

**For discussion
on 2 December 2019**

Legislative Council Panel on Financial Affairs

Enhancement and Relocation of Information Technology Systems and Facilities of the Inland Revenue Department

PURPOSE

This paper seeks Members' support for the proposed enhancement and relocation of Information Technology ("IT") systems and facilities of the Inland Revenue Department ("IRD") for the new Inland Revenue Tower ("IR Tower") in the Kai Tak Development Area.

BACKGROUND

2. In April 2018, the Finance Committee of the Legislative Council approved a commitment of \$3.6 billion for the design-and-build project for building the new IR Tower in the Kai Tak Development Area. Construction works of the IR Tower is underway. IRD has to relocate and re-provision IT systems and facilities in the new IR Tower to tie in with the relocation of its offices by late 2022 or early 2023.

3. In order to keep pace with the latest IT development and to support the changing business requirements of the department, IRD commissioned a consultancy study on the Departmental IT Plan ("the DITP study") in August 2018 which was completed in June 2019. The DITP study sets out the blueprint on IRD's use of IT in the coming decade and recommends that IRD should upgrade its IT infrastructure to enhance processing capacity and strengthen the provision of e-services to the public.

CHALLENGES AND LIMITATIONS

4. After reviewing the current state of use of IT in IRD and its business needs, the DITP study has identified the following challenges and limitations

IRD should tackle in order to modernise the tax administration in Hong Kong

—

(a) *International Tax Standard Compliance*

As a member of the Global Forum on Transparency and Exchange of Information for Tax Purposes¹, Hong Kong is committed to implementing the international standards of exchange of information (“EoI”) in different modes to enhance tax transparency and prevent tax evasion. In the peer reviews on EoI on request conducted in 2018, the Organisation for Economic Co-operation and Development (“OECD”) recommended that we should take measures to ensure that accounting records of all relevant businesses are available. Taking forward the OECD’s recommendation will involve the issuance of a large number of profits tax returns² and processing of voluminous accounting and financial data. This has necessitated the full adoption of e-filing of profits tax returns for businesses. This is however not possible under the existing IT infrastructure of IRD which only affords very limited data uploading capacity.

(b) *Limitations in the Existing eTAX System*

The eTAX was launched in 2008 for providing electronic filing (“e-filing”) of tax returns for individuals and other electronic services (“e-services”) such as business registration and e-stamping of instruments for immovable property transactions. Although more e-services have been added to the eTAX over the years³, the eTAX still cannot cater for the needs of certain groups of taxpayers, notably tax representatives who handle taxation matters on behalf of their clients. IRD plans to enhance the eTAX system so as to provide more dedicated e-services to different groups of users.

¹ It is a multilateral framework under the auspices of the Organisation for Economic Co-operation and Development (“OECD”) and G20.

² To best deploy the limited resources of IRD, Profits Tax Returns are issued every two to three years, instead of annually, to businesses which have suffered losses continuously or did not have profits chargeable to tax in the past.

³ Such e-services include e-filing of Profits Tax Returns, Employer’s Returns of Remuneration and Pension (“Employer’s Return”) and Property Tax Returns, e-registration of stock borrowing and lending agreements, etc.

(c) *Limitations in Automation of Processing and Digitalisation*

Many operations of IRD are paper-based and involve manual procedures as a large number of taxpayers still prefer filing tax returns in paper form. In particular, tremendous manpower resources are required in handling paper copies of financial statements and other related documents for profits tax returns. The existing Workflow Management System (“WMS”) of IRD does not include features for cross-unit communication and hence create unnecessary lead time due to the manual transfer of information. It is therefore imperative to upgrade and extend IRD’s current IT infrastructure and the provision of e-services in order to facilitate a higher adoption rate of e-filing by taxpayers and to integrate a full-scale WMS.

Besides, all IT systems of IRD are server-based, which entails technical constraints in meeting the changing business needs of the department in future. To modernise and further digitalise the tax administration in Hong Kong, it calls for migration to cloud technology to reap the benefits such as scalability, efficiency, improved system stability, reliability and security.

5. The relocation of IRD will take place by late 2022 or early 2023. Under the relocation plan, computer rooms for hosting servers and network facilities will be established in the new IR Tower. Besides, more than 40 IT application systems, 3 500 personal computers, 3 200 local printers and 360 network printers have to be relocated and re-provisioned in the new IR Tower. To minimise service interruption to the public during relocation, the enhancements shall be conducted by phases.

THE PROPOSAL

6. The DITP study recommended that IRD should upgrade its front-end gateway to strengthen the e-filing services for (i) profits tax returns of businesses; (ii) tax returns of individuals; and (iii) tax representatives. IRD should also undertake system revamp leveraging on cloud services to facilitate digital transformation in future. IRD therefore proposes to implement the following system development and modifications by phases starting from 2020-21:

- (a) to develop a Business Tax Portal to facilitate submission of tax returns by businesses together with accounting and financial data;
- (b) to replace eTAX with an Individual Tax Portal with enhanced functionalities for individual taxpayers (details in paragraph 8 below);
- (c) to develop a Tax Representative Portal to enable tax representatives to conduct e-transactions on behalf of their clients, both individuals and businesses;
- (d) to leverage cloud services to accommodate all of IRD's systems after office relocation; and
- (e) to extend the application of workflow technology to improve IRD's internal communication and work efficiency.

7. In addition to the above system development and modifications, additional resources will be required by IRD to relocate and re-provision IT infrastructure and facilities to the new IR Tower.

BENEFITS

8. The above proposal will bring about the following benefits -

(a) *Better User Experience*

Existing e-services will be improved, for example, more streamlined e-filing processes for individual taxpayers achieved by a user-friendly design; large capacity for uploading supporting documents for businesses and employers; and faster data transactions and processing. The development of the three interconnected portals will make use of common modules and fully support the use of mobile devices with user-friendly design and login mechanism for users. Also, with the introduction of a Tax Representative Portal, tax representatives will be able to file returns on behalf of their business clients efficiently by way of e-filing. With these enhanced features, IRD will provide wider e-services with better user experience, which will help encourage different types of taxpayers in adopting e-filing.

(b) Compliance with OECD's Standard

The enhanced data processing capacity of the new portals can enable IRD to collect and process large volume of financial and accounting data, thereby facilitating the automatic processing of tax assessments with greater work efficiency as well as meeting the OECD's standard in processing the EoI requests.

(c) Improved Scalability and Agility of IT Systems

By adopting the Government Cloud Infrastructure Services ("GCIS") provided by the Office of the Government Chief Information Officer ("OGCIO"), IRD can reap the benefits of Cloud computing, particularly when handling large volume of accounting, financial and tax data in the course of digital transformation. Besides, the use of GCIS will enable IRD to continue to provide e-services in case of disaster recovery, minimising disruption to public services.

(d) Better Alignment with Government Initiative

The Government has formulated a Smart City Blueprint for Hong Kong with a vision to building Hong Kong into a world class smart city. The "iAM Smart" platform is one of the initiatives to be launched by the OGCIO in the fourth quarter of 2020 which will provide a one-stop personalised digital government services, enabling users to use a single digital identity and authentication to conduct online government and commercial transactions. It will be adopted for both authentication and digital signing purposes for the new tax portals. These upgraded functionalities will also greatly improve the attractiveness and user-friendliness of IRD's e-services.

(e) Better Use of Departmental Resources and More Environment-friendly

With the adoption of the GCIS, manpower demand for monitoring system performance will gradually diminish. With improved e-filing of tax returns by businesses, employers and individuals as

well as wider use of automatic processing of tax assessment, staff resources involved in processing tax returns could be saved or redeployed for other functions. Moreover, paper consumption will be significantly reduced, making the overall tax administration more environment-friendly.

(f) Better Internal Communication and Greater Work Efficiency

With the existing WMS being extended to cover more automatic workflow processes across different units in IRD, the internal communication amongst business units will be improved and lead time within business processes due to the manual transfer of information will be reduced. In the longer run, IRD will also consider implementing big data analytics and other innovative technologies such as robotic automation and machine learning to improve work efficiency.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

9. It is estimated that the proposal would entail a total non-recurrent expenditure of \$742.463 million over a six-year period from 2020-21 to 2025-26. A detailed breakdown is at **Annex A**.

Recurrent Expenditure

10. The relevant annual recurrent expenditure will be \$52.683 million from 2026-27 onwards upon its full implementation. Net requirements of the recurrent costs will be reflected in the Draft Estimates of the relevant year. A breakdown of the recurrent expenditure is at **Annex B**.

Cost Savings/Avoidance

11. It is estimated that the proposal will enable IRD to avoid a substantial amount of expenditure for maintaining the existing IT infrastructure and ensuring continued smooth operation of the IT systems. The savings include the avoidance of a non-recurrent cost of \$46.05 million that will otherwise be

required for the upgrading of existing hardware and software. If the IT infrastructure is not enhanced and migrated to cloud platform during the relocation of IRD's offices, IRD will not be able to modernise its tax administration and cope with increasing and changing service demands. Besides, if those hardware and software which will become outdated are not upgraded/replaced upon office relocation, IRD's day-to-day operations will be adversely affected and its capability of performing tax administration and revenue collection functions will be seriously jeopardised as the aged computer systems may pose higher risks of disruption to tax assessment programmes and delays in revenue collection.

12. The proposal is expected to bring about annual savings⁴ of \$87.372 million from 2029-30 onwards, comprising -

(a) Realisable savings of \$53.513 million

85 posts⁵ can be made redundant and the related cost savings will be \$31.915 million. The savings of maintenance cost for the existing systems and equipment, paper and printing, and transportation will be \$21.598 million.

(b) Notional savings of \$3.711 million

These represent fragmented staff cost savings from productivity gain as a result of more efficient operations as well as reduced demand for IT support and maintenance from the new systems. They cannot be realised by deletion of posts given that they spread over various application systems but will be deployed to cover other minor enhancements that may arise in future.

(c) Cost avoidance of \$30.148 million

Without the implementation of the business tax portal and tax representative portal, IRD would need to have additional manpower and operational cost to process the additional Profits Tax Returns.

⁴ The projected recurrent savings, including realisable savings and cost avoidance, are made on the basis of high e-filing adoption rates of Profits Tax Returns, individuals' tax returns and Employers' Returns.

⁵ Comprising 35 Assistant Taxation Officers, 16 Data Processors, one Typist and 33 Clerical Assistants.

IMPLEMENTATION PLAN

13. IRD plans to progressively implement the proposal starting from April 2020 and expects that all implementation work will be completed in phases by June 2025. A detailed implementation plan is at **Annex C**.

ADVICE SOUGHT

14. Subject to Members' views and support to the proposal, we plan to seek funding approval from the Finance Committee in early 2020.

**Financial Services and the Treasury Bureau
November 2019**

Non-recurrent Expenditure
for Enhancement and Relocation of Information Technology Systems and
Facilities

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
(a) Hardware	8,758	17,518	107,052	26,278	1,218	17,929	178,753
(b) Software	10,783	21,567	49,768	32,351	1,078	6,915	122,462
(c) Communication network	-	-	432	-	-	-	432
(d) Cloud services	-	3,628	3,628	15,546	15,546	-	38,348
(e) Implementation services	9,020	599	80,740	2,011	11,770	70,971	175,111
(f) Contract staff	5,508	25,158	45,816	26,901	22,696	22,696	148,775
(g) Site preparation	-	-	11,085	-	-	-	11,085
(h) Contingency	3,407	6,847	29,852	10,309	5,231	11,851	67,497
Total	37,476	75,317	328,373	113,396	57,539	130,362	742,463

Note:

Item (a): the estimated expenditure of \$178,753,000 is for acquisition of computer hardware, including servers, switches, storage devices, security appliance, network equipment, system backup equipment, desktop computers and high-speed scanners.

Item (b): the estimated expenditure of \$122,462,000 is for acquisition of computer software, including operating systems, database management system, application server software, virtualisation software, desktop management software, enterprise printing software, document management software and system monitoring framework software.

Item (c): the estimated expenditure of \$432,000 is for installation of the communication lines for the computer network.

- Item (d): the estimated expenditure of \$38,348,000 is for implementation services of Cloud platform installation and configuration under GCIS.
- Item (e): the estimated expenditure of \$175,111,000 is for hiring of services from external service providers to implement the project, including system analysis and design, technical consultancy, system development, installation, configuration and nursing.
- Item (f): the estimated expenditure of \$148,775,000 is for engagement of services of contract staff to supplement in-house project management team to provide support in project planning, monitoring and conducting system acceptance tests.
- Item (g): the estimated expenditure of \$11,085,000 is for site preparation works at IRD computer rooms and IRD offices, including installation of new uninterruptible power supply and power points, network nodes, as well as the associated trunking and cabling works.
- Item (h): the estimated expenditure of \$67,497,000 represents a 10% contingency on the cost items set out in item (a) to item (g) above.

Recurrent Expenditure
for Enhancement and Relocation of Information Technology Systems and
Facilities

	2026-27 and onwards
	\$'000
(a) Hardware and software maintenance	43,218
(b) Communication network	432
(c) Cloud services	9,033
Total	52,683

Note:

Item (a): the estimated annual expenditure of \$43,218,000 is for provision of hardware and software maintenance, and for software licence fee to support the enhanced IT infrastructure and systems.

Item (b): the estimated annual expenditure of \$432,000 is for rental of communication lines for the computer network.

Item (c): the estimated annual expenditure of \$9,033,000 is for Cloud services fee under GCIS.

Implementation Plan for
Enhancement and Relocation of Information Technology Systems and
Facilities

Activity	Target Completion Date
I. Develop Business Tax Portal	
Phase 1 (Enhance Financial Data Collection)	
(a) Procurement	June 2020
(b) System analysis and design	August 2020
(c) System development	December 2020
(d) User acceptance	February 2021
(e) System live-run	March 2021
(f) System nursing	June 2021
Phase 2 (Develop Business Tax Portal)	
(a) Procurement	March 2023
(b) System analysis and design	June 2023
(c) System development	June 2024
(d) User acceptance	February 2025
(e) System live-run	March 2025
(f) System nursing	June 2025
II. Replace eTAX with Enhanced Individual Tax Portal	
Phase 1 (Enhance Functionalities of eTAX)	
(a) Procurement	June 2020
(b) System analysis and design	October 2020
(c) System development	October 2021
(d) User acceptance	December 2021
(e) Data conversion	February 2022
(f) System live-run	March 2022
(g) System nursing	June 2022
Phase 2 (Develop Individual Tax Portal)	
(a) Procurement	March 2024
(b) System analysis and design	June 2024
(c) System development	October 2024
(d) User acceptance	December 2024
(e) Data conversion	February 2025
(f) System live-run	March 2025
(g) System nursing	June 2025

Activity	Target Completion Date
III. Develop Tax Representative Portal	
(a) Procurement	March 2023
(b) System analysis and design	June 2023
(c) System development	June 2024
(d) User acceptance	February 2025
(e) System live-run	March 2025
(f) System nursing	June 2025
IV. Leverage Cloud services	
(a) Procurement	December 2020
(b) System analysis and design	March 2021
(c) System development	March 2022
(d) System installation	December 2022
(e) User acceptance	December 2022
(f) Data conversion	March 2023
(g) System live-run	June 2023
(h) System nursing	September 2023
V. Extend workflow technology	
(a) System analysis and design	March 2023
(b) System development	March 2024
(c) User acceptance	December 2024
(d) System live-run	March 2025
(e) System nursing	June 2025
VI. IT Systems and Facilities Relocation	
(a) Procurement	June 2022
(b) Site Preparation	March 2023
(c) IT Facilities Relocation	April 2023
(d) IT Systems Relocation	June 2023
(e) System live-run	June 2023