommendation

5.13 **Audit has *recommended* that the Commissioner for Innovation and Technology should take timely and adequate follow-up action (such as issuing warning letters and in more serious cases taking legal action) on recipient companies of long outstanding projects which did not comply with the requirements of the Fund Agreement.**

Response from the Administration

5.14 The Commissioner for Innovation and Technology agrees with the audit recommendation. She has said that:

(a) the ITC will assess if there are reasonable explanations for the non-compliances and devise an appropriate way forward, e.g. demanding repayment, setting the timeframe for repayment, consulting the Department of Justice about the feasibility of instigating legal action and, in cases where recovery action is not warranted, seeking approval for write-off in accordance with prevailing government procedures. If deemed necessary after considering the cases, the ITC will also consult the Department of Justice for scope to improve the terms of the Fund Agreement to ensure that the Government's interests are protected; and

(b) in following up the cases, the ITC will adopt a balanced approach to adequately protect the interests of the Government on one hand, and act appropriately and sympathetically to the companies concerned on the other (if there are reasonable explanations or cases of hardship). As SERAP has been in place for over a decade, the ITC intends to comprehensively review it to see if it can suitably/adequately provide support to the industry in present-day circumstances, taking into account all factors including measures adopted to support innovation and technology in places outside Hong Kong.

Submission of Progress Reports and Final Reports

5.15 For monitoring the progress and ensuring the satisfactory completion of projects, the ITC requires the recipient companies to submit half-yearly Progress Reports and a Final Report after the completion of the project according to the reporting schedule as set out in the Fund Agreement. Audit noted that many recipient companies did not comply with the reporting requirements. For the period from 2008-09 to 2012-13, there were 287 Progress Reports and Final Reports due for submission. Of these 287 Reports, 183 (64%) were submitted late, and 18 (6%) were still outstanding as at 31 July 2013 (see Table 24).

Table 24

Late submission of Progress Reports and Final Reports (2008-09 to 2012-13)

Year	Number of Reports			
	Due for submission	Submitted on time	Submitted late	Outstanding as at 31 July 2013
2008-09	30	12 (40%)	14 (47%)	4 (13%)
2009-10	63	21 (33%)	37 (59%)	5 (8%)
2010-11	86	23 (27%)	61 (71%)	2 (2%)
2011-12	62	17 (28%)	41 (66%)	4 (6%)
2012-13	46	13 (28%)	30 (65%)	3 (7%)
Overall	287	86 (30%)	183 (64%)	18 (6%)

Source: Audit analysis of ITC records

5.16 Audit conducted an ageing analysis of the 183 Reports which were submitted late (see Table 25). The average delay was 95 days.

Table 25

Ageing analysis of late submission of Progress Reports and Final Reports (2008-09 to 2012-13)

Year	Number of Reports			
	Late by 1 to 30 days	Late by 31 to 90 days	Late by more than 90 days	Total
2008-09	7	2	5	14
2009-10	21	7	9	37
2010-11	30	17	14	61
2011-12	18	9	14	41
2012-13	16	2	12	30
Total	92	37	54	183

Source: Audit analysis of ITC records

Audit recommendations

5.17 **Audit has *recommended* the Commissioner for Innovation and Technology should:**

(a) **closely monitor the progress of the SERAP projects and take measures to ensure that recipient companies submit Progress Reports and Final Reports in a timely manner according to the reporting schedule set out in the Fund Agreement; and**

(b) **consider producing regular management information reports on the delay position of all projects and ensure that adequate and timely follow-up action is taken.**

Response from the Administration

5.18 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

(a) the ITC is fully aware of the importance of the timely submission of Progress Reports and Final Reports of SERAP projects; and

(b) the ITCFAS currently keeps track of all ongoing SERAP projects and will issue reminders automatically to the project coordinators of the recipient companies on submission of outstanding Progress Reports and Final Reports. The ITC is aware that the present ITCFAS is not sophisticated enough and as such it will enhance the system to facilitate better project monitoring and following-up of outstanding reports.

Site visits

5.19 According to the ITC's Operation Manual, the ITC conducts site visits to recipient companies once every six months until the completion of the projects to assess their progress and check compliance with the terms in the Fund Agreement. The key purpose of a site visit is for the ITC staff to check whether the technical milestones set out in the Fund Agreement had been completed satisfactorily. During the visit, the ITC staff would take the opportunity to see if the resources for the project (such as equipment and manpower) funded by SERAP were duly in use. Audit noted that there was room for improvement in conducting site visits as follows:

(a) ***Site visits not conducted as required.*** Audit reviewed the site visit records of ten selected projects and found that:

(i) for one project commenced in July 2010 and completed in March 2012, no documentary evidence was available showing that site visits had been conducted; and

(ii) for four projects, documentary evidence showed that site visits had been conducted less than the required frequency; and

(b) ***No detailed guidelines for site visit.*** Audit noted that the ITC had not issued detailed guidelines to its staff setting out the items to be checked or aspects to be discussed during site visits, and the reporting requirements for documenting the visits. A review of the site visit records of ten projects revealed that there were inconsistencies of checks performed. Apart from checking whether the technical milestones had been completed, for some projects ITC staff had not performed other monitoring checks such as:

(i) verifying the number and identities of the staff purportedly employed by the recipient companies under the funded projects; and

(ii) verifying the number and model of equipment purchased for the funded projects.

Audit recommendations

5.20 A**udit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **ensure that site visits are conducted for all SERAP projects once every six months as required by the Operation Manual; and**

(b) **draw up detailed guidelines setting out the items to be checked and aspects to be discussed during site visits, and the reporting requirements of site visit reports.**

Response from the Administration

5.21 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC will prepare new guidelines/site visit proforma to ensure that site visits are conducted in a timely and systematic manner. Furthermore, the ITC will conduct unscheduled site visits to enhance monitoring.

Disbursement of fund

5.22 According to the Fund Agreement, SERAP fund instalments are only disbursed to the recipient company after it has achieved the prescribed project milestones and the ITC has been satisfied with the progress. To receive fund disbursement, the recipient company has to submit a "Progress Report and Fund Disbursement Request" setting out the details of the project milestones met and achievements. Upon receipt of the Request, the ITC staff should either conduct site visit to the recipient company or review the Progress Report to ensure satisfactory completion of the project milestones. Audit reviewed the fund disbursement records of ten selected projects, which consists of 40 instalments (excluding 10 initial instalments at the commencement of the projects). Of the 40 instalments, Audit found that before disbursing 22 instalments, no site visits or progress meetings were conducted and there was no evidence (e.g. notes/comments and/or signature made by any officer) to show that the achievement of the technical milestones stated in the Progress Reports had been reviewed.

Audit recommendation

5.23 **Audit has *recommended* that the Commissioner for Innovation and Technology should, prior to the disbursement of SERAP fund, conduct site visits or review the Progress Reports to ensure that the prescribed milestones have been met and the ITC is satisfied with the progress.**

Response from the Administration

5.24 The Commissioner for Innovation and Technology agrees with the audit recommendation. She has said that the ITC will improve internal procedures to ensure that funds are disbursed on satisfactory completion of project milestones as evidenced by site visits or Progress Reports.

Projects not proceeded to Phase II

Large percentage of projects not proceeded to Phase II

5.25 Of the 272 two-phase projects, 102 (38%) did not proceed to Phase II. In response to Audit's enquiry, the ITC informed Audit in June 2013 that of these 102 projects:

(a) the recipient companies of 30 projects (which involved total SERAP fund of $10 million) had submitted applications for Phase II after the completion of Phase I. However, their applications were unsuccessful; and

(b) the recipient companies of the remaining 72 projects (which involved total SERAP fund of $23 million) had not submitted applications for Phase II due to various reasons such as:

  (i) there had been changes in the market conditions so that proceeding to Phase II would not be productive;

  (ii) the recipient companies ran into financial difficulties or had been dissolved; or

  (iii) the recipient companies did not respond to ITC's invitation to submit Phase II application.

Return SERAP fund to Government

5.26 According to the Phase I Fund Agreement, if the recipient company and the Government were unable to reach an agreement for Phase II by a prescribed date after the completion of Phase I, the company should refund to the Government all payments made to it unless it was the Government's discretion not to proceed with Phase II (i.e. the ITC rejected the application for Phase II).

5.27 To ascertain whether the ITC had taken adequate follow-up action to recover payments made for Phase I, Audit examined five projects which had completed Phase I but did not proceed to Phase II. Audit found that the ITC had not taken adequate and timely follow-up action to recover SERAP fund made to the projects. These funds will mostly likely be irrecoverable due to the long lapse of time. Details of three projects were given below (see Cases 1 to 3).

Case 1

1. SERAP fund of $400,000 was paid to the recipient company to carry out a Phase I project for a deliverable in the Mainland. The Phase I project was completed in June 2003 and a residual fund of $224,400 was returned to the Government in July 2004.

2. According to the Fund Agreement for Phase I, if the recipient company and the Government were unable to reach an agreement for the Phase II project by 9 August 2003, the company should refund all payments previously made to it. The company did not submit an application for the Phase II after the due date.

3. In July 2005, the company informed the ITC that it had modified the project plan. Instead of filing a registration of the product in the Mainland, the company had registered in Hong Kong a product containing the deliverable of the Phase I project. An amount of $120, being 5% of the sales proceed of the product, was paid to the ITC in accordance to the requirement of the Fund Agreement.

4. In September 2007, the ITC sent a letter to the company asking it whether it had any intention to submit a Phase II application. However, no reply was received from the company. According to the Fund Agreement, the Government has the right to demand refund of the balance of $175,480 (i.e. $400,000 – $224,400 – $120) from the company.

5. In the period from January 2010 to July 2012, the ITC received letters from the auditor of the company requesting the ITC to confirm that the above SERAP fund balance was due to the Government by the company.

Audit comments

6. Audit noted that the ITC had not taken any action to recover the SERAP fund from the recipient company. Audit also noted that the company submitted another application for a new project in June 2005. The ITC approved the application without taking into account the company's failure to submit a Phase II application for the previous project. For Phase I of this new project, SERAP fund of $234,000 was disbursed to the company. Application to proceed to Phase II was not approved and the company returned the residual fund of $80,000 to the Government. The ITC needs to follow up with the company.

Source: Audit analysis of ITC records

Case 2

1. After completion of the Phase I of the project (with SERAP fund of $280,000 disbursed) in June 2007, the recipient company submitted an application for Phase II in August 2007. In September 2007, the SERAP Project Assessment Panel recommended that approval be given to the application.

2. In January 2008, before the Phase II Fund Agreement was finalised, the company informed the ITC that it intended to withdraw the Phase II application as it might move to another country and dissolve the company in Hong Kong. A meeting was held between the ITC and the company in January 2008 and the ITC informed the company that it might need to repay the Phase I fund to the Government if it withdrew the Phase II application. After the meeting, the company sent a letter to the ITC advising that it would withdraw the application as it was unable to make the matching fund contribution.

3. In April 2008, the ITC requested the company to provide documentary evidence on its financial position. However, no reply was received from the company.

4. In January 2011, the ITC conducted a company search and found that the company was dissolved in May 2009. The ITC had not taken any further follow-up action since then.

Audit comments

5. Since the last follow-up action taken in April 2008, the ITC had not taken any follow-up action until January 2011. As the company was dissolved, it is unlikely that the Government can recover the SERAP fund.

Source: Audit analysis of ITC records

Case 3

1. In September 2006, an amount of $104,000, being the first instalment of an approved SERAP fund of $207,000, was disbursed to the recipient company to carry out a Phase I project. However, after the disbursement of the first instalment in September 2006, the ITC did not receive any information on project progress from the company. In February 2007, the ITC attempted to contact the company by phone but failed.

2. In January 2010, the ITC conducted a company search and found that the company was dissolved in January 2009. The ITC had not taken any follow-up action since then.

Audit comments

3. Over the years, the ITC had only attempted to contact the recipient company once by phone in February 2007 and no further follow-up action was taken until January 2010. As the company was dissolved, the chance of recovery of the SERAP fund is slim.

Source: Audit analysis of ITC records

5.28 In response to Audit's enquiry regarding the refund of payments in respect of Phase I projects which did not proceed to Phase II under the Phase I Fund Agreement (see para. 5.25), the ITC informed Audit in June 2013 that it did not have the refund information readily available because such information was not maintained in the ITCFAS. The ITC staff had to search the paper records kept in individual project files in order to ascertain the refund amounts. In July 2013, the ITC informed Audit that the Government had not received such refund of SERAP fund in respect of any of the 72 projects which did not proceed to Phase II. The total amount involved was $23 million.

5.29 Notwithstanding the Fund Agreement has provided for the Government's right to seek refund of Phase I payments from recipient companies who did not proceed to Phase II of their own accord, the ITC had not received refund from any of the 72 projects. While the ITC staff might have taken into account each case's circumstances in deciding whether to pursue a refund (e.g. some projects may not be able to proceed as planned due to changes in market conditions), Audit considers that the ITC needs to conduct a review of all the 72 projects which did not proceed

to Phase II to ascertain whether it is appropriate to recover the funds disbursed (Note 10). For cases where recovery action is warranted, the ITC should take prompt and effective action to recover payments. For cases where recovery action is considered inappropriate, proper approval (including approval for the write-off of the irrecoverable amount) should be obtained in accordance with the Financial and Accounting Regulations. Going forward, the ITC should also put in place an effective control mechanism with adequate management information for monitoring the projects, including the timely recovery of the SERAP fund.

Audit recommendations

5.30 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **put in place an effective mechanism with adequate management information for monitoring the projects, including the timely recovery of the SERAP fund;**

(b) **conduct a review of the 72 projects which did not proceed to Phase II to ascertain whether the SERAP fund disbursed to them should be recovered;**

(c) **in the light of the results of the review, take recovery action as required and as soon as possible; and**

(d) **if recovery action is not warranted, seek approval for the write-off of the irrecoverable amount in accordance with the Financial and Accounting Regulations.**

Response from the Administration

5.31 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that:

Note 10: *Audit noted that for 31 of these 72 projects, the recipient companies had been dissolved, involving SERAP fund of $9.4 million.*

(a) for outstanding cases, the ITC will assess if there are reasonable explanations and devise an appropriate way forward, e.g. demanding repayment, setting the timeframe for repayment, consulting the Department of Justice about the feasibility of instigating legal action and, in cases where recovery action is not warranted, seeking approval for write-off in accordance with prevailing government procedures. If deemed necessary after considering the cases, the ITC will also consult the Department of Justice for scope to improve the terms of the Fund Agreement to ensure that the Government's interests are protected;

(b) in following up the cases, the ITC will adopt a balanced approach to adequately protect the interests of Government on one hand, and act appropriately and sympathetically to the companies concerned on the other (if there are reasonable explanations or cases of hardship); and

(c) the 72 projects were under the previous SERAP system where projects must be split into two phases with a funding support of not more than $0.4 million for Phase I. In 2008, it was already recognised that there were drawbacks in such a system and the two-phase arrangement was discontinued. Despite this, the ITC entirely agrees to the importance of putting in place an effective mechanism with adequate management information for monitoring the projects, including the timely recovery of outstanding SERAP fund.

Termination of projects

5.32 A recipient company wishing to terminate the project has to seek approval of the Commissioner for Innovation and Technology. For such cases, the Government reserves the right to demand full repayment of SERAP fund disbursed. According to the project status recorded in the ITCFAS, up to 30 June 2013, 11 projects had been terminated or withdrawn before their completion (see Table 22 in para. 5.11). Three of them were terminated before SERAP fund was disbursed. One was actually a completed project incorrectly recorded as a terminated project. For the remaining seven terminated projects, net SERAP fund of $4 million had been disbursed (i.e. fund disbursed less residual fund returned). In four of the seven cases, no action had been taken by the ITC to follow up (either to recover or to write off) the fund disbursed. The results of Audit's examination of these seven projects are given in Table 26.

Table 26

Action of ITC to follow up terminated projects

Project	Net SERAP fund (Note) ($)	Action taken
1	1,070,000 (356,800)	In September 2001, the recipient company informed the ITC that its technical director would take sick leave for 6 to 12 months. Since then, nothing was heard from the company. The ITC had not taken any further follow-up action until July 2007 when it conducted a company search and found that the company was dissolved in January 2004. No record was available showing the approval for the termination.
2	1,471,125 (400,000)	The ITC's last contact with the company was in July 2005. No record was available showing the approval for the termination.
3	507,724 (387,800)	In March 2002, the recipient company submitted a request for termination. No record was available showing the approval for termination or follow-up of amount disbursed.
4	439,963 (326,000)	In March 2004, the recipient company submitted a request for termination. No record was available showing the approval for termination or follow-up of amount disbursed.
5	—	In July 2006, the recipient company submitted a request for termination. Fund disbursed was fully refunded in January 2007 in accordance with the Fund Agreement. No record was available showing the approval for termination.
6	339,478 (262,048)	The recipient company failed to meet the commercial milestone in the Fund Agreement. Approval was given by the Commissioner for Innovation and Technology in January 2005 to terminate the project.
7	223,818	In May 2003, the recipient company informed the ITC that it was in financial difficulty and the project team had been disbanded. In February 2004, approval was given for the termination of this project.
Total	4,052,108 (1,732,648)	

Source: *Audit analysis of ITC records*

Note: *Net SERAP fund refers to the amount disbursed less the amount returned to the ITC after project completion. Figures in bracket denote the net SERAP fund for Phase I of the project.*

Remarks: *For projects 1 to 4, no action had been taken by the ITC to follow up the fund disbursed.*

Audit recommendations

5.33 **Audit has *recommended* that the Commissioner for Innovation and Technology should:**

(a) **ensure that cases of project termination are properly approved;**

(b) **take follow-up action to recover SERAP fund disbursed to the recipient companies of terminated projects pursuant to the Fund Agreement; and**

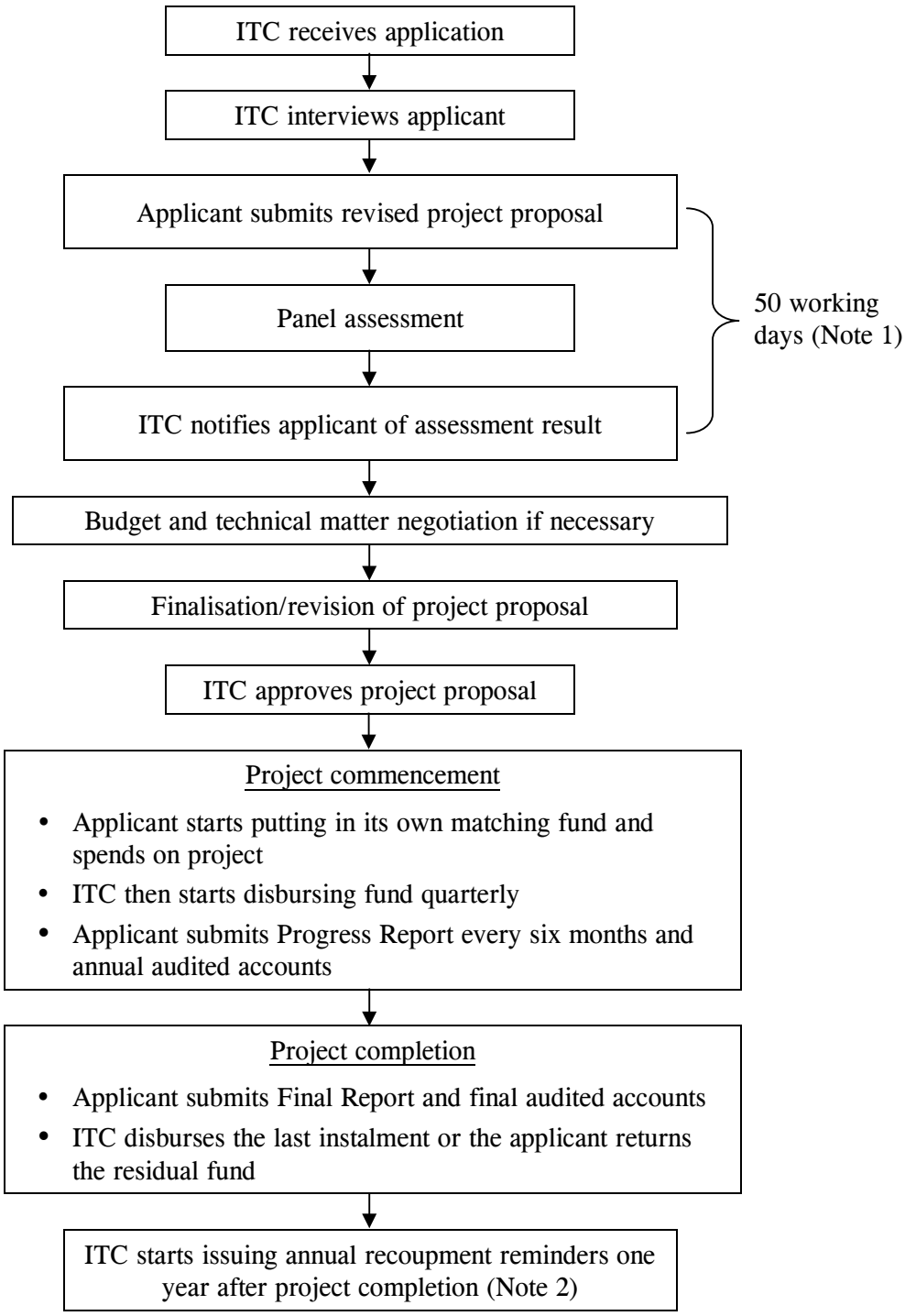
(c) **if recovery action is not warranted, seek approval for the write-off of the irrecoverable amount in accordance with the Financial and Accounting Regulations.**

Response from the Administration

5.34 The Commissioner for Innovation and Technology agrees with the audit recommendations. She has said that the ITC will improve internal procedures to ensure that project termination will be properly approved in future.

Appendix A
(para. 4.3 refers)

Workflow of SERAP's project management



Source: Audit's analysis of ITC records

Note 1: The ITC pledges to inform applicants the result of their applications within 50 working days after receipt of full information.

Note 2: For projects approved before 1 April 2012, the ITC issued recoupment reminders to recipient companies on a half-yearly basis.

Appendix B
(paras. 4.4 and 4.17 refer)

Major assessment criteria for SERAP applications

1. ***Innovation and technology component (30%)***

   (a) the applicant should articulate the technical challenges or the innovation involved in undertaking the R&D on the proposed technology; and

   (b) the technical approach to the problem, accuracy of technical data, reasonableness of the assumptions made.

2. ***Commercial viability of the project (30%)***

   (a) target customers, market niche of the product/service, competitors' analysis, pricing, track record of commercialising product/service and promotion of the proposed product/service/process.

3. ***Team capability and commitment (30%)***

   (a) whether the project coordinator and his team will be able to deliver the proposed project fully on the technical side;

   (b) whether the curricula vitae of members, the overall size of the team, the mix of staff at various levels, etc. are appropriate;

   (c) track records of the applicant in delivering its commitment for other Government funded projects; and

   (d) relevant information such as industry and academic awards won in the past and endorsement of outstanding experts in the field.

4. ***Relevance to Government's policies or in overall interest of the community (10%)***

   (a) technologies that dovetail Government's policies and bring benefit to the community at large.

Source: ITC records

Acronyms and abbreviations

APAS	Automotive Parts and Accessory Systems R&D Centre
ASTRI	Hong Kong Applied Science and Technology Research Institute
Audit	Audit Commission
CEO	Chief Executive Officer
HKRITA	Hong Kong Research Institute of Textiles and Apparel
ICT	Information and communications technologies
ITC	Innovation and Technology Commission
ITCFAS	Innovation and Technology Commission Funding Administrative System
ITF	Innovation and Technology Fund
ITSP	Innovation and Technology Support Programme
LSCM	Hong Kong R&D Centre for Logistics and Supply Chain Management Enabling Technologies
NAMI	Nano and Advanced Materials Institute
PSTS	Public Sector Trial Scheme
R&D	Research and development
SERAP	Small Entrepreneur Research Assistance Programme