

**For discussion on
17 May 2016**

**Legislative Council
Panel on Commerce and Industry**

**New Initiatives under the Innovation and Technology Fund
to Promote Innovation and Technology**

PURPOSE

This paper briefs Members on the Government's latest initiatives under the Innovation and Technology Fund ("ITF") to promote innovation and technology ("I&T") and seeks Members' support for a proposal to inject \$2 billion into the ITF to launch a Midstream Research Programme for Universities funded by the University Grants Committee ("MRP").

BACKGROUND

2. The 2016 Policy Address and 2016-17 Budget highlighted the Government's commitment to developing I&T in Hong Kong and announced a series of new initiatives under the ITF to foster the adoption of new technologies, the devotion of more focus and investment on research and development ("R&D"), and to encourage young graduates to join the I&T workforce.

NEW INITIATIVES

3. The new initiatives under the ITF¹ include –
- (a) launching the MRP to encourage universities to conduct more theme-based midstream research in focussed technology areas;
 - (b) launching a Pilot Technology Voucher Programme (“PTVP”) to subsidise the use of technological services and solutions by local small and medium enterprises (“SMEs”);
 - (c) increasing the level of cash rebate under the R&D Cash Rebate Scheme (“CRS”);
 - (d) expanding the Public Sector Trial Scheme (“PSTS”) to cover incubatees of the Hong Kong Science Park (“HKSP”) and the Cyberport; and
 - (e) increasing the monthly allowances of interns under the Internship Programme and extending it to cover incubatees and SME tenants of the HKSP and the Cyberport, as well as start-ups funded by the proposed Innovation and Technology Venture Fund (“ITVF”).

The new MRP

4. Hong Kong is home to world-class universities and researchers. Leveraging on this capability, we wish to encourage our universities to collaborate with each other and conduct more inter-disciplinary and translational R&D work such that more research outcomes may be available for further downstream research or product development.

¹ The 2016 Policy Address also announced the setup of an Innovation and Technology Fund for Better Living and an Innovation and Technology Venture Fund. These two funds are not under the ITF.

5. As announced in the 2016 Policy Address and 2016-17 Budget, we propose to set up an MRP to provide support for institutions funded by the University Grants Committee (“UGC”) to carry out more midstream R&D projects in key technology areas. To this end, the Government proposes to inject an additional \$2 billion into the ITF as endowment capital for generating investment income to fund projects under the MRP. The main features of the programme are as follows –

- (a) **Research themes** – In consultation with the UGC, academia and other stakeholders, specific research topics for the MRP would be set;
- (b) **Project duration** – Project duration would in most cases be under three years²;
- (c) **Amount** – Having regard to the amount of projected funding from investment income, funding up to \$5 million for each approved project will be provided. For projects involving inter-discipline or multi-institution collaboration (where each participating institution would need to undertake a substantive part of the R&D work), the funding ceiling will be \$10 million. Funding will be provided by instalments subject to the fulfilment of project milestones. As the focus is on midstream research work, there will be no mandatory industry sponsorship requirement under the MRP;
- (d) **Inter-discipline and multi-institution collaboration** – We believe that R&D would benefit from collaborative efforts of a larger pool of experts and different schools of thought. While the lead applicant must be a UGC-funded institution and that the majority of the R&D work should be carried out in Hong Kong, priority and a higher funding ceiling of \$10 million will be accorded to projects that involve collaboration of researchers across multiple disciplines and research institutions (not limited to local institutions);

² For other R&D funding schemes under the ITF, the maximum project duration is between two to three years. For research project grants under the Research Endowment Fund for UGC-funded institutions, the maximum project duration is between one to five years.

- (e) **Intellectual Property Rights (“IPRs”)** – The IPRs arising from the projects will rest with the lead applicants. They are encouraged to disseminate the R&D outcomes to the industry after project completion by means of licensing or contract services. The benefits arising therefrom may be retained by the lead applicant or shared with its partner institution(s) on an equitable and proportional basis in accordance with the established policy of the respective institutions;
- (f) **Application and assessment mechanism** – We will invite applications bi-annually. Applications would be assessed by an expert panel to be set up, covering aspects such as innovation and technology component, technical capability, financial considerations and management capability. The Innovation and Technology Commission (“ITC”) would be the authority responsible for approving funding; and
- (g) **Control and review mechanism** – The MRP will be subject to a comprehensive control and review mechanism to ensure that funds are utilised in an efficient and effective manner. To minimise additional administrative burdens, the control and review mechanism of the MRP will closely mirror that of other funding schemes under the ITF.

Financial implications

6. Subject to the approval of the Finance Committee (“FC”), we will create a new and dedicated block vote subhead under the ITF for the MRP. The proposed \$2 billion injection into the ITF (“the principal”) is an endowment for the MRP and will share the same investment return from the fiscal reserves held under the Operating and Capital Reserves (i.e. outside the Future Fund). Unless otherwise justified to the satisfaction of the Financial Secretary, the MRP will be supported by investment income from the endowment and the principal should not be used.

7. Taking into account the recent performance of the financial market, we estimate that the annual investment return will be in the range of 2.6% to 3.5%, which is equivalent to around \$52 million to \$70 million from the \$2 billion principal. However, the actual investment return will be subject to many factors, such as the overall condition of the economy and the financial market.

8. The annual recurrent expenditure arising from the MRP is about \$3.8 million. This is mainly for the engagement of staff to implement the programme, publicity and promotion, etc. We have earmarked sufficient provision in the 2016-17 draft Estimates to meet the funding requirements of the proposal.

The new PTVP

9. There are more than 300 000 SMEs in Hong Kong, employing 50% of the private sector workforce. This underscores the role of SMEs as the mainstay of our economy. To enhance the long-term competitiveness of local SMEs, we propose to launch a PTVP under the ITF to subsidise their use of technological services and solutions to improve productivity, and upgrade, transform or re-tool their business processes. The pilot programme will be implemented for an initial period of three years with \$500 million.

10. We consider that the vetting and monitoring procedure of PTVP should be light while still ensuring proper control on the use of public money. The broad framework of the PTVP is as follows –

- (a) **Eligibility of applicant** – Enterprises registered in Hong Kong under the Business Registration Ordinance (Chapter 310) with a year of substantive business operation in Hong Kong and fulfil the Government's definition of SMEs³;

³ That is, manufacturing businesses employing fewer than 100 persons in Hong Kong or non-manufacturing businesses employing fewer than 50 persons in Hong Kong. The number of persons employed shall include proprietors/partners/shareholders actively engaged in the work of the business and all salaried employees of the enterprise.

- (b) **Amount and duration** – Funding up to \$200,000 for each SME will be provided on a 2:1 matching basis. The SME must contribute no less than one third of the total approved cost of the project in cash. Subject to the cumulative funding ceiling, up to three projects from an SME may be approved. To ensure proper focus on project implementation, an SME should not carry out multiple projects in parallel. Each project should normally be completed within 12 months;
- (c) **Service provider** – In line with other funding programmes under the ITF, the applicant would need to follow established standard procedures (e.g. seeking a minimum number of quotations) in inviting and appointing its service provider. To avoid conflict of interests, the applicant should not engage a service provider which is directly related to its owners, shareholders or management;
- (d) **Application procedure** – The pilot programme will be open to application throughout the year. In the application, an SME must provide information such as its company particulars, project description (including the type of technological services and solutions that the project belongs to), cost estimate and evidence of proper quotations, etc. A vetting committee will be formed to vet the applications, particularly the reasonableness of the project cost and relevance of the solution to the applicant's business;
- (e) **Exclusion items** – We will not fund normal business operating costs, e.g. rental for premises, staff salary, maintenance, non-technology related professional service fees, marketing and branding expenses, transportation and accommodation. Off-the-shelf equipment, computer software and hardware are generally not funded, unless they form an essential part of an integrated solution, in which case the vetting committee would be consulted on the reasonableness of the equipment cost vis-à-vis the total cost; and

- (f) **Control and monitoring** – The project has to be carried out as prescribed in the approved application. The applicant is required to keep a proper and separate set of books and records for the project for a specified period and submit a final project report to ITC after project completion. We will conduct random on-site audit of projects, apart from reviewing the documents submitted.

11. We plan to launch the PTVP in the second half of 2016. We will review the effectiveness and the modus operandi, such as the funding scope, funding amount and vetting procedures of the pilot programme after two years, or if we foresee full commitment of \$500 million, whichever is the earlier.

Increasing the level of cash rebate under the CRS

12. In January 2010, FC approved a commitment of \$200 million to launch the CRS to provide cash rebate to private companies on their investment in two types of applied R&D projects –

- (a) Projects funded by the ITF; and
- (b) Partnership Projects (funded entirely by companies and undertaken by designated local public research institutions).

There is no restriction on the number of applications submitted by a company, nor a ceiling on the amount of cash rebate. The scheme does not cover private companies' in-house R&D.

13. With FC's approval in February 2015, the scheme was subsumed under the ITF with effect from 1 April 2016.

14. The level of cash rebate was raised from 10% in 2010 to 30% in February 2012. To further encourage private enterprises to put more resources into R&D works, the level of cash rebate has been increased to 40% from the date of announcement of the 2016-17 Budget (i.e. 24 February 2016). We anticipate that the additional annual expenditure would be in the region of \$60 million.

15. As at the end of March 2016, over 800 enterprises have been funded, involving cash rebate of nearly \$170 million.

Expanding the PSTS

16. We introduced the PSTS under the ITF in March 2011 to promote the application of local R&D outcomes in government departments and the public sector and to facilitate the commercialisation of these products and services. Under this scheme, funding is provided to completed ITF project to cover the production of tools/prototypes/samples and conducting of trials in the public sector. As at end-March 2016, over 110 projects have been approved under PSTS with funding of over \$190 million, benefitting over 160 organisations.

17. At present, the PSTS is applicable to ITF-funded projects only. To strengthen the local start-up ecosystem, we intend to extend the PSTS to incubatees⁴ of the HKSP and Cyberport, with a funding ceiling of \$1 million per project. Funding will be provided subject to the fulfilment of agreed project milestones. There will not be a requirement for matching fund or sponsorship from the applicant, but trial users of these projects must be Government bureaux/departments, statutory bodies and/or subvented non-governmental bodies in the welfare sector.

18. We will, with the support from the HKSP and Cyberport, review, among other things, whether the technology products/services involved in the trial projects are developed by the incubatees and align with their business plans. The HKSP and Cyberport will also communicate with the incubatees on a regular basis to keep track of the progress of the trial.

19. We are currently formulating the detailed funding mechanism in consultation with the HKSP and Cyberport, and aim to

⁴ Incubatees include graduate-tenants i.e. graduates from the incubation programmes who stay on as tenants.

introduce the expanded scheme within 2016-17. We anticipate that the expansion would support an additional 30-50 PSTS projects each year, incurring an additional expenditure of around \$50 million.

Enhancing the Internship Programme

20. The Internship Programme aims to encourage university graduates to pursue a career in I&T and nurture more I&T talents. Since the launch of the programme in 2004, we have supported over 2 000 interns.

21. At present, the programme is open to all approved R&D projects under the ITF. Up to two graduates from local universities could be engaged as interns in each project for up to 24 months to take part in the R&D work. The monthly allowances are \$12,000 and \$14,000 for graduates with a Bachelor's degree and those with a Master's or higher degree respectively. In 2015-16, we supported around 330 interns and the average duration of internship was about 14 months. Over 60% of the interns who completed this programme either found a job or indicated interest in a future career in the I&T community.

22. The allowances for interns were last adjusted in early 2012. Having regard to the inflation rate since then and the need to encourage more local graduates to pursue a career in I&T, we have increased the monthly allowances of interns on 24 February 2016, from \$12,000 to \$14,000 for interns with a Bachelor's degree, and from \$14,000 to \$16,500 for interns with a Master's or higher degrees. The annual estimated additional expenditure is about \$17 million.

23. To step up our efforts in supporting private sector investment in R&D and nurturing more I&T talents, we propose to extend the programme to cover the incubatees and SME tenants in the HKSP and Cyberport, as well as start-ups funded by the ITVF.

24. Unlike interns engaged in an ITF R&D project monitored by ITC, internship under the expanded programme would require a more comprehensive vetting and monitoring mechanism. ITC will, with support from the HKSP and Cyberport, ensure that the work of the intern

is related to R&D and the company is providing proper guidance. The HKSP and Cyberport will conduct visits to the companies concerned and collect feedback from them and the interns.

25. We are currently formulating the detailed funding mechanism of the expanded programme in consultation with the HKSP and Cyberport. Our aim is to introduce the expanded programme within 2016-17. We anticipate that the expanded programme would support some 1 000 interns each year, incurring additional expenditure of about \$240 million.

26. Implementation of the new initiatives as set out in paragraphs 9 to 25 above is estimated to entail an additional requirement of around \$530 million per year to be funded under the ITF. As at end-March 2016, the uncommitted balance of the ITF stood at \$3.3 billion. Taking into account the requirements of the above initiatives as well as those for other on-going programmes, we expect that the ITF will be exhausted around 2018-19.

WAY FORWARD

27. Subject to Members' support for our recommendations in paragraph 3, we will seek the approval of FC for an additional injection of \$2 billion into the ITF for launching MRP (referring to paragraph 3(a)), and implement the other new initiatives (referring to paragraphs 3(b) to (e)) as soon as practicable.

Innovation and Technology Bureau
Innovation and Technology Commission
May 2016