

ITEM FOR FINANCE COMMITTEE

INNOVATION AND TECHNOLOGY FUND
HEAD 111 – INNOVATION AND TECHNOLOGY
New Subhead “Re-industrialisation Funding Scheme”

HEAD 184 – TRANSFERS TO FUNDS
Subhead 992 “Payment to the Innovation and Technology Fund”
Subhead 987 “Payment to the Capital Investment Fund”

CAPITAL INVESTMENT FUND
HEAD 962 – INDUSTRY
New Subhead “Equity in the Hong Kong Science and Technology Parks Corporation for developing a Microelectronics Centre”

Members are invited to approve –

- (a) a supplementary provision of \$2 billion under Head 184 Transfers to Funds Subhead 992 Payment to the Innovation and Technology Fund to enable the creation of a commitment for setting up a funding scheme to subsidise manufacturers to set up new smart production lines in Hong Kong; and
- (b) a supplementary provision of \$2 billion under Head 184 Transfers to Funds Subhead 987 Payment to the Capital Investment Fund to enable the creation of a commitment to inject \$2 billion as equity from the Capital Investment Fund to the Hong Kong Science and Technology Parks Corporation for developing the Microelectronics Centre.

/PROBLEM

PROBLEM

We need to strengthen our support for manufacturers in terms of infrastructure and funding, with a view to attracting high-end manufacturing activities to Hong Kong, thereby expediting “re-industrialisation”.

PROPOSALS

2. The Commissioner for Innovation and Technology, with the support of the Secretary for Innovation and Technology, proposes to –

- (a) inject \$2 billion into the Innovation and Technology Fund (ITF) for creating a commitment to launch the “Re-industrialisation Funding Scheme” (RFS) to provide financial support for manufacturers to set up new smart production lines in Hong Kong; and
- (b) inject \$2 billion as equity from the Capital Investment Fund (CIF) to the Hong Kong Science and Technology Parks Corporation (HKSTPC) for developing a Microelectronics Centre.

JUSTIFICATION**Driving “Re-industrialisation”**

3. Hong Kong has long been a service-oriented economy. With the rapid development of innovation and technology (I&T) in recent years, more development opportunities are opened up for high-end manufacturing industries. Hong Kong has world-class universities and outstanding research and development (R&D) talent. With a free and open economy, a sound legal system and a robust intellectual property protection regime, as well as good professional knowledge and quality standards of traditional industries, Hong Kong is an ideal place for industrialists, especially those engaging in high value-added and high-tech production, to set up their production lines.

4. The Government has been actively promoting “re-industrialisation” in recent years to develop advanced manufacturing industries that are based on new technologies and smart production, so as to identify new growth points for Hong Kong’s economic development. Due to constraints in land and labour, the Government aims at attracting manufacturing operations which adopt advanced technologies and do not require much labour or land.

Encl. 1

5. The Government has been supporting “re-industrialisation” through the provision of infrastructural, financial, technological and talent support. The relevant measures are detailed in Enclosure 1. To further promote “re-industrialisation”, we see the need to strengthen the support in terms of infrastructure and funding. Thus, the Government announced in the 2018 Policy Address and the 2019-20 Budget the plan to inject \$2 billion into the ITF for launching the RFS to subsidise manufacturers to set up new smart production lines in Hong Kong, and to allocate an additional \$2 billion for HKSTPC to identify suitable land in industrial estates (IEs) for building manufacturing facilities required by the dedicated manufacturing sector.

RFS

Eligibility Criteria and Funding Principles

6. We propose that all companies incorporated in Hong Kong under the Companies Ordinance (Cap. 622) should be eligible to apply for funding under the RFS for setting up new smart production lines in Hong Kong. The production lines can be set up in or outside the IEs of HKSTPC.

7. Funding will be provided on a 1(government) : 2(enterprise) matching basis, with the Government covering a maximum of one-third of the total approved project expenditure or \$15 million per project, whichever is lower. In other words, the applicant has to contribute no less than two-thirds of the total approved project expenditure. There is no limit on the total number of projects that may be approved in respect of an enterprise, but each enterprise can only apply for funding for a new project after completion of the previously approved project under the RFS.

8. The funding under the RFS will cover expenses directly related to the establishment of the new production line in Hong Kong, including the costs of procurement, installation and commissioning of the machinery/equipment/apparatus, as well as fees for engaging technical consultancies for the design and setting up of the production line concerned, including testing and staff training. General business operating expenses of the applicant enterprise will not be funded.

9. Grants will generally be disbursed on a reimbursement basis after project completion and upon the Government’s acceptance of the final project report and final audited accounts submitted by the enterprises. If the project duration is over 12 months, the Government will disburse interim funding of up to 50% of the approved funding amount upon the Government’s acceptance of the progress report and audited accounts submitted by the enterprise which certify that certain project milestones have been achieved. We expect that most of the approved projects will be completed within 24 months.

/Project

Project Vetting and Implementation

10. We will set up a Vetting Committee (VC) for the RFS comprising members from the trade, industry associations, I&T sector, and relevant government departments. The VC will endorse a set of application guidelines as well as assessment and funding criteria, consider and approve applications, oversee the implementation and evaluate the outcome of approved projects, regularly review and monitor the overall progress of the RFS and evaluate its effectiveness, and if necessary, formulate enhancement measures. The Innovation and Technology Commission (ITC) will conduct initial vetting of applications and submit its recommendations to the VC for consideration. If necessary, external experts will be engaged and consulted on the technical aspects of the applications. The ITC will also monitor the progress of the approved projects, and conduct relevant promotion and publicity activities of the RFS.

Development of Microelectronics Centre

11. At present, microelectronics technology has been widely used in electronics and communications products, medical equipment, and robots etc. Local universities and research institutes possess strong research capabilities in the related fields. For instance, the Hong Kong Applied Science and Technology Research Institute has developed the next generation microelectronic material silicon carbide power devices, which would replace traditional silicon power devices for improving energy efficiency. Developing microelectronics manufacturing facilities in Hong Kong would strengthen our support to the growth of the above-mentioned fields.

12. In recent years, HKSTPC has received quite a number of enquiries, which indicate the interest of industries in establishing production lines for microelectronics and relevant industries such as advanced materials in Hong Kong. Manufacturing of microelectronics products requires specific supporting facilities, such as dangerous goods storage, clean rooms with very high standards of production environment, dedicated chemical waste and sewage treatment systems, etc. Due to the lack of these dedicated manufacturing facilities in Hong Kong, local enterprises have to entrust the relevant production to manufacturing plants in Singapore, Taiwan or the Mainland, etc.

13. In view of this, we propose to modify an old factory in the Yuen Long IE into a Microelectronics Centre. Subject to Finance Committee (FC)'s approval, HKSTPC plans to commence the modification works in early 2020 for completion by 2021 to meet the industry's needs. The modified two-storey factory will have a gross floor area of 36 180 square metres. It will adopt flexible design and be

/equipped

equipped with dedicated facilities such as clean rooms, dangerous goods storage and waste treatment, etc. These special requirements cannot be met in normal multi-storey industrial buildings. The proposed Microelectronics Centre will also provide shared ancillary facilities such as offices, conference rooms, shared work spaces, and shared laboratories for product quality and reliability testing analysis, etc. The estimated cost of the modification project is \$2 billion.

Proposed Financial Arrangement

14. We consider it appropriate to provide financial support in the form of a \$2 billion equity injection into HKSTPC with a view to facilitating early delivery of the project. In recommending the financial arrangement, we have taken into account HKSTPC's overall financial position, as well as the projected cash flow requirements for infrastructure projects and new initiatives that it will implement in the coming years. Financially, HKSTPC will require a substantial net cash flow of some \$10 billion from 2019-20 to 2028-29 for paying the construction cost of and repaying loans¹ for its capital projects (including the development of Science Park Phases 2 and 3, Stage 1 of the Science Park Expansion Programme, the Advanced Manufacturing Centre, the Data Technology Hub and the InnoCell), as well as implementing various initiatives committed under the Government's \$10 billion injection approved by FC in 2018, etc. Facing a huge net cash outflow of about \$10 billion, without the Government's injection, HKSTPC does not have adequate financial reserve to undertake this project expeditiously while maintaining an adequate level of cash balance to cater for its daily operations and unforeseen circumstances. Its operation surplus has to be deployed for the improvement and maintenance of its buildings and facilities as well as for its daily operations. HKSTPC's cash flow projection is at Enclosure 2.

Encl. 2

EXPECTED BENEFITS

15. Developing high-end production in Hong Kong will help diversify Hong Kong's economy, reduce our reliance on service industries, provide new impetus to economic growth, and rejuvenate the "Made in Hong Kong" brand. The two proposed measures will assist local manufacturers in moving towards high value-added production and upgrading to "Industry 4.0".

16. The setting up of smart production lines in Hong Kong can provide direct job opportunities, especially quality I&T jobs for young people. It can also encourage relevant enterprises to set up supporting business operations in Hong Kong (such as marketing and promotion, sales and accounting, supply chain

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¹ Arising from the development of various capital projects, HKSTPC has a debt of over \$5.8 billion, which has to be repaid in tranches by 2038-39. It is estimated that some \$4.2 billion of principal and associated interest would be repaid during the ten years from 2019-20 to 2028-29.

management, wholesale and distribution), and create services demand for other sectors (such as advertising, testing and certification), thereby creating further job opportunities and bringing wider benefits to different sectors in Hong Kong.

17. In addition, high-end manufacturing will generate R&D needs and encourage private enterprises to invest more resources in R&D, thus contributing to the robust and sustainable development of local R&D work. This would help Hong Kong develop into an international I&T hub. The two measures can help retain in Hong Kong the value chain from R&D to finished goods, thereby creating a clustering effect to attract start-ups as well as local, the Mainland and overseas enterprises, universities, and R&D institutions to conduct R&D work and production in Hong Kong, and add new impetus to the development of advanced manufacturing industries in Hong Kong.

18. The proposed Microelectronics Centre will help meet the industry's demand for advanced manufacturing facilities in the near term. It is estimated that the Centre will create about 420 direct job opportunities and generate a value added of over \$600 million² annually.

CONTROL AND REVIEW MECHANISM

RFS

19. To ensure the proper use of public money, we propose to assess applications received under the RFS according to the following guiding principles –

- (a) the project should involve actual set up of a new production line in Hong Kong;
- (b) the production line or a significant portion of the production line should fulfil the “smart” criteria, e.g. involving the use of “smart” technologies such as Internet of Things, real-time data, application of data analytics and advanced human-machine interfaces, artificial intelligence/machine learning/deep learning, and robotics, etc. in the production process; and
- (c) the project should have a reasonable budget with itemised cost breakdown and detailed justifications of costs and expenses.

We will formulate detailed assessment criteria after consulting the VC.

/20.

² Including an indirect value added of about \$190 million and an induced value added of \$65 million at 2018 prices.

20. Suitable measures will be put in place to guard against duplication in the source of funding and possible abuse. For example, enterprises will not be eligible for funding under the RFS if the production line concerned has already obtained other source(s) of government funding. In addition, funding provided must not be used to subsidise the general operating expenses of the enterprise concerned. Enterprises have to submit a report and audited accounts upon project completion. If the duration of the project exceeds 12 months, progress report(s) and audited accounts will be required to facilitate ITC's monitoring of project progress and disbursement of interim funding. Apart from reviewing progress and final reports submitted by the enterprises, on-site checking of projects will be conducted. Funding will only be disbursed to the enterprises upon the Government's acceptance of the progress/final report and audited accounts.

21. Upon project completion, the enterprises concerned would be required to provide information to the Government on the benefits of the relevant production line, such as the business turnover after the commissioning of the production line, and the number and types of new jobs created.

22. To ensure that the funded projects can bring substantive economic benefits to Hong Kong for a reasonable period, unless with prior written approval from the Government, the production line funded cannot be transferred to other parties or to any place outside Hong Kong within a specified period of, say, five years after project completion. The VC will determine the length of the period concerned. Successful applicants will be required to sign a project agreement with the Government, which would set out the above restriction and that the Government has the right to recoup the funding disbursed in case of non-compliance. We will also create a legal charge in respect of the relevant production line and register such a charge with the Companies Registry.

Development of Microelectronics Centre

23. HKSTPC has an established governance structure in monitoring the implementation of its capital projects. Its Board of Directors (on which the Government is represented), assisted by its Projects and Facilities Committee, will assume overall responsibility in steering and monitoring the modification project. Budget control and tender procedures for consultancy and works contracts will be modelled on Government's procedures and practices. HKSTPC will also regularly report the progress of this modification project to ITC. In accordance with the standing practice, the Government will brief the Panel on Commerce and Industry (C&I Panel) of the Legislative Council (LegCo) on the latest development of the Science Park and IEs on a regular basis.

/FINANCIAL

FINANCIAL IMPLICATIONS**RFS**

24. The proposed injection of \$2 billion should provide sufficient financial support for the implementation of around 130 projects under the RFS, assuming that each project is granted the maximum amount of funding of \$15 million. The actual expenditure will depend on the number of applications and the amount of funding approved. For budgetary purpose, the indicative cash flow by financial year for the additional \$2 billion is as follows –

	2020-21	2021-22	2022-23	2023-24	2024-25 and beyond	Total
	(\$ million)					
Indicative cash flow	30	112.5	225	307.5	1,325	2,000

*Note: We target to launch the RFS in the first half of 2020. As the grants will be disbursed on a reimbursement basis upon the Government's acceptance of the progress/final project report and audited accounts to be submitted by the enterprises and the first batch of projects are expected to be approved in the second half of 2020-2021, no cash flow is expected for 2019-20.

25. Subject to Members' approval, we will create a dedicated subhead under Head 111 Innovation and Technology to finance the establishment of the RFS and arrange funding injection of \$2 billion into the ITF. Technically, this involves seeking a supplementary provision of \$2 billion for Head 184 Transfers to Funds of the General Revenue Account to effect the funding transfer to the ITF.

26. The ITC will set up a secretariat to handle the work relating to the RFS. ITC has included necessary provision in the 2019-20 Estimates and will make similar arrangements for the subsequent financial years to meet the relevant operating costs.

Development of Microelectronics Centre

27. Subject to Member's approval, the Government will inject \$2 billion as equity to HKSTPC in 2019-20. This involves seeking a supplementary provision of \$2 billion for Head 184 Transfers to Funds of the General Revenue Account to effect the funding transfer to CIF. The project has no recurrent financial implications for the Government. HKSTPC will be required to exercise prudent cost control in the modification project. Should the project costs eventually exceed \$2 billion, HKSTPC has to bridge the funding gap using its own resources.

/IMPLEMENTATION

IMPLEMENTATION TIMETABLE

28. Subject to Members' approval of the funding proposals in paragraph 2 and completion of the necessary preparatory work, we plan to launch the RFS in the first half of 2020, and commence the modification works of the Microelectronics Centre in early 2020, with a view to completing the project by 2021.

PUBLIC CONSULTATION

29. We have consulted major industry and trade organisations in drawing up the operational details of the RFS. We also consulted the "Committee on Innovation, Technology and Re-industrialisation" chaired by the Financial Secretary in March this year. The industry generally welcomed the launch of the RFS. As regards the proposal to set up the Microelectronics Centre, HKSTPC has in recent years received enquiries from industries, showing interest in establishing such production lines in Hong Kong.

30. We consulted the C&I Panel of the LegCo on 21 May 2019 regarding the proposed RFS and the development of the Microelectronics Centre. The Panel supported in principle the submission of the relevant proposals to FC.

BACKGROUND

31. To expedite "re-industrialisation", the Government announced in the 2018 Policy Address and the 2019-20 Budget the plan to inject \$2 billion into the ITF for launching a RFS to subsidise manufacturers on a matching basis to set up smart production lines in Hong Kong, and to allocate an additional \$2 billion for HKSTPC to identify suitable land in IEs for building manufacturing facilities required by the dedicated manufacturing sector, thereby facilitating more manufacturers to set up operations in Hong Kong.

The Government's Measures to Promote "Re-industrialisation"

The Government has been actively promoting "re-industrialisation" in recent years to develop advanced manufacturing industries that are based on new technologies and smart production, so as to identify new growth points for Hong Kong's economic development. We have been supporting the development of "re-industrialisation" through the provision of infrastructural, financial, technological and talent support. Our work is detailed as follows –

Infrastructure

- The Hong Kong Science and Technology Parks Corporation (HKSTPC) is developing the Data Technology Hub and the Advanced Manufacturing Centre (AMC) in the Tseung Kwan O Industrial Estate (IE) to provide infrastructural facilities for advanced manufacturing industries. The two projects are expected to be completed in 2020 and 2022 respectively. The AMC will foster smart production and advanced assembly of high value-added manufacturing industries and cover extended activities such as research and development (R&D), logistics support, prototyping and design, etc.
- Separately, HKSTPC converted a factory in the Tai Po IE into the Precision Manufacturing Centre (PMC) in 2017 to foster high technology smart production. The four-storey PMC has been fully occupied by tenant enterprises engaging in precision engineering and assembly, new material manufacturing and environmentally-friendly yarn production, tooling and advanced indoor hydroponic industries, etc.

Financial Support

- The Government, through the Innovation and Technology Fund (ITF), continues to provide financial support for local R&D work and finance projects that can contribute to the technological upgrading of industries and promotion of innovation, thereby promoting "re-industrialisation". Relevant funding schemes include the Innovation and Technology Support Programme, Partnership Research Programme and Enterprise Support Scheme, etc.
- HKSTPC will designate part of the Government's \$10 billion allocation to offer incentives for advanced manufacturers to set up operations in the IEs. In this connection, HKSTPC is working out the relevant details and will decide on the form of support as well as the amounts having regard to the size and needs of enterprises.

/Technological

Technological Support

- The Hong Kong Productivity Council (HKPC) has been dedicating efforts to assist enterprises to move towards high value-added production and gradually upgrade to “Industry 4.0”. For example, the HKPC has jointly established the Invention Centre with the Fraunhofer Institute for Production Technology of Germany, the world pioneer of “Industry 4.0”, to introduce to the industry technologies relating to “Industry 4.0” and assist the industry to accelerate the adoption of innovative industrial technologies, thereby promoting the development of smart industries. It has also been running the “Industry 4.0 Upgrade and Recognition Programme”, the Inno Space and Smart Industry One to drive “re-industrialisation” and assist the industry in gradually moving towards smart production and operations. In addition, the HKPC also organises different types of training programmes and seminars to introduce new technologies and the latest scientific research results, and encourage the industry to grasp the opportunities brought about by innovation and technology.
- In addition, the five R&D Centres established by the Government (i.e. the Hong Kong Applied Science and Technology Research Institute, the Logistics and Supply Chain MultiTech R&D Centre, the Nano and Advanced Materials Institute, the Hong Kong Research Institute of Textiles and Apparel, and the Automotive Platforms and Application Systems R&D Centre) would also continue to engage in R&D related to “re-industrialisation” and work closely with the industry to drive the commercialisation of R&D outcomes and assist the industry to capture and capitalise on business opportunities.

Nurturing of Talent

- We introduced in August 2018 the Re-industrialisation and Technology Training Programme under the ITF to subsidise local enterprises on a 2 (government) : 1 (enterprise) matching basis to train their staff in technologies, especially those relating to “Industry 4.0”. As at end of September 2019, 648 training grant applications have been approved under the Programme to subsidise more than 1 400 staff of local enterprises to receive technology training, with a total funding amount of around \$9 million.
- In addition, the HKPC, together with the Vocational Training Council and the Fraunhofer Institute for Production Technology of Germany, also launched in March 2018 the first “Industry 4.0” professional diploma programme in Hong Kong to strengthen training of industry practitioners in “Industry 4.0”-related skills.

Cash Flow Projection of the Hong Kong Science and Technology Parks Corporation (in \$million)

	<u>2019-20</u>	<u>2020-21</u>	<u>2021-22</u>	<u>2022-23</u>	<u>2023-24</u>	<u>2024-25</u>	<u>2025-26</u>	<u>2026-27</u>	<u>2027-28</u>	<u>2028-29</u>	<u>2019-20 to 2028-29</u>
Opening cash balance	11,210	10,029 ^{Note 2}	6,250	1,842	1,973	1,250	818	612	644	976	11,210
Net Cashflow	(3,170)	(3,224)	(3,177)	289	(678)	(432)	(206)	32	332	89	(10,145)
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Available Cash	8,040	6,805	3,073	2,131	1,295	818	612	644	976	1,065	1,065
Microelectronics Centre's development cost ^{Note 1}	(11)	(555)	(1,231)	(158)	(45)						(2,000)
Government equity injection for developing Microelectronics Centre ^{Note 1}	2,000										2,000
Ending cash balance	<u>10,029</u>	<u>6,250</u>	<u>1,842</u>	<u>1,973</u>	<u>1,250</u>	<u>818</u>	<u>612</u>	<u>644</u>	<u>976</u>	<u>1,065</u>	<u>1,065</u>

* Subject to rounding difference

Note 1 The total development cost of Microelectronics Centre is estimated to be \$2,000 million, which is proposed to be funded wholly by government equity injection (assuming injection to be made within fiscal year 2019-20).

Note 2 The opening cash balance has taken into account the Government's injection of \$2,000 million for developing the Microelectronics Centre.
