

*For discussion on
13 June 2011*

**Legislative Council Panel
on Information Technology and Broadcasting**

Progress Update on E-Government Development

Purpose

This paper updates Members on the latest progress on E-Government development, and our plans and measures to help Bureaux/Departments (B/Ds) achieve their policy objectives and initiatives through wider adoption of information technology (IT).¹

Background

2. One of the key action areas under the Digital 21 Strategy is to enable the delivery of the next generation of public services through prudent use of IT. To achieve this, our E-Government programme is focusing on citizen-centric mode of public service delivery with strong emphasis on customer engagement and information management. In addition, automation, integration and re-engineering of processes within and across government departments have been rolling out in tandem to further enhance the efficiency and effectiveness of services provided to the public.

3. Our E-Government programme is aligned with the global trend² in adopting personalisation and shared services; embracing mobility and

¹ In this paper, information technology (IT) is used as an extended synonym for information and communications technology (ICT).

² Predictions made by IDC and Gartner on public sector investments on IT in 2011.

consumer devices; and deploying cloud computing³ for enhancing Government services and internal efficiency. This paper reviews the progress made last year and introduces some of the forthcoming major E-Government initiatives.

Progress in the Past Year

4. We have made good progress on the implementation of E-Government programme last year, with new and improved services of both informational and transactional⁴ nature made available to the public. Some notable examples include: introducing a personalised version of the Government's one-stop portal, MyGovHK, that allows users to customise multiple E-Government services according to their needs and preferences; launching the one-stop and integrated electronic company incorporation and business registration service; commencing a pilot scheme to disseminate geo-referenced public facilities data and real-time traffic data via the portal "Data.One" for free download and re-use by the private sector; launching a mobile application "Tell me@1823" for the public to make enquiries, complaints or suggestions to the 1823 Call Centre via mobile devices; and completing the architecture and design of the territory-wide electronic Health Record (eHR) Sharing System. Further details are included in **Annex A**.

Popular E-government services

5. Many B/Ds have already adopted the citizen-centric mode of public service delivery and the use of electronic channel is gradually becoming more popular. **Annex B** shows utilisation figures of the most popular E-Services. Most of these services adopt the electronic delivery mode as the primary, if not sole mode for service delivery.

³ Cloud Computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

⁴ "Informational" type of service means its purpose is dissemination of information, which can be static or generated based on selection criteria, e.g. on-line telephone directory; "Transactional" type of service will involve interactive sessions with users, e.g. on-line booking of facilities and filing of returns.

Forthcoming Initiatives

Provision of Central IT Services in Government Based on the Cloud Computing Model

6. Timely and prudent use of IT has become a critical success factor for any large organisation. Government is no exception. To maximise the synergy and cost-effectiveness of the IT plans of B/Ds, and taking account of industry and international developments in IT adoption best practices, the Office of the Government Chief Information Officer (OGCIO) last year formulated a Pan-government IT Strategy (the Strategy). The Strategy has five dimensions, namely, governance on IT investments, IT-enabled business transformation, information and data management, technology architecture and infrastructure, and development of the Government IT profession. It provides the overarching IT direction for reference by B/Ds for fulfilment of their policy objectives and managing their IT portfolios. It also made recommendations on a number of IT initiatives to be implemented centrally.

7. Under the Strategy, we will progressively re-provision the central IT services in Government through adoption of Cloud Computing technology over the next two to five years to support a number of common services centrally developed by OGCIO. A Government Cloud environment⁵ will be established and made available to B/Ds to facilitate them to execute their own IT-enabled change initiatives in a more agile, cost-effective and collaborative manner. This flexible redeployment of IT resource and workload can also reduce our overall carbon footprints and environmental impact.

8. We will continue our effort in reviewing and ensuring different aspects of the requirements arising from business changes and technology advancements are properly catered for under the Government Cloud environment and ensuring better information flow between Government

⁵ The Government Cloud environment will include an “in-house private Cloud” owned and operated by the Government, an “outsourced private Cloud” comprising facilities dedicated to the Government in secure data centres operated by contractors, and “public Cloud” for generic services where we do not need or have less control over how the services are provided.

and the private sector in the context of future E-Government development. The following paragraphs describe some of these common services.

E-Government Infrastructure Services (EGIS)

9. On 15 April, Finance Committee approved a new commitment of \$135 million under the Capital Works Reserve Fund Head 710 for OGCIO to develop a new E-Government Infrastructure Services (EGIS) platform for hosting E-Government applications. The new platform will provide additional capacity for about 100 new services, while re-provisioning the resources for 118 existing E-Government services in an energy-efficient manner. Work has commenced and is targeted to complete by stages from the end of 2012 to early 2015.

Architectural Framework for Hosting Services

10. There are currently 25 government data centres in 14 B/Ds. Some of these data centres are small and some are located in central business districts. These data centres require high operating costs. We envisage that consolidation of a number of these data centres can bring economy of scale by sharing common facilities. To enhance the agility and facilitate the provision of shared government IT services, OGCIO is developing an architectural framework to address the hosting needs of central IT infrastructure and departmental IT systems. The framework will evaluate the need for building new government data centres and opportunities of consolidating existing ones. Another strand of this framework involves implementation of a virtualised infrastructure in the Government Central Computer Centre.⁶ Work for developing the framework has started in January 2011 and is targeted to complete by April 2012.

⁶ The Government Central Computer Centre includes major data centres operated by OGCIO in Wanchai, Tsuen Wan and Sai Kung.

Electronic Information Management (EIM)

11. The ever-increasing amount of paper and electronic records created and received through different sources and in different formats make retrieval, use and management of information more and more difficult. EIM can help B/Ds solve these problems effectively and efficiently. It will enhance consistency of user experience and facilitate collaboration across B/Ds. With the help of consultants, OGCIO completed an EIM strategy study earlier this year. The study revealed that EIM is an indispensable tool to address the information and record explosion issues. It estimated that government-wide implementation of EIM would take around 10 years with an estimated capital investment of \$4.4 billion, while bringing a net tangible saving of \$2.8 billion over the 10-year period in addition to efficiency gains and enhanced effectiveness in information handling, storage, retrieval and archival. In May, OGCIO announced a government-wide EIM strategy and framework to inform B/Ds of the need to define their own EIM strategies and plan for their implementation. To reduce cost, time and risks involved in EIM implementation, OGCIO will be developing centrally a few common shared services. These include a common, collaborative workspace and electronic recordkeeping solutions that can be adopted with little or no customisation by B/Ds. The target date for delivering the first batch of common shared services to support EIM is mid-2012.

Establishing the Procurement Mechanism for Public Cloud Services

12. To enhance efficiency in central procurement and pave way for the adoption of public cloud services, we target to make available a public cloud procurement arrangement through bulk purchase contracts. This will enable B/Ds to flexibly acquire common commercial offers in the market by the end of 2011. This mechanism will not only reduce B/Ds' time and effort for making individual procurement for acquiring public cloud services to process non-sensitive applications and data, but will also provide more opportunities to the industry, including small and medium sized enterprises, to participate in government procurements without

going through lengthy tendering processes.

13. A high-level timetable on the major targets on the adoption of Cloud Computing in Government is given in **Annex C**.

Conclusion

14. Government continues its efforts in achieving the objectives defined under the Digital 21 Strategy by transforming and joining up government processes through IT adoption. Through the various programme steering mechanisms and regular interactions with the IT Management Units and E-Business Coordinators in B/Ds, OGCIO continues to play a coordination and facilitation role in introducing new IT infrastructure, technologies, common services, best practices and benchmarking ourselves with economies advanced in IT. With around 400 IT projects funded with a 2011-12 capital budget of over \$1.7 billion, OGCIO will work closely with B/Ds to make sure project governance and other E-Government objectives are met. We will continue to update Members on our progress on an annual basis.

Advice Sought

15. Members are invited to note the contents of this paper.

**Office of the Government Chief Information Officer
Commerce and Economic Development Bureau
June 2011**

Progress in the Past Year

MyGovHK

Riding on the success of the government portal GovHK, the Government launched MyGovHK in December 2010 to enable personalised and integrated online access to government information and services. With a MyGovHK account, citizens can access multiple government online services with a single username and password without the need to switch between government service accounts and websites. They can also set up shortcuts to access their most frequently used services, and customise the user interface.

“Tell me @1823” Mobile Application

2. OGCIO, in collaboration with the Efficiency Unit (EU), launched a mobile application, "Tell me@1823", in April 2011. The public can download this application free of charge onto mobile phones running on Apple's iOS and Android platforms.

3. To make enquiries, complaints or suggestions to the Government, users may now take photos or videos with mobile phones and send them to the 1823 Call Centre via the "Tell me@1823" application. The mobile device's Global Positioning System (GPS) function also makes it easier for the Call Centre to identify the location in relation to the enquiries, complaints or suggestions.

A pilot scheme to facilitate value-added re-use of public sector information

4. The Government launched an 18-month pilot scheme in March 2011 to disseminate geo-referenced public facilities data and real-time traffic data for free download and value-added re-use by the public. The relevant data are provided via a portal entitled “Data.One”.

5. The geo-referenced public facilities data include names, addresses and co-ordinates, etc. of public facilities such as government offices, hospitals, schools, country parks as well as recreational, cultural and sports venues. Real-time traffic data of the main roads include the average traffic speeds of the main roads in Hong Kong, average cross-harbour journey time between Hong Kong Island and Kowloon, the latest special traffic news and snapshot images of real-time traffic situation. While such information is already available for browsing on the Internet, “Data.One” makes it easier for the public to download the data for value-added re-use. Since roll-out, we note that applications using the data have been developed and are quite well-received.

Enquiry on Rates and Government Rents Accounts and eRVD Bill

6. Launched in late December 2010, payers can check at only \$20 per record through Property Information Online (PIO) their rates and Government rent accounts. It is expected that the new service will be much welcomed by the public, particularly those who require such information to work out the respective responsibilities for rates and Government rent of a property when it changes hand through sale or letting. In addition to viewing and/or downloading the information, users also have the options of obtaining the records by e-mail or by fax. Not only is the service available round-the-clock, the modest charge of \$20 compares highly favourably with the previous request for such information at the fee of \$81 per record handled manually.

7. The eRVD Bill was launched by RVD in December 2010 to provide a convenient, efficient service and to reduce paper consumption. The eRVD Bill allows the public to receive the quarterly demands for rates and/or Government rent via the Internet in advance of the paper bills. There are other benefits of joining the e-billing service. For example, electronic demands sent via the Internet can avoid postal delay or loss. Subscriber account holders are notified as soon as the electronic demands are ready. Subscribers can also set up their own reminder service to alert themselves of the payment due date. They can view and download the demands for the past eight quarters. Furthermore, the design of the

electronic bill is customer-friendly with the same layout, content and payment barcode as the paper bill.

System for the 2011 Population Census

8. Given the enormity of the operation and the huge volume of data to be processed for the 2011 Population Census (11C), which will be conducted by the Census and Statistics Department during the period from 30 June to 2 August 2011, the Finance Committee approved an amount of \$85 million in June 2009 to implement a computer system to support various activities in the 11C. The new system will be equipped with various functions including the e-Recruitment module for recruitment of temporary staff, Intelligent Character Recognition and on-line e-Reporting of census data by households. It will also improve the data accuracy and enhance the quality assurance mechanism. Besides, the system will strengthen the tracking of questionnaires under the new multi-modal data collection approach. Two phases of operation are involved with the first phase focusing on self-enumeration by households starting from 30 June and the second phase on face-to-face interviews conducted by census officers from 16 July to 2 August 2011. Data processing and data dissemination will be completed in February 2012 and March 2013 respectively, with summary results to be made available in early 2012 and more detailed results in phases afterwards.

Electronic Health Record

9. The Government is committed to developing a territory-wide patient-oriented Electronic Health Record (eHR) sharing system by 2013-14. Participation will be on a voluntary basis and sharing of patients' health records between healthcare professionals in both public and private sectors is subject to patients' express and informed consent. The eHR sharing system, which serves as an essential infrastructure for implementing the healthcare reform, will enhance continuity of care for patients and efficiency of healthcare by providing a platform for seamless integration and interface of healthcare services at different levels of care from primary care doctors to hospitals.

10. Major achievements in 2009-10 and 2010-11 include implementation of first stage eHR Engagement Initiative (EEI) on partnership proposals from the private healthcare sector contributing to the development of the eHR sharing system, commencement of radiological image sharing with private hospitals and private healthcare service providers, launch of the reading of card face data (CFD) of the smart identity (ID) card for patient enrolment in the Public Private Interface - Electronic Patient Record Sharing Pilot Project⁷, formulation of blueprints for eHR core infrastructure and the extension of Hospital Authority (HA)'s Clinical Management System (CMS) for use in private sector, and compilation of an initial set of eHR standards.

11. For 2011-12, the eHR Office plans to launch a public consultation on the long-term legal framework for the protection of privacy and security of the eHR sharing system, commence a full scale privacy impact assessment for the eHR Programme, implement the second stage EEI targeted on the IT sector, release CMS adaptation basic modules and CMS on-ramp prototype for use by the private healthcare sector, and complete the consultancy study for development of the IT security framework for the eHR sharing system.

Using smart ID card for elderly healthcare voucher

12. The Elderly Health Care Voucher Pilot Scheme was launched on 1 January 2009. As at mid-March 2011, over 2 700 healthcare service providers have enrolled to the Scheme, and the Department of Health (DH) has handled over 1 038 000 claim transactions, involving about 2 665 000 vouchers. Since August 2010, DH has made improvement to further simplify and streamline the claim procedures by providing smart ID card readers to healthcare providers for authentication and handling account registration. It is now feasible to make use of the CFD function of smart ID card for registration and claiming elderly healthcare vouchers,

⁷ PPI-ePR is developed and operated by HA and it was expanded in 2008 under the auspices of the Steering Committee on eHR Sharing as part of the initiative to take forward the development of eHR. PPI-ePR allows a duly authorised healthcare provider with the consent and authorisation code of a patient to access the patient's clinical information at HA. As at February 2011, there are over 133 000 patients enrolled to PPI-ePR. From August 2010 to February 2011, 4 262 out of 4 856 new patients were enrolled to PPI-ePR by reading the CFD of smart ID card.

obviating manual input and ensuring data accuracy.

Next Generation Integrated Library System

13. The Leisure and Cultural Services Department will implement a Next Generation Integrated Library System (NGILS) in the Hong Kong Public Libraries (HKPL) to replace the existing Library Automation System. The new system offers the public many new and customer-oriented functions such as virtual reference services, online PC reservation, e-Payment of library fines and charges, etc.

14. NGILS will be implemented in three phases, namely *Phase 1* – core library functions, *Radio-frequency Identification (RFID) Pilot Phase* – technology update of existing barcode to RFID and *Phase 2* – new and enhanced library functions. Phase 1 and RFID Pilot Phase are targeted to launch in 2011.

Integrated Student Financial Assistance System

15. To improve the operation and administration of the student financial assistance schemes, the Student Financial Assistance Agency (SFAA) will implement the Integrated Student Financial Assistance System (ISFAST) in three phases from 2011 to 2016. The implementation of ISFAST is underway with good progress on change management and procurement of IT solution.

16. ISFAST will support provision of new convenient e-services under GovHK to the public by enabling the applicants to submit applications on a household basis, enquire progress and manage their loan accounts online through Internet. Moreover, with operationally integrated and new advanced functionalities implemented, ISFAST will strengthen the readiness for future development in terms of capacity and capability in supporting new schemes and enhancements to the existing schemes that may be introduced in future.

Redeveloped Air Cargo Clearance System

17. The Air Cargo Clearance System (ACCS) enables Customs & Excise Department (C&ED) to provide faster customs clearance, enhance its cargo handling capacity, improve security and accuracy in cargo selection, and achieve more efficient analysis of data including the smuggling trend. With the completion of the redevelopment work in December 2010, the new system gives C&ED added room to handle future growth in air cargo traffic, including allowing more cargo operators to use the system, thereby sustaining the present speedy and reliable customs clearance service.

New Computerised Land Information System

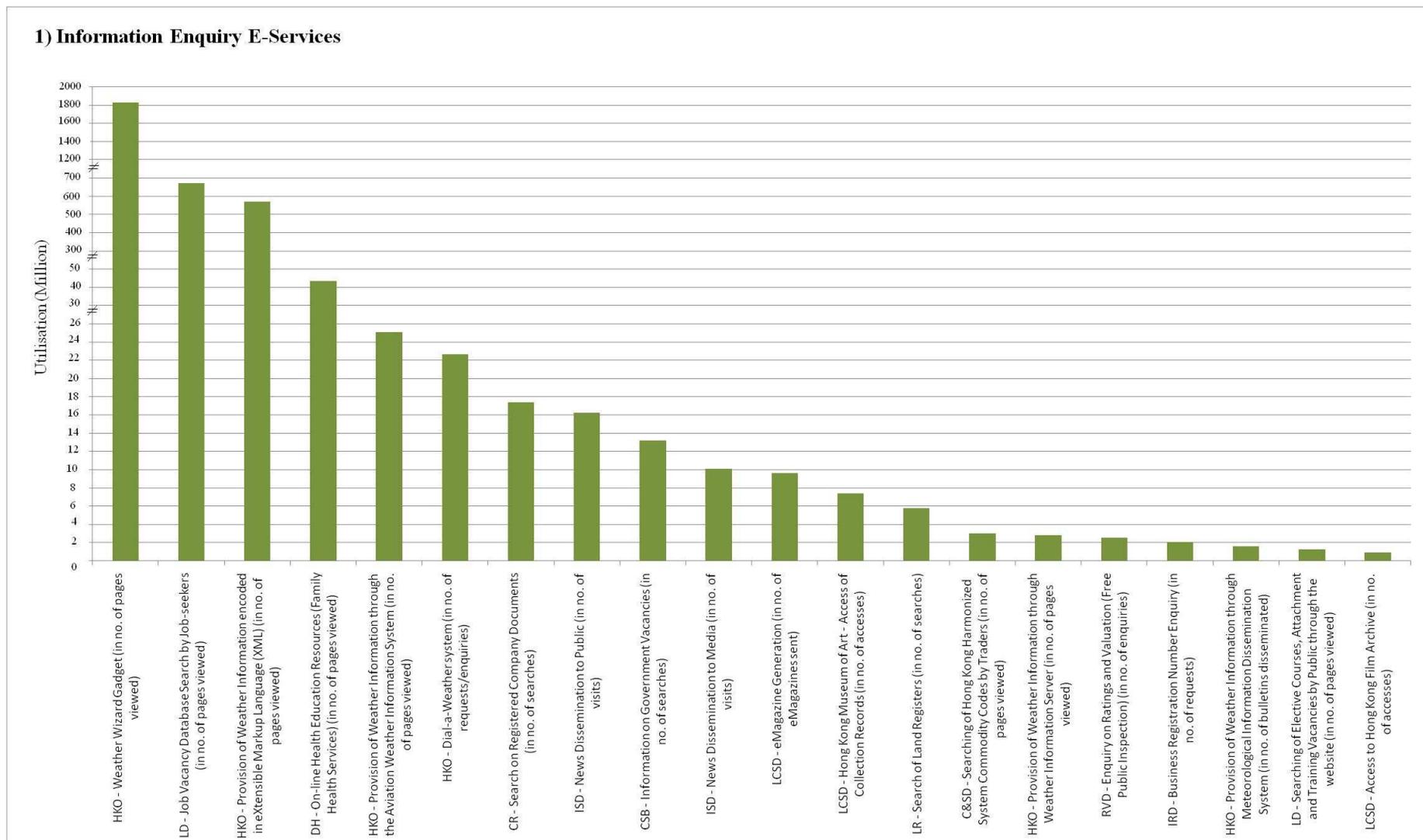
18. The new Computerised Land Information System (CLIS) was in full operation in December 2010 to replace the old one for providing digital mapping and land boundary data to support Geographical Information System (GIS) and location-based applications in both the public and private sectors. The new system allows more efficient concurrent data updating, version control and data integrity checking. With these, the quality, accessibility, usability and serviceability of the digital map can be improved. The new system also enriches the geographical database, improves the workflow and enhances the functionality of CLIS. Users from more than 40 government departments and numerous consultants firms and private companies can be benefited from the new data models by making use of the time-stamped geospatial information in their GIS applications.

One-Stop Service for Company Incorporation and Business Registration

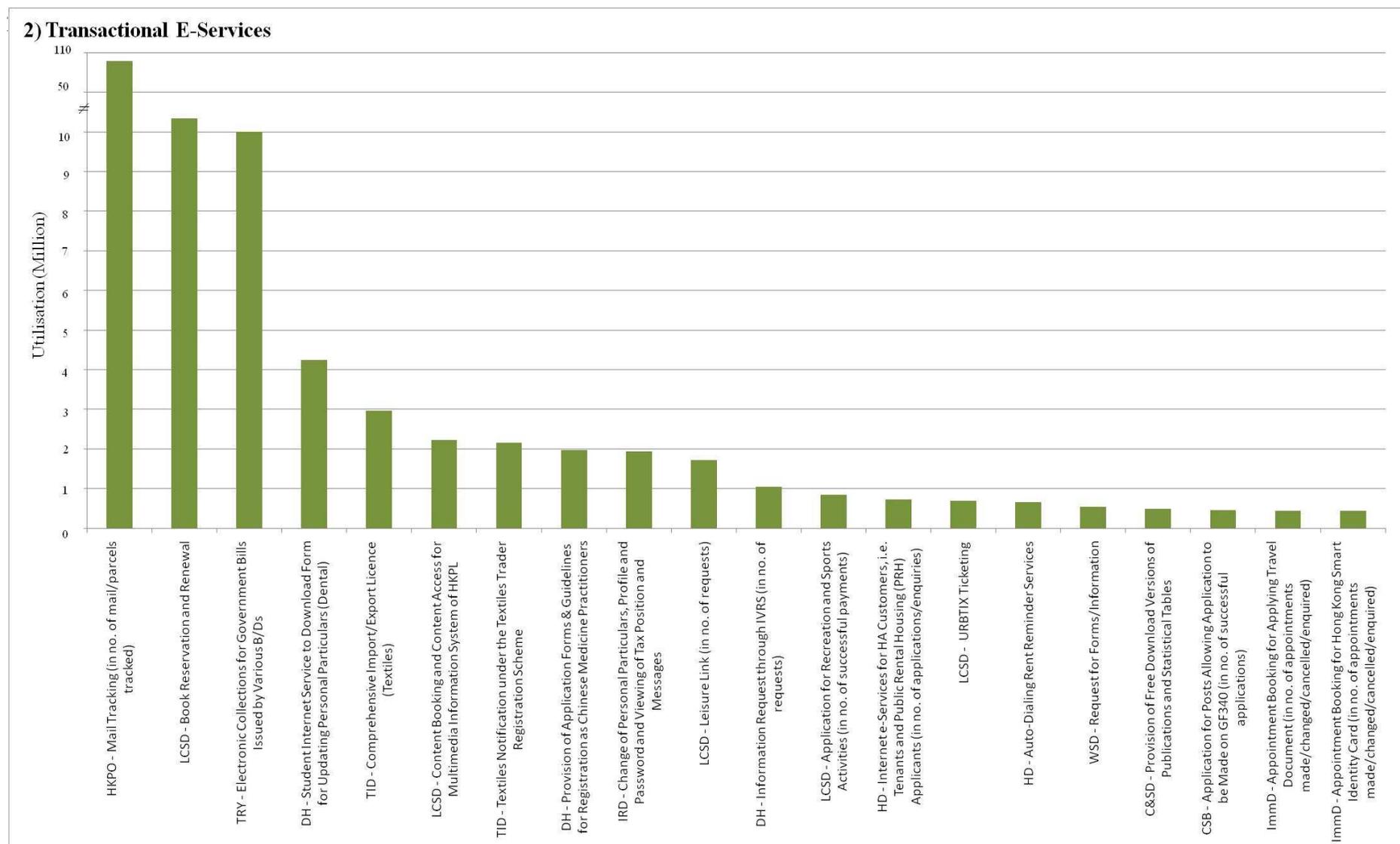
19. The Companies Registry has been developing Phase II of the Integrated Companies Registry Information System (ICRIS II) and delivering the new electronic services by stages through its e-Registry portal platform. e-Registry is a 24-hour portal developed under ICRIS II to facilitate electronic submission of applications for company incorporation under the Companies Ordinance. It is a one-stop platform

where customers can enjoy convenient, user-friendly and integrated services for electronic company and business registration whereby any online application for company registration will be deemed to be an application for business registration simultaneously. The first stage, including electronic incorporation service and one-stop company incorporation and business registration service, was launched on 18 March 2011. Other electronic services such as registration of registered agents, facilities for bulk submissions, third party software interface and electronic submission of commonly filed statutory returns will be launched by stages.

Utilisation Figures of the Most Popular E-Services in the period from 1 January to 31 December 2010



Utilisation Figures of the Most Popular E-Services in the period from 1 January to 31 December 2010



High Level Timetable on Adoption of Cloud Computing Model in Government

| Year | Major Targets |
|------|--|
| 2011 | <ul style="list-style-type: none"> ● Complete the review of the e-Procurement Pilot Programme and plan for implementing similar programmes on a more government-wide scale. ● Establish the Procurement Mechanism for Public Cloud Services for use by government bureaux and departments. ● Establish a virtualised infrastructure in the Government Central Computer Centre. |
| 2012 | <ul style="list-style-type: none"> ● Develop an Architectural Framework for Hosting Services for central IT infrastructure and departmental IT systems. ● Establish common facilities for paper-less meetings in government bureaux and departments. ● Implement the first batch of shared service for Electronic Information Management. ● Establish a new E-Government Infrastructure Services for E-government applications. (by phases up to 2015) |
| 2013 | <ul style="list-style-type: none"> ● Implement the first batch of shared service for Human Resource Management. ● Conduct a review on the further development of Cloud Computing in the Government. |