For discussion on
7 May 2024

Legislative Council Panel on Security

Funding proposals for information technology projects of
the Hong Kong Police Force

PURPOSE

This paper seeks to consult Members' views on the following information technology projects of the Hong Kong Police Force ("HKPF"), and seeks Members' support for submitting the relevant funding proposals to the Finance Committee ("FC") of the Legislative Council ("LegCo") for approval:

(a) Development of Centralised Digital Image Platform ("CDIP"); and

(b) Development of Third Generation Personnel Information Communal System ("PICS III") Project.

BACKGROUND

CDIP

2. Frontline police officers and crime officers in operational formations may record or obtain video footages during the course of duty due to operational need. Currently, all collected videos[1] are duplicated into "master copy" and "working copy" through the terminal of the Integrated Digital Storage Media Duplication System ("Duplicating Station") and stored in DVDs[2]. During the process of duplicating the videos, the officers in charge of the case must remain at the duplication stations to ensure successful duplication of the DVDs and prevent unauthorised interference and access. In order to enhance cost-

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[1] The sources of videos include HKPF's camera devices, CCTV installed in the public, and Internet, etc.

[2] Police officers will first seal the master copies in tamper-evident property envelopes and store them in the evidence room for use as court exhibits. The technical experts from the HKPF will also prepare a testimonial to be submitted to the court, demonstrating the integrity of the master copies. The working copies, on the other hand, will be stored in the case files and managed by the supervisors of the respective video teams for access by relevant personnel.

effectiveness and investigative efficiency in handling digital images, as well as improve information security, HKPF recommends building CDIP for storing, processing, retrieving, and sharing digital images with evidential or intelligence value, replacing the use of DVDs.

PICS III

3.   In 1997, HKPF introduced the first-generation PICS to manage personnel records and human resources matters of HKPF.   Currently, the HKPF has a total establishment of approximately 38 000 officers, including Regular, Auxiliary and Civilian.   The first-generation system was originally designed as a record-keeping system for human resources data with minimal analytical tools for facilitating human resources management and decisions.   In 2013, HKPF launched PICS II, complemented by a range of analytical features to enlist the competencies of the officers, thus assisting in making more precise decisions regarding job assignments and succession planning.   However, as the service provider for PICS II ceased software support in 2021, the system has been unable to receive updates and necessary program patches.   Additionally, there is room for improvement in PICS II in terms of enhancing work efficiency, strengthening system and data security. Therefore, it is necessary to introduce PICS III to continue supporting and maintaining existing functionalities, as well as incorporating new features to enhance information technology security, utilise analytical capabilities to grasp and predict human resources conditions, and optimise related operations and procedures for personnel and welfare services.

Panel meeting in April 2023

4.   In April 2023, we presented the latest developments in the implementation of digital policing and the major information technology projects being planned by HKPF to the Panel, including the two aforementioned funding proposals [3].   During the meeting, Members welcomed the proposals and expressed their support for HKPF's efforts to develop relevant systems to enhance law enforcement efficiency and optimise personnel management.   Members also welcomed the use of parallel tendering to ensure that the tender prices would be considered in the funding applications, avoiding the need to increase approved commitment due to higher-than-expected tender prices, thereby causing project delays.   Additionally, some Members raised concerns during the meeting regarding whether HKPF had formulated measures for the

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[3] LC Paper No. CB(2)266/2023(03)

procurement of information technology systems with a view to safeguarding national security, as well as system and data security.

Latest Progress

5.　　HKPF has made satisfactory progress in the implementation of the two proposed projects and has conducted parallel tendering, which has provided us with a more accurate grasp of the bidding prices for the respective projects, avoiding situations where requests for increase in commitment are required to be made to the LegCo due to insufficient budget.　　Moreover, HKPF strictly adheres to the government's procurement policies and procedures, which encompass considerations for safeguarding national security, as well as system and data security.　　After considering the bidding prices from parallel tendering, the non-recurrent expenditures for both proposed projects have been adjusted compared to that reported at the Panel meeting last year.　　The cost for CDIP has decreased from approximately $390 million to around $359 million (reduced by approximately 8%), while the cost for PICS III has decreased from approximately $190 million to around $142 million (reduced by approximately 25%).　　This demonstrates that parallel tendering allows for a more accurate reflection of the market situation, facilitating project management and increasing the cost control effectiveness.　　We plan to seek funding from the FC in June this year.　　If approved, the proposed projects are expected to be rolled out in phases, approximately two years after the contracts are awarded, with the targets set for June 2026 and July 2026, respectively.　　For further details on the two funding proposals, please refer to the following paragraphs.

JUSTIFICATIONS AND RECOMMENDATIONS

CDIP

6.　　The current arrangements for handling digital images have certain rooms for improvement, and CDIP can enhance the efficiency of HKPF's operations.　　The relevant justifications are as follows:

(a) The demands for handling video footages continues to increase

- In recent years, the number of videos and the data capacity of the files processed by HKPF have been increasing steadily. The duplication of videos on Duplicating Stations has also become more frequent.　　Compared to 2018, the annual number of video duplications has increased by varying percentages ranging from 18%

to 70%.   Additionally, the data capacity of video files has increased by 2.6 times its previous size over the past three years.   In 2023, the average data capacity processed per video duplication is estimated to be around 80 GB, which is almost three times the 27 GB capacity in 2018.   The demand for collecting videos by HKPF has been growing to meet various operational needs.   Moreover, with the improvement in video resolution, it is expected that the volume of video processing will continue to increase.

(b) The efficiency of video footages searching, retrieval, and sharing falls short of expectations

- Currently, police officers responsible for duplicating videos must store the videos onto DVDs through Duplicating Stations. These DVDs are then stored securely in their respective offices as working copies.   However, due to the lack of a centralised storage repository for videos, other police officers need to make access requests to the relevant teams in order to view certain videos.   This leads to a lack of a systematic and real-time identification and viewing of videos of investigative or intelligence value. The process of sharing and accessing videos is also cumbersome. The current decentralised storage model for DVDs creates inconvenience for police officers working in different regions, thereby reducing the efficiency of intelligence sharing and affecting the investigative work of HKPF.

(c) Insufficient transmission speed of digital images

- Since the current network infrastructure is not designed for frequent and high-speed data transmission of a large number of high-resolution, or ultra-high-resolution multimedia files such as 4K or 8K CCTV video clips; and the network speed needs to be shared with other applications within HKPF, as a result, the actual average transfer speed is only 10 Mbps.   The current inefficient transmission not only hinders video sharing but also increases reliance on the current method of duplicating and storing DVDs, causing inconvenience in investigative work.

(d) Information security risks associated with DVDs

- During the investigation phase, police officers attach working copies of DVDs to physical file documents, which puts the DVDs at risk of being lost or damaged during storage.   Additionally, under the current procedure, the usage history of the discs relies on manual

recording, which may lead to errors and omissions.

(e) Continuous management and maintenance of DVDs consume resources.

- A high-definition video often needs to be stored in multiple DVDs, increasing the time and number of discs required for video duplication.   This not only requires more storage space for the discs but also adds inconvenience to the work of police officers. Moreover, DVDs have a limited lifespan, and the content needs to be duplicated onto new discs every five years at present.   The continuous management and maintenance of these DVDs consume additional resources.

7.   To enhance the operational efficiency, investigative and intelligence capabilities, and information security of HKPF, the Commissioner of Police recommends to create a new commitment of $358,909,000 for the building of CDIP, which will provide a centralised information system that allows frontline officers from different units to securely and efficiently store, process, retrieve, and share digital images with evidential or intelligence value from various sources. The following benefits are expected from this recommendation:

(a) Increasing the efficiency of handling digital images

- The image data uploaded to CDIP will be automatically backed up with a master copy and a working copy.   The master copy will be securely stored in the CDIP's centralised encrypted repository to ensure its integrity and preservation for future use as court exhibits. As for the working copy, authorised personnel can access the platform for investigative or intelligence purposes.   They can quickly identify the required videos through extensive metadata, tags, and default parameters associated with the digital images.   This allows for efficient correlation analysis and simultaneous viewing of related videos, enhancing the efficiency of criminal investigation work.

(b) Reduce the workload of copying digital images and maintaining DVD discs

- In the future, videos only need to be uploaded to CDIP without the need for duplication onto DVDs, reducing related workload.   This frees up a significant amount of manpower and resources currently

dedicated to handling digital images, effectively improving personnel efficiency and overall police service efficiency.

(c) Increasing the transmission speed of digital images

- HKPF will optimise the corresponding network infrastructure to accelerate the transmission speed of file uploading and downloading on the platform. This includes significantly improving the communication network speed between the Police Headquarters, 45 offices, and 6 Regional Headquarters to allow efficient uploading and downloading of large high-definition and ultra-high-definition multimedia files, thereby enhancing work efficiency. After optimising the network, uploading a 4GB video to CDIP only takes one minute, which is approximately 30 minutes less than the time required for the original arrangement.

(d) Strengthening information security

- After digital images are encrypted, they will be uploaded to the CDIP's centralised encrypted server. Police officers need to undergo identity verification and access control to access the videos, which can effectively solve the current risk of unauthorised access to digital images. Also, CDIP will replace the use of DVDs, avoiding data leakage due to the loss of DVDs, thereby strengthening information security. CDIP's audit tracking function also effectively enhances the management of digital image storage and records the usage trail of personnel using the platform, reducing the possibility of improper use of data and violation of the Personal Data (Privacy) Ordinance.

PICS III

8.   As the service provider of the current PICS II discontinued software support in 2021, the system has been unable to receive updates and corresponding program patches. Furthermore, there is room for improvement in terms of enhancing work efficiency and strengthening system and data security in PICS II. Therefore, it is necessary for us to launch a third generation system to continue supporting and maintaining existing functionalities and to introduce new features.

(a) The difficulty in maintaining the existing system

- The business intelligence tool used in PICS II has been discontinued, and the supplier of the system's database and related management systems has suspended updating the service contracts with HKPF since 2021.   Continuing to use unsupported software will affect the reliability of the system and may expose it to security vulnerabilities.   PICS II has been in operation for more than ten years, it has become increasingly difficult for HKPF to properly maintain the main software components of the existing system.

(b) Risk of personal data leakage

- During the 2019 black-clad riot, approximately 3 700 police officers and their families' personal data was leaked, causing significant concerns within HKPF.   As the central system for accessing personal data of police personnel, PICS needs comprehensive strengthening of its security features to prevent future attacks on the system.

(c) Increasing demand for workforce analysis

- PICS II was designed to handle and process human resources records and personnel matters for regular personnel, auxiliary police, and civilian staff only.   With the introduction of policies aiming at retaining talent in large numbers, the storage of personnel data for this group of personnel has to some extent changed the system's architecture, potentially affecting its maintainability.   In the face of increasing demand for human resources analysis, the current computer code and database of PICS II are technically inadequate.   Additionally, the system is relatively outdated, leading to limitations in maintainability and compatibility with new software, which affects the efficiency of human resources management within HKPF.

9.   The Commissioner of Police recommends to create a new commitment of $141,500,000 for replacing the existing PICS II with a new system and database, namely PICS III, to better align with the human resources management needs of HKPF.   The design of PICS III will encompass the following four optimisation solutions:

(a) Strengthening Information Technology Security

- To address potential future information technology security risks and effectively prevent any external or internal attacks on the system, HKPF suggests setting up a central monitoring system to collect system logs and event records; establishing an endpoint security platform to monitor users and to alert system administrators; and adding watermarks containing user data to system screens and exported files to trace the source of leaked data.

(b) Advanced Analytics Solutions

- By adopting advanced analytics and decision support solutions, HKPF will have better insights into and predictions of the human resources situation, thereby enhancing the utilisation of human resources. Relevant features of PICS III include interactive dashboards, predictive modeling, and collaborative sharing capabilities.

(c) Artificial Intelligence Analytics and Applications

- PICS III will utilise comprehensive personnel analysis through artificial intelligence, enabling rational allocation of human resources and providing personnel with convenient human resources and welfare services. This includes job matching and succession planning, as well as chatbot assistance to answer internal enquiries.

(d) Digitisation of Core Functions

- In addition to the existing core functions, PICS III will digitise all human resources and welfare-related service applications, introduce mobile applications, and expand the existing database. HKPF will optimise the operations and processes related to human resources and welfare services comprehensively, in order to enhance speed and efficiency.

FINANCIAL IMPLICATIONS AND IMPLEMENTATION PLANS

10.   The financial implications and implementation plans of proposals (a) and (b) are at **Annex 1 and 2**.

ADVICE SOUGHT

11. Members' views are invited on the above proposals. After obtaining advice from the Panel, we will seek funding from the LegCo as per established mechanism.

Security Bureau
Hong Kong Police Force
May 2024

Development of Centralised Digital Image Platform

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

The proposal will involve an estimated non-recurrent expenditure of $358,909,000 from 2024-25 to 2028-29. A detailed breakdown is at **Appendix 1**.

Other non-recurrent expenditure

2. We will need to establish a project team to implement this proposal, which will be responsible for project management, providing professional advice to contractors on user requirements and system development, and conducting system acceptance testing. The total expenditure for personnel related to this project team from 2024-25 to 2027-28 is $535,000, which will be absorbed by existing resources of HKPF.

Recurrent Expenditure

3. The estimated recurrent expenditure will be $14,593,000 per annum in 2026-27, and will increase to $39,463,000 per annum from 2029-30 onwards. The recurrent expenditure mainly includes hardware and software maintenance, communication networks, system maintenance, contract staff, and consumables. Relevant breakdown is at **Appendix 2**. After deducting the realisable savings of $100,000 mentioned in paragraph 4(a) below, the net recurrent expenditure for this project is $39,363,000 per annum starting from 2029-30.

Cost savings

4. After CDIP is fully operational, it is estimated that from 2026-27 onwards, the annual cost savings are $88,328,000, which includes:

     (a) The annual realisable savings of $100,000

        After CDIP is fully operational, there is no need to purchase DVDs from 2026-27 onwards, and hence the expenses for

DVDs, which amount to $100,000, are saved.

(b) The annual notional savings of $88,228,000

CDIP eliminates the need for police officers to duplicate, maintain, query and deliver DVDs, thereby saving time and workload while improving efficiency. The notional savings in staff expenditure from 2026-27 onwards amount to $88,228,000. Since the related manpower is currently supporting other tasks, it is not possible to realise these savings by eliminating positions. However, the saved manpower will be reallocated to support other police duties.

IMPLEMENTATION PLAN

5.   If being supported by the Members, we will submit the funding proposal to the LegCo FC in the second quarter of 2024 before implementing the project. As the project has undergone parallel tendering, HKPF anticipates approving contract in September 2024 after securing the funding.

6.   To expedite the implementation, CDIP will be rolled out in two phases: Phase One is scheduled for launch in June 2026, allowing all digital images captured by HKPF's equipments to be uploaded for officers to view, tag, search, and download the master copies for use in court; and Phase Two is planned for launch in February 2027, with additional features including map tracking, processing of CCTV digital images, and integration with the Case Management and Investigation System [4] ("CMIS") interface. The implementation timetable is provided in **Appendix 3**.

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[4] "Case Management and Investigation System" is an existing application system used by HKPF to assist various units in electronically managing and investigating cases. Police officers can use the system to record, search, and extract case information, thereby optimising the process of handling cases.

Development of Centralised Digital Image Platform

Non-recurrent Expenditure

	2024-25 ($'000)	2025-26 ($'000)	2026-27 ($'000)	2027-28 ($'000)	2028-29 ($'000)	Total ($'000)
(a) Hardware	126,063	-	-	-	111,875	237,938
(b) Software	16,076	-	-	-	-	16,076
(c) Communication Network	10,699	10,459	20,917	-	-	42,075
(d) Implementation Services	1,056	1,000	3,872	2,112	-	8,040
(e) Contract Staff	5,747	9,370	5,697	663	-	21,477
(f) Site Preparation	101	101	203	-	-	405
(g) Training	-	-	100	-	-	100
(h) Others	-	85	85	-	-	170
(i) Contingency	15,974	2,102	3,087	278	11,187	32,628
Total	**175,716**	**23,117**	**33,961**	**3,053**	**123,062**	**358,909**

Item (a): The estimated expenditure of $237,938,000 is for acquisition of computer hardware, including server, storage devices and system backup equipment, etc.

Item (b): The estimated expenditure of $16,076,000 is for acquisition of related computer software, including system management, application server, database, video streaming, video processing and system backup, etc.

Item (c): The estimated expenditure of $42,075,000 is for acquisition of network equipment for connecting the computers and server, the set up high-speed data transmission lines between Police Headquarters and various offices.

Item (d): The estimated expenditure of $8,040,000 is for hiring of services from service provider to implement the system and upgrade Duplicating Station.

Item (e):   The estimated expenditure of $21,477,000 is for engagement of IT contract staff to provide project management services, including project planning and supervision, coordinating tender-related issues, liaising with project stakeholders, coordinating site preparation work and infrastructure, supporting system development and conducting acceptance testing.

Item (f):   The estimated expenditure of $405,000 is for site preparation works and cabling works at relevant offices and Regional Headquarters.

Item (g):   The estimated expenditure of $100,000 is for staff training services.

Item (h):   The estimated expenditure of $170,000 is for "Security Risk Assessment and Audit" and "Privacy Impact Assessment" of CDIP.

Item (i):   The estimated expenditure of $32,628,000 represents a 10% contingency on the costs items set out in items (a) to (h) above.

Development of Centralised Digital Image Platform

Recurrent Expenditure

		2026-27 ($'000)	2027-28 to 2028-29 ($'000)	2029-30 and onwards ($'000)
(a)	Hardware and software maintenance	14,593	14,593	18,647
(b)	Communication Network	-	14,893	14,893
(c)	System Maintenance	-	804	804
(d)	Contract Staff	-	4,569	4,569
(e)	Consumables	-	550	550
	Total	**14,593**	**35,409**	**39,463**

Item (a): The annual estimated expenditure of $18,647,000 includes the provision of hardware and software maintenance services for the new system.

Item (b): The annual estimated expenditure of $14,893,000 includes the provision of communication network maintenance services for the new system.

Item (c): The annual estimated expenditure of $804,000 includes the provision of maintenance and support services by the service provider for the new system.

Item (d): The annual estimated expenditure of $4,569,000 includes hiring IT contract staff to work with internal system supporting staff on maintaining applications, system infrastructure, and enhancing the functions of the new system.

Item (e): The annual estimated expenditure of $550,000 includes consumables.

Development of Centralised Digital Image Platform

Implementation Plan

	Milestone	Target Completion Date
(a)	Applying for funding from the LegCo FC	June 2024
(b)	Approving contract	September 2024
(c)	System analysis and design	December 2024
(d)	System development	February 2026
(e)	User acceptance testing	May 2026
(f)	Phase One implementation	June 2026
(g)	Phase Two implementation	February 2027

Remarks:

Completed:	HKPF completed assessing the tenders submitted by contractors in March 2024.
Phase One system:	Allows uploading of all digital images recorded by HKPF's equipments to CDIP for viewing, tagging, searching and downloading master copies for use in court.
Phase Two system:	Additional features including map tracking, processing of CCTV digital images, and integration with the Case Management and Investigation System.

**Development of
Third Generation Personnel Information Communal System**

Non-recurrent Expenditure

The proposal will involve an estimated non-recurrent expenditure of $141,500,000 from 2024-25 to 2027-28. A detailed breakdown is at **Appendix 1**.

Other non-recurrent expenditure

2. We will need to establish a project team to implement this proposal, which will be responsible for project management, providing professional advice to contractors on user requirements and system development, and conducting system acceptance testing. The total expenditure for personnel related to this project team from 2024-25 to 2027-28 is $36,418,000, which will be absorbed by existing resources of HKPF.

Recurrent Expenditure

3. The estimated recurrent expenditure will be $954,000 in 2026-27, and will increase to $11,767,000 per annum from 2027-28 onwards. The recurrent expenditure mainly include hardware and software maintenance, system maintenance, and contract staff. Relevant breakdown is at **Appendix 2**. After deducting the annual estimated savings of $5,203,000 mentioned in paragraph 4(a) below, the net recurrent expenditure for PICS III is projected to be $6,564,000 per annum starting from 2027-28. Additionally, the existing staff members who currently support and manage PICS II will continue to be responsible for supporting and managing PICS III, with the annual staff expenditure continued to be covered by the existing resources of HKPF.

Cost savings

4.   After the implementation of the project, it is anticipated that the annual cost savings of $35,768,000 can be achieved starting from 2027-28, which includes:

(a) The annual realisable savings of $5,203,000

   After the implementation of PICS III, there will be annual realisable savings from eliminating expenses related to the maintenance and upkeep of the current system and printing costs.   The annual realisable savings from 2027-28 onwards amount to $5,203,000.

(b) The annual notional savings of $30,565,000

   The improved work efficiency and assistance in handling certain hotline inquiries through the use of a chatbot by PICS III is expected to result in annual notional savings of staff expenditure of $30,565,000 from 2027-28 onwards.   Since the related manpower is currently supporting other tasks, it is not possible to realise these savings by eliminating positions. However, the saved manpower will be reallocated to support other police duties.

IMPLEMENTATION PLAN

5.   If being supported by the Members, we will submit the funding proposal to the LegCo FC in the second quarter of 2024 before implementing the project.   As the project has undergone parallel tendering, HKPF anticipates approving contract in September 2024 after securing the funding.

6.   The first phase of PICS III is scheduled to be launched in July 2026.   It will provide improved or renovated features from the existing PICS II, an enhanced information security system, advanced business intelligence solutions and electronic services for personnel and welfare-related applications.   The second phase of the system, scheduled for release in January 2027, will include additional new features such as the application of Artificial Intelligence technology, mobile applications and chatbot.   The implementation schedule is provided in **Appendix 3**.

**Development of
Third Generation Personnel Information Communal System**

Non-recurrent Expenditure

	2024-25 ($'000)	2025-26 ($'000)	2026-27 ($'000)	2027-28 ($'000)	Total ($'000)
(a) Hardware	-	15,546	5,753	-	21,299
(b) Software	-	22,082	5,984	-	28,066
(c) Communication Network	-	1,801	1,457	-	3,258
(d) Implementation Services	-	10,389	41,555	-	51,944
(e) Contract Staff	5,388	8,082	8,082	1,347	22,899
(f) Training	-	-	1,000	-	1,000
(g) Others	-	-	170	-	170
(h) Contingency	539	5,790	6,400	135	12,864
Total	**5,927**	**63,690**	**70,401**	**1,482**	**141,500**

Item (a): The estimated expenditure of $21,299,000 is for acquisition of computer hardware, including server, storage devices and system backup equipment.

Item (b): The estimated expenditure of $28,066,000 is for acquisition of related computer software, including system software and software suite.

Item (c): The estimated expenditure of $3,258,000 is for acquisition of communication network, including network routers, switches, and firewalls, to connect various servers and monitor network traffic.

Item (d): The estimated expenditure of $51,944,000 is for hiring external service providers to deliver system development services, including system analysis and design, system development, installation, configuration, and system nursing.

Item (e):   The estimated expenditure of $22,899,000 is for engagement of contract staff to provide support for project planning and supervision, and conducting acceptance testing.

Item (f):   The estimated expenditure of $1,000,000 is for staff training services.

Item (g):   The estimated expenditure of $170,000 is for "Security Risk Assessment and Audit" and "Privacy Impact Assessment" of PICS III.

Item (h):   The estimated expenditure of $12,864,000 represents a 10% contingency on the costs items set out in items (a) to (g) above.

Development of
Third Generation Personnel Information Communal System

Recurrent Expenditure

		2026-27 **($'000)**	**2027-28** **and onwards** **($'000)**
(a)	Hardware and software maintenance	-	2,788
(b)	System Maintenance	-	3,253
(c)	Contract Staff	954	5,726
	Total	**954**	**11,767**

Item (a): The annual estimated expenditure of $2,788,000 includes hardware and software maintenance and software licensing fees to support information technology infrastructure and systems.

Item (b): The annual estimated expenditure of $3,253,000 includes hiring external service providers to provide system maintenance services.

Item (c): The annual estimated expenditure of $5,726,000 includes hiring contract staff to support information technology infrastructure, system maintenance, daily maintenance of integration with other systems, monitoring security logs, and user support.

**Development of
Third Generation Personnel Information Communal System**

Implementation Plan

	Milestone	Target Completion Date
(a)	Applying for funding from the LegCo FC	June 2024
(b)	Approving contract	September 2024
(c)	System analysis and design	April 2025
(d)	System development	November 2025
(e)	User acceptance testing	July 2026
(f)	Phase One implementation	July 2026
(g)	Phase Two implementation	January 2027
(h)	System maintenance and inspection	May 2027

Remarks:

Completed:	HKPF completed assessing the tenders submitted by contractors in April 2024.
Phase One system:	Includes all functions of PICS II, enhanced information security system and newly advanced analytical solutions.
Phase Two system:	Includes the application of Artificial Intelligence technology and all digitalised core functions of PICS III.

-Ends-