

**For discussion  
on 11 January 2002**

**FCR(2001-02)54**

## **ITEM FOR FINANCE COMMITTEE**

### **CAPITAL WORKS RESERVE FUND**

#### **HEAD 710 - COMPUTERISATION**

##### **Immigration Department**

##### **New Subhead “Implementation of Phase I of the Updated Information Systems Strategy for the Immigration Department”**

Members are invited to approve a new commitment of \$362,119,000 for implementing Phase I of the updated Information Systems Strategy for the Immigration Department.

### **PROBLEM**

The information technology (IT) infrastructure of the Immigration Department (ImmD) and the computer system supporting the operation of immigration control points are aging and obsolescent. Their ability to cope with the growing workload and new business needs is fully stretched.

### **PROPOSAL**

2. The Director of Immigration, with the support of the Secretary for Security and the Director of Information Technology Services, proposes to create a new commitment of \$362,119,000 to implement Phase I of the updated Information Systems Strategy (ISS-2) for ImmD, which comprises the IT Infrastructure Upgrade Programme and the Immigration Control Automation System (ICAS) Enhancement Programme.

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## JUSTIFICATION

### ISS-2 for ImmD

3. ImmD's first Information Systems Strategy (ISS) was formulated in 1991 and implemented fully in 1995. In 1999, ImmD commissioned a consultancy study to review the ISS. On completion of the review, the consultant formulated the ISS-2 to enable ImmD to meet the growing demands for high quality public service to be delivered at a lower cost and in a more responsive manner. The ISS-2 embodies 30 separate but inter-related projects. Taking into account the urgency of the projects, inter-dependence of the applications, logistics and resources requirements as well as manageability of the projects and the changes that they would bring about, the consultant recommended that ISS-2 should be implemented according to a structured programme. Accordingly, ImmD plans to implement the 30 projects within six years starting from 2001-02. A list of the projects and the tentative implementation plan are at Enclosure 1.

Encl. 1

4. Of the 30 projects recommended in the ISS-2, the IT Infrastructure Upgrade Programme (i.e. Projects No. 4 to 7 at Enclosure 1) and the ICAS Enhancement Programme (i.e. Projects No. 8 and 9 at Enclosure 1) should be undertaken at an early stage. The IT infrastructure affects all application systems of ImmD and ImmD's ability to use IT, while ICAS is a mission-critical component of day-to-day immigration clearance service at control points. Feasibility studies on these two programmes were completed in March and April 2001 respectively. These feasibility studies, as well as the ISS-2 consultancy study mentioned in paragraph 3, recommend that ImmD should pursue these two programmes as a matter of urgency and priority.

### The IT Infrastructure Upgrade Programme

5. The existing IT infrastructure of ImmD, designed in 1991, provides the infrastructural communication network and system architecture underpinning all application systems of the Department. Some of the key components were put into use as early as 1993. The infrastructure is aging and obsolescent. It has increasing difficulties in supporting existing application systems and coping with growing processing needs of ImmD, not to mention the new and enhanced application systems to be introduced under the ISS-2. Vendors of some major components, such as personal computers and their operating systems, have also indicated that they will not provide maintenance support by 2004.

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6. The IT Infrastructure Upgrade Programme aims to put in place a reliable and scalable network to enable ImmD to cope with the increasing workload, and to lay the foundation for implementing various application system projects under the ISS-2. The upgrade will cover a multitude of areas, including network, mainframe, mid-range computers, resilience, information security, infrastructure management and support. It will also pave the way for the introduction of the Automated Passenger Clearance (i.e. Project No. 11 at Enclosure 1) and the Automated Vehicle Clearance (i.e. Project No. 12 at Enclosure 1) Systems at a later stage.

### **The ICAS Enhancement Programme**

7. The ICAS supports the immigration clearance services at control points. Designed in 1992 and implemented in 1995, some of the key components of the ICAS, including the optical character recognition readers<sup>1</sup> and the mid-range computers<sup>2</sup>, are facing similar problems of aging, obsolescence and lack of maintenance support. The fact that the overall passenger throughput at our control points has increased by some 40% during the past five years has further stretched the ability of the ICAS to cope with the heavy workload.

8. The ICAS Enhancement Programme aims to maintain the availability and quality of the functions and services provided by the ICAS amidst increasing workload. It will also update the technology platform required to support ImmD's new initiatives to enhance service delivery at control points. Specifically, it will –

- (a) replace the aging and obsolescent hardware and software so that the system can continue to function and will be able to cope with the growing workload up to at least 2008-09<sup>3</sup>;
- (b) upgrade the system architecture to cater for the establishment of new control points;

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<sup>1</sup> The optical character recognition readers are connected to the personal computers at immigration clearance counters to facilitate immigration clearance. Without these readers, the processing time for all passengers will be significantly lengthened.

<sup>2</sup> The mid-range computers at control points serve as a bridge between the mainframe computer in the headquarters and the personal computers at immigration control points and support the personal computers at control points. Failure of the mid-range computers means the system cannot perform many essential functions at the control points.

<sup>3</sup> The system capacity is designed having regard to the workload projection up to 2008-09, beyond which its capacity can be enhanced without a major overhaul to meet further growth in workload.

- (c) support and interface with the Automated Passenger Clearance and the Automated Vehicle Clearance Systems;
- (d) support the Advance Passenger Processing System (i.e. Part II of Project No. 3 at Enclosure 1) and provide electronic communication services to the private sector to facilitate pre-arrival clearance; and
- (e) improve information security of the ICAS.

### **Benefits**

9. The successful implementation of the IT Infrastructure Upgrade Programme and the ICAS Enhancement Programme will enable ImmD to achieve the following benefits –

**(a) Enhancing capacity to cope with the increasing service demands**

The upgraded IT infrastructure will cater for ImmD's growing processing needs as a whole, while the enhanced ICAS will enable ImmD to cope with the projected growth in workload arising from surging passenger and vehicular traffic up to at least 2008-09. System services can also be extended to future new control points.

**(b) Improving resilience and reliability of services to the public**

ImmD relies heavily on IT to provide its multifarious services to the public. The improved resilience and reliability of the upgraded IT infrastructure and enhanced ICAS will help ensure that services to the public are not disrupted even if there is failure in some parts of the network or application systems. This is important since ImmD serves over 430 000 clients each day (over 420 000 travellers at control points and over 10 000 applicants at the Department's headquarters and branch offices).

**(c) Establishing an infrastructure to enable other improvements**

The upgraded infrastructure components will create a better managed technical environment and lay the foundation for implementation of other projects under the ISS-2, such as the Automated Passenger Clearance, Automated Vehicle Clearance and Advance Passenger

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Processing Systems. Upon implementation of the Automated Passenger Clearance System, self-service type immigration clearance counters will be provided for Hong Kong residents which in turn will allow the operation of more counters at control points without a corresponding increase in manpower. The Automated Vehicle Clearance System will facilitate the provision of one-stop automated immigration and customs clearance services to cross-boundary drivers. The Advance Passenger Processing System seeks to expedite immigration clearance by enabling advance pre-arrival clearance through transmission of passenger data to ImmD electronically. These systems will increase the overall throughput at control points and reduce the waiting time of immigration clearance.

**(d) Enhancing protection of information security**

Information security will be further enhanced to prevent unauthorised access to electronic documents and records, protect ImmD's network from hacking and safeguard the personal information stored on ImmD's systems.

**(e) Facilitating electronic communication**

The enhanced IT infrastructure will also facilitate participation in the "Digital 21" IT Strategy steered by the Administration which aims to develop Hong Kong into one of the leading digital cities in a globally connected world. For example, with the electronic interface facility, group tour operators may in future transmit group tour lists to control points through the Internet for pre-arrival clearance, thus expediting the clearance of group tour visitors and contributing towards the promotion of tourism.

**Cost savings**

10. The implementation of the IT Infrastructure Upgrade Programme and the ICAS Enhancement Programme will bring about annual savings of \$284,764,000 from 2005-06 onwards, comprising –

- (a) **Realisable savings** of \$22,104,000 - This represents annual savings in maintenance costs and consumables that would otherwise be required under the existing IT infrastructure and ICAS; and

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- (b) **Cost avoidance** of \$262,660,000 - Upon implementation of ICAS in 1995, ImmD realised staff savings of 328 posts. Since then, the workload at immigration control points has grown at an annual rate of 8.83%. Assuming that the workload will continue to grow at this rate, ImmD estimates that implementation of the ICAS Enhancement Programme will avoid the creation of 701 posts at an annual staff cost of \$262,660,000 by 2005-06. Moreover, beyond 2005-06, the above cost avoidance figure will continue to increase annually at the same rate as the assumed growth in workload.

Encl. 2 We set out at Enclosure 2 a detailed breakdown of the realisable savings and cost avoidance.

### Cost and benefit analysis

Encl. 3 11. A detailed cost and benefit analysis of the implementation of Phase I of the ISS-2 is at Enclosure 3. The analysis shows that Phase I projects will break even in 2005-06, i.e. two years after implementation.

## FINANCIAL IMPLICATIONS

### Non-recurrent expenditure

12. We estimate that the implementation of Phase I of the ISS-2 will require a total non-recurrent expenditure of \$468,766,000 over a four-year period from 2001-02 to 2004-05, broken down as follows –

	2001-02 \$' 000	2002-03 \$' 000	2003-04 \$' 000	2004-05 \$' 000	Total \$' 000
<i>Non-recurrent expenditure for which we are seeking a commitment</i>					
(a) Hardware and software	-	61,066	128,180	22,116	211,362
(b) Implementation and contract staff services	899	38,064	43,798	19,320	102,081
(c) Site preparation	-	18,413	8,252	-	26,665
					/(d) .....

	2001-02 \$' 000	2002-03 \$' 000	2003-04 \$' 000	2004-05 \$' 000	Total \$' 000
<i>Non-recurrent expenditure for which we are seeking a commitment</i>					
(d) Consumables and miscellaneous	-	1,830	1,663	1,274	4,767
(e) Contingency	45	5,969	9,095	2,135	17,244
<b>Sub-total</b>	<b>944</b>	<b>125,342</b>	<b>190,988</b>	<b>44,845</b>	<b>362,119</b>
<i>Other non-recurrent expenditure</i>					
(f) Staff cost	7,680	33,072	35,551	23,970	100,273
(g) Accommodation	255	2,537	2,536	1,046	6,374
<b>Sub-total</b>	<b>7,935</b>	<b>35,609</b>	<b>38,087</b>	<b>25,016</b>	<b>106,647</b>
<b>Total</b>	<b>8,879</b>	<b>160,951</b>	<b>229,075</b>	<b>69,861</b>	<b>468,766</b>

13. As regards paragraph 12(a), the expenditure of \$211,362,000 is for acquisition of hardware, software and network equipment including backbone infrastructure for ImmD Headquarters, a resilience centre and the support management system; backbone network for control points; as well as upgraded mainframe and mid-range computer systems, workstations and optical character recognition readers.

14. As regards paragraph 12(b), the expenditure of \$102,081,000 is for engaging external service providers and contract staff to implement the two programmes. Main activities include design and implementation of the backbone network, external perimeter security components, infrastructure management support components, user acceptance test and PC-LAN services for the IT Infrastructure Upgrade Programme; system analysis and design, programme development and system acceptance/system integration/user acceptance/load tests for the ICAS Enhancement Programme as well as provision of technical consultancy for both programmes.

15. As regards paragraph 12(c), the expenditure of \$26,665,000 is for site preparation including the setting up of the resilience centre, installation of data ports and power points, as well as trunking and cabling work at ImmD offices and control points.

16. As regards paragraph 12(d), the expenditure of \$4,767,000 is for acquisition of start-up consumables and for meeting the costs of miscellaneous items such as installation of data lines, relocation activities and training of ImmD staff in administering, maintaining and using the upgraded IT infrastructure.

17. As regards paragraph 12(e), the expenditure of \$17,244,000 represents a 5% contingency on the cost items set out in paragraphs 12(a) to (d).

Encl. 4 18. As regards paragraph 12(f), the expenditure of \$100,273,000 represents the staff costs for setting up two project teams to develop and implement the two programmes. It comprises 819 man-months of immigration service grade staff (involving 29 non-directorate posts) and 309 man-months of IT professional grade staff (involving one Chief Systems Manager (D1) and nine non-directorate posts). Of these requirements, ImmD will absorb 89 man-months of immigration service grade staff and 36 man-months of IT professional grade staff (at a total staff cost of \$13,259,000) by internal redeployment. We set out at Enclosure 4 details of the non-recurrent staffing requirements. The project teams will be responsible for the system analysis and design, development, site preparation, installation support, performing system/user acceptance/load tests, pursuing procedure changes, preparing documentation, arranging and conducting training and implementing the two programmes. They will also ensure that implementation of the two programmes is consistent and compatible with the overall direction of ISS-2, and will pave the way for all other ISS-2 projects to be examined/pursued in an integrated and timely manner.



19. As regards paragraph 12(g), the expenditure of \$6,374,000 is for payment of rent to accommodate the project teams for system development, testing and training of staff. This amount will be absorbed by the Government Property Agency (GPA) from within its existing resources.

### Recurrent expenditure

20. We estimate that additional recurrent expenditure arising from the two programmes is \$51,188,000 per annum, as set out below—

	2002-03	2003-04	2004-05	2005-06 and onwards
	\$' 000	\$' 000	\$' 000	\$' 000
(a) Hardware & software maintenance	3,685	8,140	24,571	24,908
(b) Maintenance and contract staff services	-	8,806	16,897	17,137
(c) Consumables and miscellaneous	-	121	621	621
(d) Communication lines	-	965	2,929	2,929
<b>Sub-total</b>	<b>3,685</b>	<b>18,032</b>	<b>45,018</b>	<b>45,595</b>
(e) Staff cost	-	1,468	3,623	4,161
(f) Accommodation	-	1,149	1,404	1,432
<b>Sub-total</b>	<b>-</b>	<b>2,617</b>	<b>5,027</b>	<b>5,593</b>
<b>Total</b>	<b>3,685</b>	<b>20,649</b>	<b>50,045</b>	<b>51,188</b>

21. As regards paragraph 20(a), the annual expenditure of \$24,908,000 is for hardware and software maintenance as well as software licence fees to support the mainframe computer and major network operating systems. As the mainframe computer will be upgraded and enhanced in 2002-03 under the IT Infrastructure Upgrade Programme, additional software licence fees will become payable in that financial year.

22. As regards paragraph 20(b), the annual expenditure of \$17,137,000 is for engaging external service providers and contract staff to provide on-going technical support and maintenance of the systems.

23. As regards paragraph 20(c), the annual expenditure of \$621,000 is for purchase of consumables such as backup tapes and printer toner.

24. As regards paragraph 20(d), the annual expenditure of \$2,929,000 is for rental of data lines and acquisition of wireless communication service for mobile terminals.

25. As regards paragraph 20(e), the annual expenditure of \$4,161,000 represents the recurrent staff costs of 45 man-months of IT professional grade staff (involving four posts of one Senior Systems Manager, one Systems Manager and two Analyst/Programmer I). They will be responsible for providing technical advice on IT-related matters for the on-going support of both IT Infrastructure Upgrade and ICAS Enhancement Programmes. Details of the recurrent staffing requirement are set out at Enclosure 5.

Encl. 5

26. As regards paragraph 20(f), the annual expenditure of \$1,432,000 is for providing accommodation for additional staff. The expenditure will be absorbed by GPA from within its existing resources.

### **Implementation plan**

#### ***(a) IT Infrastructure Upgrade Programme***

27. We plan to adopt a stage implementation approach for the IT Infrastructure Upgrade Programme according to the following schedule –

**/Activity .....**

Activity	Target Completion Date
Stage 1 Upgrade of networks, provision of connectivity to the resilience centre and external networks, and commissioning of the infrastructure management and support facilities	
Tendering	July 2002
Analysis and design	November 2002
Site preparation	April 2003
Integration test	July 2003
Implementation	August 2003
Stage 2 Extension of the upgraded infrastructure to support the control points	
Analysis and design	April 2003
Site preparation	August 2003
Integration test	January 2004
Implementation	February 2004
Stage 3 Extension of the upgraded infrastructure to support other immigration sites	
Analysis and design	January 2004
Site preparation	February 2004
Development	April 2004
User acceptance test	September 2004
Implementation	October 2004

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**(b) ICAS Enhancement Programme**

28. The proposed implementation plan of the ICAS Enhancement Programme is as follows –

<b>Activity</b>	<b>Target Completion Date</b>
Tendering	August 2002
System design and development	October 2003
System test	November 2003
User acceptance test	February 2004
Site preparation	March 2004
Training	May 2004
Roll-out to control points (by phases)	June 2004 (Starting from April 2004)

**BACKGROUND INFORMATION**

29. As recommended by the ISS consultant, ISS-2 should be implemented according to a structured programme comprising five phases : Phase 0 to start in 1999-2000, Phase I in 2000-01, Phase II in 2001-02, Phase III in 2002-03 and Phase IV in 2003-04. The following is an outline of the major projects in each phase, with elaboration on their inter-dependence –

**Phase 0** – Due to the urgent need to replace the aging system that supports the issue of identity (ID) cards, the HKSAR ID Card Project started in 1999-2000 even before the conclusion of the ISS-2 consultancy study. The smart ID card to be introduced in mid-2003 will provide an infrastructure for launching the Automated Passenger Clearance and Automated Vehicle Clearance under Phase II of ISS-2.

/ **Phase I** .....

**Phase I** – This phase consists of mainly the IT Infrastructure Upgrade and ICAS Enhancement Programmes, two time- and mission-critical programmes which will affect ImmD's ability to continue to use IT to provide services to the public. These two programmes will uplift the technology platform for the introduction of Automated Passenger Clearance and Automated Vehicle Clearance. The Electronic Visit Permit Application System (Pilot) (or known as the iPermit System) is also included in this phase. Development of this project has already started.

**Phase II** – Automated Passenger Clearance and Automated Vehicle Clearance, which will employ bio-recognition and smart card technologies, are the two major projects in this phase. The implementation of these two projects is conditional upon the introduction of smart ID card and launch of the IT Infrastructure Upgrade and ICAS Enhancement. Automated Vehicle Clearance was originally included in Phase IV. For reasons stated in paragraph 30, its implementation has been advanced.

**Phase III** – With the aim of improving the services to applicants of visas, entry permits, extension of stay, travel documents as well as registration for births, deaths and marriages, ImmD plans to start in this phase the Enhancement of Processing Automation System which supports the handling of the applications. The Department will also seek to start the Electronic Records Programme in this phase. Through this Programme (which comprises four projects, namely, File Conversion, Imaging, Workflow and Document Management), ImmD will, among other things, digitise its records to improve the record keeping systems to save manpower and space, improve office efficiency and enhance productivity. However, the launch of the Imaging Project is contingent upon the enhancement of the Processing Automation System which will uplift the technology platform to enable introduction of imaging. The Department also intends to introduce Data Warehousing to provide quality management information to aid decision making as well as planning and allocation of resources. This project was originally scheduled to start in Phase II. For reasons stated in paragraph 30, its implementation has been deferred.

/ Phase IV .....

**Phase IV**– ImmD aims to build an Intranet to leverage the improved management information made available by Data Warehousing. ImmD also plans to take advantage of the enhanced technology environment brought about by projects of the previous phases to introduce Business Information, Personnel Support and Chinese Language Support Systems. The feasibility of implementing Advance Passenger Processing will also be examined in this phase.

ImmD will regularly review and update the ISS-2, including the roll-out programme, in light of factors such as advancement of technologies and the changing demand of the community.

30. We consulted the Legislative Council Panel on Security on the funding proposal on 1 November 2001 and 6 December 2001. Members supported the proposal but urged the Administration to speed up the introduction of the Automated Vehicle Clearance System. In response to the views of Members and taking into account such factors as urgency of projects, inter-dependence of applications and the implementation timetable for ISS-2, we decided to advance the feasibility study on the Automated Vehicle Clearance System (Project No. 12 at Enclosure 1) from early 2004 to early 2002 and its roll-out from 2006-07 to 2004-05, to tie in with the introduction of smart ID card in phases starting from mid-2003 and the implementation of ICAS Enhancement Programme in April 2004. As a tradeoff, we will defer the feasibility study on Data Warehousing project (Project No. 24 at Enclosure 1) from December 2001 to December 2003, hence its roll-out from 2004-05 to 2005-06.

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Security Bureau  
December 2001

**List of projects and macro implementation plan of the updated Information Systems Strategy for the Immigration Department**

Phase	Project No.	Name of Project & Description	Implementation	Status
Phase 0 (1999-2000)	1	<b>HKSAR ID Card<sup>D</sup></b> To develop and implement the necessary infrastructure and application system for issuing new ID cards to the public.	May 2003	Feasibility study (FS) was completed in June 2000. With the funding approval obtained from the Finance Committee in March 2001, implementation of the first phase of the project has started.
Phase I (2000-01)	2	<b>Business Process Re-engineering<sup>E</sup></b> To streamline and centralise work processes with the aim of significantly improving productivity, and bringing the greatest benefit from new and improved information systems.	Throughout the implementation of the updated ISS	Business process re-engineering studies have been conducted on application for extension of stay and visas; validation of right of abode claim; management of birth, death and marriage records. Studies on other areas will be mounted prior to implementation of the related information systems.
	3 (Part I)	<b>Electronic Visit Permit Application System (Pilot)<sup>D</sup></b> To introduce a new computer system (called iPermit System) for handling applications and issue visit permits to Taiwan visitors through electronic means. (The experience gleaned from this pilot scheme will be useful for subsequent implementation of Part II of the scheme to cover other categories of visitors.)	April 2002	FS was completed in November 2000. Development of the project has started using existing resources.

Notes :

D denotes that the project is one of the 12 delivery projects.

E denotes that the project is one of the 18 enabling projects.

Phase I (2000-01)	4	<b>Infrastructure Upgrade Programme</b> <b>Mainframe Investment<sup>E</sup></b> To upgrade the processing and storage capacity of the mainframe to meet the needs of the updated ISS applications.	)	)
	5	<b>Midrange Investment<sup>E</sup></b> To upgrade the server computers (which link the mainframe computer in the headquarters and the personal computers in outstations) to the current technology platform and to enhance processing power and storage capacity.	)	)
	6	<b>Desktop Investment<sup>E</sup></b> To provide suitable modern personal computers on the desktop for immigration officers handling various applications in the headquarters and to the officers manning the clearance counters and kiosks at immigration control points to facilitate their daily work.	)	)
	7	<b>Communications Network Investment<sup>E</sup></b> To upgrade the communication network (a core IT infrastructure component shared by all ImmD applications now serving the immigration headquarters, 30 branch offices and 10 control points) to support the updated ISS applications and new offices and control points.	)	)
			August 2003	FS was completed in March 2001. Implementation of these projects is subject to funding approval from the Finance Committee.

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Phase I (2000-01)	8	<b>Immigration Control Automation System (ICAS) Enhancement Programme</b> <b>ICAS Enhancement<sup>D</sup></b> To enhance the existing system to address the aging and obsolescence problems and system limitation; and to raise the technology platform to support and interface with other initiatives of the updated ISS to improve the efficiency and effectiveness of operation of the immigration control points.	April 2004	FS was completed in April 2001. Implementation of the project is subject to funding approval from the Finance Committee.
	9	<b>Improvement on Information Security<sup>D</sup></b> The opportunity will also be taken to improve data security of ICAS.		
	10	<b>Information Systems (IS) Branch Organisation Restructuring<sup>E</sup></b> To restructure IS Branch (comprising 342 staff as at 1 December 2001) and strengthen it with IT staff professionals to make it ready to undertake the implementation of the updated ISS.	April 2001	With effect from 1 April 2001, the IS Branch of ImmD has been reorganised to integrate 48 IT professional grade staff (from ITSD) for even better coordination and effective implementation of the updated ISS. The second step of the restructuring will be to set up a dedicated division to drive the Electronic Records Programme as recommended by the ISS Review, subject to availability of funds.
Phase II (2001-02)	11	<b>Automated Passenger Clearance<sup>D</sup></b> To enable the clearance of passengers securely using smart card and biometrics technologies without the aid of an Immigration Officer with a view to speeding up passenger flow and optimising staff usage.	2004-05	FS will be conducted in early 2002. Implementation of the project is subject to availability of funds.
	12	<b>Automated Vehicle Clearance<sup>D</sup></b> To automate vehicle clearance at land crossing points through the establishment of self-service kiosks using vehicle identification and biometrics technologies with a view to raising the overall vehicle throughput and reducing traffic congestion.	2004-05	FS will be conducted in early 2002. Implementation of the project is subject to availability of funds.

Notes :

D denotes that the project is one of the 12 delivery projects.

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Phase II (2001-02)	13	<p><b>Capability Improvement Programme</b></p> <p><b>IS Process Improvement<sup>E</sup></b> A comprehensive project to define the new processes for the restructured organisation to employ, and to train and support staff in their use. To equip the IS Branch with new and improved processes based on good IT industry practices, so that it can extend its management capability.</p>	)	)
	14	<p><b>IS Performance &amp; Quality Measuring<sup>E</sup></b> To establish a culture of regular measurement and target setting, and to use this as the means of driving quality improvement with a view to improving the effectiveness of the IS Branch. Specifically, the IS Branch will conduct monthly performance review of how well information systems are doing in relation to agreed performance measurements and to publish regular performance reports. This Branch will also establish a system defect reduction plan for its units.</p>	)	<p>2001-02</p> <p>These initiatives will be pursued throughout the implementation of the updated ISS, subject to availability of funds.</p>
	15	<p><b>IS Strategy Project Office<sup>E</sup></b> To set up a Project Office to conduct periodic reviews of the overall strategy, to adjust the implementation plan, and to obtain funding for successive Phases.</p>	)	
	16	<p><b>Change Management<sup>E</sup></b> To define the formal ImmD approach to pro-actively managing change throughout the organisation and to underpin the process re-engineering activity required to deliver the benefits of technology to the business.</p>	)	

Notes :

D denotes that the project is one of the 12 delivery projects.

E denotes that the project is one of the 18 enabling projects.

Phase II (2001-02)	17	<p><b>Communication<sup>E</sup></b> To communicate to the staff within ImmD to keep them informed of the progress of the implementation of the updated ISS and of the potential effects on business and people. The aim of this programme is to educate and inform all interested parties on a ‘no surprises’ basis to facilitate smooth implementation of the updated ISS.</p>	2001-02	The communication has started and the effort will be sustained throughout the implementation of the updated ISS.
Phase III (2002-03)	18	<p><b>Processing Automation System (PAS) Enhancement Programme PAS Enhancement<sup>D</sup></b> To enhance the system to meet the current business requirements and address current deficiencies of the PAS and to raise its technology platform to support the introduction of imaging for more efficient handling of applications for visas, entry permits and extension of stay.</p>	2005-06	FS will be conducted in August 2002. Implementation of the project is subject to availability of funds.
	19	<p><b>Integration of Supplementary Labour Scheme Information Management System (SIMS) into PAS<sup>D</sup></b> The SIMS will be integrated with PAS to enable more effective maintenance of information on quotas of the importation of labour schemes.</p>		
	20	<p><b>Electronic Records Programme File Conversion<sup>E</sup></b> A programme of work to progressively convert a colossal volume of essential non-electronic records into electronic machine-readable format to support and enable business process re-engineering activity and new systems implementations. The records include visa, travel document and civil registration applications.</p>		

Notes :

D denotes that the project is one of the 12 delivery projects.

E denotes that the project is one of the 18 enabling projects.

Phase III (2002-03)	21	<b>Imaging<sup>E</sup></b> To exploit imaging technology and to implement imaging solutions in line with business requirements, namely, to make more information available to greater number of staff at faster speed and to achieve savings in staff and accommodation.	2005-06	FS will be conducted in April 2003. Implementation of the project is subject to availability of funds.
	22	<b>Workflow<sup>E</sup></b> To employ workflow tools and techniques to automate some business processes, in particular, those repetitive administrative procedures, with a view to improving the office efficiency.		
	23	<b>Document Management<sup>E</sup></b> To define and implement documentation management standards and practices in ImmD and to centralise document management under a single management responsibility with a view to improving information management and to enhance productivity.		
	24	<b>Data Warehousing (Management Information System)<sup>D</sup></b> To provide user-friendly access to information held in ImmD databases and to make it readily available to ImmD management to aid their decision making, and to assist in the acquisition and deployment of resources more intelligently.		
Phase IV (2003-04)	25	<b>Intranet Implementation<sup>D</sup></b> To install an intranet with increasing range of facilities and information for more speedy and effective communication among some 3 000 ImmD staff. The project will improve staff productivity and morale.	2006-07	Subject to availability of funds, FS will be conducted in December 2003.
	26	<b>Electronic Service Delivery Support<sup>D</sup></b> An ongoing programme to offer a wider range of information and services to the public via the Government Electronic Service Delivery (ESD) infrastructure.	2006-07	Subject to availability of funds, FS will be conducted in December 2003.

Notes :

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E denotes that the project is one of the 18 enabling projects.

Phase IV (2003-04)	3 (Part II)	<b>Electronic Visa/Permit &amp; Advance Passenger Processing [Full Version]<sup>D</sup></b> To provide alternative means for travellers to Hong Kong to apply for and be issued with permits or visas which may be electronic or in hard copy to be delivered by new and more efficient methods. To utilise data captured at airline check-in to allow pre-checking of passengers and to facilitate passenger processing.	2006-07	Subject to availability of funds, FS will be conducted in February 2004.
	27	<b>Business Information<sup>E</sup></b> To provide secure electronic access to essential documents required by ImmD officers in their day-to-day duties, and to the public via ESD.	2006-07	Subject to availability of funds, FS will be conducted in April 2004.
	28	<b>Chinese Language Support<sup>D</sup></b> To introduce Chinese language facilities into ImmD information systems wherever feasible and affordable.	2006-07	Subject to availability of funds, FS will be conducted in April 2004.
	29	<b>Personnel Support<sup>E</sup></b> To provide systems, tools and facilities to support the ongoing training of ImmD personnel in both IT and business matters through the personnel training system and to provide a personnel information system in order to manage career progression and handle duty rostering for about 4 000 service staff.	2006-07	Subject to availability of funds, FS will be conducted in April 2004.
	30	<b>Additional Long Range Strategic Studies<sup>E</sup></b> To explore in detail other possible strategic opportunities identified in the ISS Review with a view to bringing about cost saving and cost avoidance.	2006-07	ImmD will conduct these long range studies after implementing the time- and mission-critical initiatives under the updated ISS.

Notes :

D denotes that the project is one of the 12 delivery projects.

E denotes that the project is one of the 18 enabling projects.

**Savings Arising from the Implementation of Phase I of  
the Updated Information Systems Strategy for the Immigration Department**

Savings	\$'000					
	2001-02	2002-03	2003-04	2004-05	2005-06	Total
<b>(A) Realisable savings</b>						
IT Infrastructure Upgrade Programme						
Hardware & software maintenance	-	-	253	2,769	2,769	5,791
Communication lines	-	-	-	1,025	1,025	2,050
Sub-total	-	-	253	3,794	3,794	7,841
ICAS Enhancement Programme						
Hardware & software maintenance	-	-	-	12,661	12,661	25,322
Maintenance services	-	-	-	4,651	4,651	9,302
Communication lines	-	-	-	641	641	1,282
Consumables	-	-	-	357	357	714
Sub-total	-	-	-	18,310	18,310	36,620
Total realisable savings	-	-	253	22,104	22,104	44,461
<b>(B) Cost avoidance</b>						
IT Infrastructure Upgrade Programme	753	24,528	17,115	23,654	-	66,050
ICAS Enhancement Programme	-	-	-	240,709	262,660	503,369
Sub-total	753	24,528	17,115	264,363	262,660	569,419
<b>Total savings (realisable savings and cost avoidance)</b>	<b>753</b>	<b>24,528</b>	<b>17,368</b>	<b>286,467</b>	<b>284,764</b>	<b>613,880</b>

**Cost and Benefit Analysis of the Implementation of Phase I of  
the Updated Information Systems Strategy for the Immigration Department**

	Cashflow (\$'000)					
	2001-02	2002-03	2003-04	2004-05	2005-06	Total
<b>Cost</b>						
<u>Non-recurrent</u>						
Expenditure	944	125,342	190,988	44,845	-	362,119
Staff cost	7,680	33,072	35,551	23,970	-	100,273
Accommodation	255	2,537	2,536	1,046	-	6,374
Sub-total	8,879	160,951	229,075	69,861	-	468,766
<u>Recurrent</u>						
Expenditure	-	3,685	18,032	45,018	45,595	112,330
Staff cost	-	-	1,468	3,623	4,161	9,252
Accommodation	-	-	1,149	1,404	1,432	3,985
Sub-total	-	3,685	20,649	50,045	51,188	125,567
Total Cost	8,879	164,636	249,724	119,906	51,188	594,333
<b>Savings</b>						
<u>Realisable savings</u>	-	-	253	22,104	22,104	44,461
<u>Cost avoidance</u>	753	24,528	17,115	264,363	262,660	569,419
Total savings	753	24,528	17,368	286,467	284,764	613,880
<b>Net savings</b>	(8,126)	(140,108)	(232,356)	166,561	233,576	19,547
<b>Net cumulative savings</b>	(8,126)	(148,234)	(380,590)	(214,029)	19,547	

**Estimated Staffing Requirement for Implementation of  
Phase I of the Updated Information Systems Strategy for the Immigration Department**

**Non-recurrent Staffing Requirement**

Rank	Annual Staff Cost \$	2001-02					2002-03				
		Total No. of Staff	Man-month			Staff Cost \$	Total No. of Staff	Man-month			Staff Cost \$
			ITIU	ICAS-2	Total			ITIU	ICAS-2	Total	
Assistant Principal Immigration Officer #	1,428,528	3	6	3	9	1,071,396	3	24	12	36	4,285,584
Chief Immigration Officer	1,265,496	3	6	3	9	949,122	3	24	12	36	3,796,488
Senior Immigration Officer	1,099,632	5	9	6	15	1,374,540	6	36	27	63	5,773,068
Immigration Officer	878,652	8	18	6	24	1,757,304	12	72	40	112	8,200,752
Chief Immigration Assistant	559,488	-	-	-	-	-	-	-	-	-	-
Chief Systems Manager *	2,124,084	1	1	1	2	354,014	1	4	3	7	1,239,049
Senior Systems Manager	1,785,948	1	2	1	3	446,487	1	8	6	14	2,083,606
Systems Manager	1,264,740	3	6	3	9	948,555	3	24	12	36	3,794,220
Analyst/Programmer I	778,296	4	9	3	12	778,296	4	36	12	48	3,113,184
Assistant Computer Operation Manager	857,112	-	-	-	-	-	1	11	-	11	785,686
<b>Total</b>		<b>28</b>	<b>57</b>	<b>26</b>	<b>83</b>	<b>@ 7,679,714</b>	<b>34</b>	<b>239</b>	<b>124</b>	<b>363</b>	<b>33,071,637</b>



**Non-recurrent Staffing Requirement**

Rank	Annual Staff Cost \$	2003-04				2004-05					
		Total No. of Staff	Man-month			Staff Cost \$	Total No. of Staff	Man-month			Staff Cost \$
			ITIU	ICAS-2	Total			ITIU	ICAS-2	Total	
Assistant Principal Immigration Officer #	1,428,528	3	24	12	36	4,285,584	3	20	6	26	3,095,144
Chief Immigration Officer	1,265,496	3	24	12	36	3,796,488	3	20	6	26	2,741,908
Senior Immigration Officer	1,099,632	6	36	36	72	6,597,792	6	32	13	45	4,123,620
Immigration Officer	878,652	12	72	72	144	10,543,824	13	68	32	100	7,322,100
Chief Immigration Assistant	559,488	2	-	12	12	559,488	4	8	10	18	839,232
Chief Systems Manager *	2,124,084	1	4	3	7	1,239,049	1	3	1	4	708,028
Senior Systems Manager	1,785,948	1	6	6	12	1,785,948	1	4	3	7	1,041,803
Systems Manager	1,264,740	3	18	12	30	3,161,850	3	9	6	15	1,580,925
Analyst/Programmer I	778,296	4	30	12	42	2,724,036	4	24	6	30	1,945,740
Assistant Computer Operation Manager	857,112	1	12	-	12	857,112	1	8	-	8	571,408
<b>Total</b>		<b>36</b>	<b>226</b>	<b>177</b>	<b>403</b>	<b>35,551,171</b>	<b>39</b>	<b>196</b>	<b>83</b>	<b>279</b>	<b>23,969,908</b>

Note # ImmD will absorb by internal redeployment one of the three Assistant Principal Immigration Officer posts required for the project teams. This involves 3 man-months in 2001-02, 12 man-months in each of 2002-03 and 2003-04, and 8 man-months in 2004-05.

\* The existing supernumerary post of Chief Systems Manager (D1) (CSM) created for the HKSAR Identity Card Project will absorb the non-recurrent staffing requirement at the CSM rank up to 31 October 2003 when the post will lapse. This involves 2 man-months in 2001-02, 7 man-months in 2002-03 and 3 man-months in 2003-04. ImmD will review in 2002-03 the continued need for a CSM to oversee the implementation of ITIU and ICAS-2 during the remaining period (i.e. 4 man-months in each of 2003-04 and 2004-05), to take forward other ISS-2 projects and to take charge of all the IT operations in the Department.

@ ImmD will absorb by internal redeployment all the non-recurrent staffing requirements in 2001-02.

**Legend**

ITIU - IT Infrastructure Upgrade Programme

ICAS-2 - ICAS Enhancement Programme

**Estimated Staffing Requirement for Implementation of  
Phase I of the Updated Information Systems Strategy for the Immigration Department**

**Recurrent Staffing Requirement**

Rank	Annual Staff Cost \$	2003-04					2004-05					2005-06 and onwards				
		Total No. of Staff	Man-month			Staff Cost \$	Total No. of Staff	Man-month			Staff Cost \$	Total No. of Staff	Man-month			Staff Cost \$
			ITIU	ICAS-2	Total			ITIU	ICAS-2	Total			ITIU	ICAS-2	Total	
Senior Systems Manager	1,785,948	#	3	-	3	446,487	#	6	2	8	1,190,632	1	6	3	9	1,339,461
Systems Manager	1,264,740	#	6	-	6	632,370	#	12	-	12	1,264,740	1	12	-	12	1,264,740
Analyst/Programmer I	778,296	#	6	-	6	389,148	#	12	6	18	1,167,444	2	12	12	24	1,556,592
<b>Total</b>		<b>0</b>	<b>15</b>	<b>-</b>	<b>15</b>	<b>1,468,005</b>	<b>0</b>	<b>30</b>	<b>8</b>	<b>38</b>	<b>3,622,816</b>	<b>4</b>	<b>30</b>	<b>15</b>	<b>45</b>	<b>4,160,793</b>

Note # The recurrent staffing requirement for 2003-04 and 2004-05 will be absorbed by the non-recurrent staffing provided for the project.  
Consequently, no additional posts will need to be created in these two financial years.

## Legend

ITIU - IT Infrastructure Upgrade Programme

ICAS-2 - ICAS Enhancement Programme