

**For discussion on
21 April 2015**

Legislative Council Panel on Commerce and Industry

**Latest Developments of the Hong Kong Science and
Technology Parks Corporation (HKSTPC)**

PURPOSE

This paper briefs Members on the latest developments of the Hong Kong Science and Technology Parks Corporation (HKSTPC) and seeks Members' views on two major new initiatives, namely –

- (A) establishment of a Corporate Venture Fund (CVF); and
- (B) implementation of a Revised Industrial Estate (IE) Programme.

BACKGROUND

2. Since its establishment in 2001, HKSTPC has been offering one-stop infrastructural support services to technology-based companies and activities. It currently operates and manages the following three premises –

- (a) Hong Kong Science Park (HKSP) at Pak Shek Kok;
- (b) three IEs at Tai Po, Yuen Long and Tseung Kwan O; and
- (c) InnoCentre at Kowloon Tong.

3. HKSP is now our flagship technology infrastructure which provides facilities, services and a dynamic environment that enable companies to nurture ideas, innovate and develop. Phases 1 and 2 of HKSP provide 20 state-of-the-art laboratory-fitted buildings offering 220 000 square meters of research and development (R&D) office space. Construction of the \$4.9 billion HKSP Phase 3 is progressing on schedule

and within budget. Its first three buildings were officially opened in September 2014, while the remaining two buildings will be completed in 2016. When fully completed, the gross floor area of HKSP will increase by around 50% to 330 000 square meters, accommodating over 600 partner companies and providing 15 000 job opportunities. At present, there are more than 330 tenants and 170 incubatees in the Science Park, achieving an occupancy rate over 90% for Phases 1 and 2, and around 50% for Phase 3.

4. Under the existing IE Programme, the three IEs offer a total of 217 hectares of land for long lease till 2047 to industries that cannot effectively operate in ordinary multi-storey industrial or commercial buildings. Currently, about 96% of the IE sites have been granted, accommodating some 170 local and international companies, including those from traditional industries (e.g. heavy manufacturing, printing, food and beverage production) as well as those which are technology and service-oriented (e.g. broadcasting, data centres and pharmaceuticals). — A list of industries currently operating in the three IEs is at Annex A.

LATEST DEVELOPMENT

5. HKSTPC needs to keep pace with the global development trends and fast-changing needs of the local innovation and technology (I&T) sector. In order to explore further development opportunities after around 14 years of operation, the Government had, in conjunction with the HKSTPC, completed a Review on the utilisation and long-term development direction of HKSP and IEs (hereafter referred to as “the Review”). The HKSTPC has reviewed global technology trends and the areas where Hong Kong has a competitive edge; and identified gaps in the local I&T ecosystem by benchmarking against best overseas practices and policies. Relevant stakeholders from the Government, industry, academic and research sectors were engaged in this exercise. Pursuant to the recommendations of the Review, HKSTPC will take a more proactive role in promoting the development of I&T in addition to the provision of infrastructure, facilities and support services. The Corporation will –

- (a) strengthen its connection with innovators, government agencies, investors and the industry;

- (b) foster collaboration with international and local universities and research institutions across different technological disciplines; and
 - (c) continue to promote innovative development by creating an inspiring and vibrant ecology and offering custom services to I&T companies at different R&D stages.
6. The Government is working closely with HKSTPC on the implementation of these objectives. We would wish to highlight two major initiatives, namely (A) establishment of a CVF and (B) implementation of the revised IE programme which are detailed in this paper.

MAJOR NEW INITIATIVES

(A) Establishment of a CVF

Current Situation

7. Lack of funding is a common problem¹ encountered by technology firms in Hong Kong. While public R&D funding on its own can help raise the level of R&D activities, translation of R&D results into social and economic benefits requires private sector investments. The funding gap in the private sector has hampered the overall I&T development in Hong Kong. By bridging the funding gap, it will help lower the threshold for start-ups or small and medium enterprises to further their R&D efforts in translating their innovative ideas to marketable products or services. In this regard, the Innovation and Technology Commission has made substantial efforts in recent years to promote private sector investment through our R&D Centres as well as various enhancement and liberalisation measures to the Innovation and Technology Fund, which were reported to this Panel in November and December 2014.

8. We would not underestimate the difficulties in enhancing private sector investments in R&D and fully appreciate that more rigorous efforts are necessary to bring about positive changes. We have joined hands with the HKSTPC to explore additional measures to bridge the funding

¹ 31% of the firms interviewed by HKSTPC quoted lack of financial resources as a key blockage to development and the funding gap appears to be the largest at the Seed/Series A round.

gap. Whilst there may be a few hundred angel investors in Hong Kong, only a handful are active and have in-depth knowledge in I&T, and they have not been focusing their investments in Hong Kong. Moreover, despite a large number of venture capitalists (VCs) in Hong Kong, a majority of them look to the Mainland, Taiwan and Singapore, or even Silicon Valley and Israel for investment opportunities.

Objectives and Implementation Framework of CVF

(i) Objectives

9. HKSTPC is establishing a CVF to co-invest in promising technology start-ups in Hong Kong with the following objectives –

- (a) to fill the funding gap, particularly in the seed stage to growth (Series A round) stage² for local technology start-ups;
- (b) to invest in high potential local technology start-ups so that they can move to the next stage of development;
- (c) to attract more angels and VCs to invest in technology start-ups in Hong Kong and spurring more private funding in the local I&T ecosystem.

(ii) Financial Resources

10. The CVF is a co-investment fund operating on a matching basis. HKSTPC has earmarked \$50 million from its own resources for the implementation of this Scheme. Together with funding from private co-investors, at least \$100 million would be made available to the local technology start-ups. HKSTPC also intends to seek corporate sponsors

² In general, there are different financing stages for a company's development.

1. Seed funding: The earliest round of financing for a new idea, often provided by angel investors. Equity 'crowdfunding' is also emerging as an option.
2. Start-up: Early stage firms that need funding for expenses associated with marketing and product development
3. Growth (Series A round from VC): Early sales and manufacturing funds
4. Second-Round: Working capital for early stage companies that are selling product, but not yet turning a profit
5. Expansion: Also called Mezzanine financing, this is expansion money for a newly profitable company
6. Exit of VC: Also called bridge financing, which is intended to finance the 'going public' process

and/or donations from the private sector to augment the Fund. The establishment of the CVF was recently announced by the Financial Secretary in his 2015-16 Budget Speech. The implementation framework of the CVF is outlined in the following paragraphs.

(iii) Eligibility

11. Companies meeting the following criteria will be eligible to apply for the CVF –

- (a) any scalable technology companies registered in Hong Kong and are incubatees, graduates or current tenants of HKSTPC;
- (b) the company is in seed to Series A funding stages; and
- (c) the company is facing difficulties to attract full private funding for good reasons.

(iv) Investment Size

12. In respect of the investment size, the following requirements will be followed –

- (a) not exceeding HK\$8 million per deal;
- (b) total equity of the start-up taken up by HKSTPC should be less than 20% post investment;
- (c) the investment by the co-investor (for example, angels/ VCs) on each company is generally targeted to be more than or equal to HKSTPC's share in each investment. Only on exceptional basis the investment by the angels/VCs could be lower than HKSTPC and subject to a minimum ratio of 40:60.

13. The co-investor can either be identified by the technology start-up before it applies for the CVF or to be identified together with HKSTPC afterwards. In both scenarios, HKSTPC would conduct due diligence to ensure the co-investor is genuine and independent of the applicant.

(v) *Governance, Modus Operandi and Monitoring*

14. An Investment Committee (IC) comprising the staff and Board members of HKSTPC as well as external experts will be set up to approve the investment and oversee the operations of the CVF. The daily operation will be managed by HKSTPC staff with prior corporate or institutional investment background and experience and they would be accountable to the IC.

(vi) *Exit Strategy*

15. In general, disposal of the investment, which has to be approved by the IC, may materialise when any of the following conditions occur –

- (a) the technology start-up undergoes merger and acquisition;
- (b) the technology start-up undergoes Initial Public Offer (IPO);
- (c) other institutions offer a reasonable valuation to acquire HKSTPC's shares in the technology start-up; or
- (d) if a start-up, after 10 years of investment, does not undergo any of the situations as described in cases (a), (b) or (c) above, HKSTPC shall have the right at any time after the 10 years, as the case may be, to require that company to immediately purchase the equity from HKSTPC based on the last investment valuation, or a valuation of 10 times of the average of the net incomes of the immediately preceding three fiscal years of the company, whichever is higher.

The above scenarios are not exhaustive and HKSTPC will exercise judgment in consultation with the IC and the Board in determining the conditions and timing of exiting its investment, taking into consideration prevailing market conditions, its financial position, and other issues specific to each investment case.

(vii) *Other Support*

16. Apart from financial support, the start-ups with CVF investments would also gain from the network, knowledge and experience in business operations offered by HKSTPC and the co-investors.

Expected Benefits

17. We expect the CVF will bring along the following benefits –

- (a) bridging the funding gap of technology start-ups in HKSP and lowering the threshold for them to further their applied R&D efforts for translating the technology to marketable products or services;
- (b) allowing the HKSTPC to gain hands-on experience in direct investment in technology start-ups. It also serves as a pilot scheme to lay the foundation for HKSTPC or Government to devise more measures to assist local technology start-ups;
- (c) increasing the chance of nurturing successful local technology companies, which would be good publicity for arousing the interest of angels/VCs in the Hong Kong market and sparking a cultural renaissance that helps change the current situation in Hong Kong; and
- (d) increasing private sector investment into technology commercialisation will translate into more jobs. The opportunities that these companies can offer will be attractive to our young science and engineering graduates, thereby attracting more students to pursue their studies in science, technology and engineering related subjects.

18. HKSTPC is now finalising the implementation details of the CVF, including its application and vetting criteria for announcement by the third quarter. The Government will monitor the effectiveness and demand for the Fund.

(B) Implementation of the Revised IE Programme

Current Situation

19. The existing IE policy governing the operation of IEs was formulated more than 30 years ago with the objective to accommodate land-intensive industries which could not be housed in ordinary multi-storey industrial buildings. The Government set up the three IEs with an overall maximum plot ratio of 2.5 and one of the mandatory admission criteria is that occupants taking up the sites have to show that

they are unable to operate effectively in ordinary multi-storey industrial or commercial buildings. For those meeting the mandatory admission criteria, priority will be given to those companies which involve significant investment, high added value, employment of a large number of technical personnel, as well as the use of new or upgraded technology.

The existing admission criteria of IEs are at **Annex B** for reference.

20. At present, land in the IEs is mainly granted to eligible applicants on long leases up to 2047 at a premium set by reference to the historical land development costs and adjusted periodically taking into account inflation and prevailing market conditions. Once an IE site is granted to an eligible applicant, the latter is allowed to design and build the factory building according to his own needs. The aforementioned mandatory admission criterion coupled with this business model has also led to the under-utilisation of land. Despite the high occupancy rate, the three IEs have only been developed to around 53% of the overall maximum plot ratio of 2.5. In other words, a majority of the IE tenants do not need to utilise the full development potential of their land.

Need for changes

21. The social and economic structure of Hong Kong and the Mainland has changed substantially since the 1970s. In the 1980s and 1990s, the Mainland's Open Door Economic Policy attracted many industrialists in Hong Kong to relocate their manufacturing base to the Mainland, particularly in the Pearl River Delta region. This has led to a significant reduction in the need for industrial land in Hong Kong, particularly for the medium and heavy industries. However, with rising labour as well as other costs on the Mainland, some Hong Kong businessmen are considering whether to move their production back to Hong Kong. The 'Made in Hong Kong' brand may also be attractive in certain cases. This may eventually lead to more business interest in setting up their production bases in Hong Kong. Nevertheless, we do not envisage a return to mass production operations but rather the high-value added and high technology industry such as pharmaceuticals, healthcare, biomedical, advanced robotics, etc. With new production technologies and dedicated designs, such industries may be able to operate effectively in 'specialised multi-storey buildings'.

22. Land is a precious resource in Hong Kong. Due to competing demands not only for housing development but also other economic activities, it has become a challenge for Government to find adequate land to meet the increasing needs on various fronts. As the IEs hold a

precious pool of land which has not been fully utilised, it is timely to review how we can make the best use of our scarce IE land resources to meet demand, and consider how to increase our investments in innovation and technology to maintain our international competitiveness.

23. However, under the existing business model of HKSTPC, there is little incentive for the grantees or assignees of IE land to fully utilise the maximum permissible plot ratio of their sites as they will only build to a scale optimal to their operational needs. Although the maximum permissible plot ratio of the IE is 2.5, the actual plot ratio utilised is only 1.32 on average for the three IEs. This may reflect operational optimisation for the grantees or assignees but land has not been used most efficiently. Furthermore, if the grantees do not invest to upgrade their premises, buildings in IE will deteriorate over time. In response, HKSTPC has been improving IE utilisation through facilitating assignments of under-utilised sites to new assignees and stepping up enforcement actions under the terms of the leases. Since 2007, 28 assignment applications involving around 31 ha of IE sites have been approved (versus only 19 assignment applications approved in the first 29 years of IE operation, i.e. from 1978 to 2006). However, it is still unable to raise the general development density except for a few cases.

24. The existing business model of IEs is also not desirable to the HKSTPC in the long run as a significant portion of its income is derived from land premium received from granting of IE sites and assignment of leased sites. Currently, all sites in the Tai Po IE have been granted. As for the Yuen Long IE and Tseung Kwan O IE, only two sites and three sites respectively are still vacant. This represents 98% and 90% occupancy respectively at the YLIE and TKOIE. With almost all of the IE sites having been granted, this income will wither. Although the drop in IE land premium income can be offset by the increase in rental from Phase 3 of HKSP in the medium term, it is not sustainable for HKSTPC to continue to upgrade and expand its services.

New Admission Criteria

25. Among the various recommendations of the Review, it is concluded that land in the three IEs should be used more efficiently to support science, innovation and technology (SIT) based industries which would bring wider benefits to Hong Kong. Unlike traditional heavy industries which require stand-alone factory buildings, certain SIT-based industries can be accommodated in specialised multi-storey factory buildings. In this light, we have decided to modify the admission

requirements in favour of SIT-based industries which are vital to the sustained growth of our economy irrespective of whether they can be accommodated in multi-storey buildings. The entire value chain from R&D, prototyping, product design, production, testing and distribution, administration to marketing and branding would be covered so that a ‘through-train model’ can be provided.

26. Notwithstanding the change in admission criteria, other important considerations such as significant investment, high added value and employment of technical personnel are retained.

New Business Model

27. In future, the HKSTPC will mainly build and manage specialised multi-storey industrial buildings for rent to multi-users instead of granting the sites to single users for building their own factories. Only in exceptional case will HKSTPC grant sites on long lease to meritorious applicants for building standalone factories. The rental charges (or land premium in the case of land granted on long lease in exceptional cases) would be delinked from the historical land development costs. Instead, they should be competitively priced, having regard to prevailing market conditions and other relevant factors.

28. The proposed specialised multi-storey industrial buildings will be designed to meet the needs of selected SIT-based industries. Examples of operations which can be accommodated in such specialised multi-storey buildings include pharmaceutical manufacturing facilities meeting the latest statutory standards, testing and certification laboratories, prototyping workshops, industrial design laboratories, etc. Designated uses including incubation centres and commercial facilities ancillary to industrial operations in IEs can also be considered.

Expected Benefits

29. With the revised IE Programme, it is expected that we can –

- (a) ensure more efficient use of scarce land resources and deliver greater economic benefits to Hong Kong;
- (b) allow HKSTPC to enhance the value chain of the I&T industries in Hong Kong and further revitalise the IEs;
- (c) create synergy and integration with the activities in HKSP

and InnoCentre to bring about the largest possible impact to the community; and

- (d) give HKSTPC a stable source of recurrent rental income, thereby enhancing its financial sustainability.

30. HKSTPC plans to develop three to four pilot projects on the vacant sites or sites surrendered by the grantees in the three existing IEs in the next few years. It will proceed to carry out detailed study on the economic case and relevant financial arrangements. We will further consult this Panel at a suitable juncture when HKSTPC has finished the relevant studies.

ADVICE SOUGHT

31. Members are invited to note the new developments of HKSTPC and provide comments in respect of the implementation of the two new initiatives as described in paragraphs 7 to 30.

Innovation and Technology Commission
April 2015

Annex A

**Industries in Industrial Estates
(as at end March 2015)**

Industry	TPIE		YLIE		TKOIE		Total*	
	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)
Manufacturing								
(a) Biotechnology & Pharmaceutical	9	4.99	14	17.30	0	0	23 (13.69%)	22.29 (11.53%)
(b) Food & Beverages	23	16.47	5	13.19	4	4.85	32 (19.05%)	34.51 (17.84%)
(c) Machinery & Parts	5	3.93	5	7.07	1	1.00	11 (6.55%)	12.00 (6.21%)
(d) Metal Parts & Products	8	5.22	0	0	0	0	8 (4.76%)	5.22 (2.7%)
(e) Other Manufacturing (e.g. Building Materials, Chemical & Gases, Electronics Parts and Paper Packaging)	15	13.79	11	7.10	6	7.96	32 (19.05%)	28.85 (14.93%)
(f) Plastic Resins & Plastics Products	6	5.46	3	5.00	0	0	9 (5.36%)	10.46 (5.41%)
(g) Printing & Publishing	4	4.48	4	5.04	3	5.80	11 (6.55%)	15.32 (7.93%)
(h) Supporting Service	7	2.65	6	5.82	3	6.70	16 (9.52%)	15.17 (7.84%)
(i) Green Technology	0	0	3	5.00	4	4.99	7 (4.17%)	9.99 (5.16%)
Services	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)	No. of sites granted	Land area (ha)
(a) Broadcasting	2	4.98	0	0	3	13.20	5 (2.98%)	18.18 (9.4%)
(b) Information & Telecommunication (e.g. Data Centre)	1	0.69	0	0	9	17.03	10 (5.95%)	17.72 (9.16%)
(c) Transmitter/ Telecommunications Transmission Installation	2	2.35	0	0	2	1.30	4 (2.38%)	3.65 (1.89%)
Grand Total#	82	65.01	51	65.52	35	62.84	168 (100%)	193.38 (100%)

* The percentages may not add up to 100.0% due to rounding.

Certain areas of IE are non-building area and seawall that are not for grant.

Annex B

Current Admission Criteria of Industrial Estates

The basic admission criteria to IEs are as follows –

- (a) the project cannot be accommodated in ordinary multi-storey industrial or commercial buildings;
- (b) the operation is not classified as offensive trade under Government regulations (e.g. tanning of leather); and
- (c) the project is not engaging primarily in storage and warehousing.

In assessing the eligibility and merits of applications, HKSTPC also makes reference to the following factors –

- (a) new or improved products or services;
- (b) new or upgraded technology;
- (c) high added value based on the use of local material and manpower;
- (d) products or services for which there is strong demand from local industry;
- (e) substantial contribution to Hong Kong's exports;
- (f) significant investment particularly in new machinery and equipment; and
- (g) employment at a higher level of skill.