

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND

HEAD 710 – COMPUTERISATION

Hong Kong Police Force

New Subhead “Development of Third Generation of Personnel Information Communal System”

Members are invited to approve the creation of a new commitment of \$141,500,000 for the development of the Third Generation of Personnel Information Communal System for the Hong Kong Police Force.

PROBLEM

The Hong Kong Police Force (HKPF) needs to develop the Third Generation of Personnel Information Communal System (PICS III) to continue supporting and maintaining the existing functionalities of the Second Generation Personnel Information Communal System (PICS II), as well as incorporating new features to enhance efficiency in human resources management.

PROPOSAL

2. The Commissioner of Police, with support of the Secretary for Security and the Government Chief Information Officer, proposes to create a new commitment of \$141,500,000 for the development of PICS III.

JUSTIFICATION

Problems and Limitations of the Existing System

3. In 1997, HKPF introduced the First Generation Personnel Information Communal System (PICS I) to manage its personnel records and

/human

human resources matters. Currently, HKPF has a total establishment of approximately 38 000 officers, including regular, auxiliary and civilian officers. PICS I was originally designed as a record-keeping system for human resources data with minimal analytical tools for facilitating human resources management and decision making. In 2013, HKPF launched PICS II, complemented by a range of analytical features to enlist the competencies and professional skills of the officers, thus assisting in making more precise decisions regarding job assignments and succession planning. Being introduced for more than ten years, PICS II is facing the following problems and limitations –

(a) Difficulty in maintaining the existing system

The business intelligence tool used in PICS II has been discontinued, and the supplier of PICS II's database and related management systems has suspended service contract renewal with HKPF since 2021. In the long run, continuing to use software without support will affect the reliability of the system and may expose it to security vulnerabilities. Furthermore, 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, the personal data of about 3 700 police officers and their families was leaked, causing significant concerns within HKPF. As the central system for storage and retrieval of personal data of police personnel, HKPF needs to strengthen the system's security features comprehensively to prevent future possible attacks on the system.

(c) Increasing demand for workforce analysis

PICS II was designed to handle and process human resources records and personnel matters of regular, auxiliary and civilian officers. With the large number of policies introduced in recent years for retaining talent, the storage of relevant additional personnel data has to some extent changed the system's architecture, which may potentially affect maintainability of the system. In the face of increasing demand for human resources analysis, the current computer code and database of PICS II are technically inadequate. In addition, the system is becoming outdated, leading to limitations in system maintainability and compatibility with new software, which affects the efficiency of human resources management of HKPF.

The Proposed PICS III

4. The proposed PICS III will replace the existing PICS II. Apart from continue to support and maintain existing functionalities of the system, PICS III will include new features to enhance information security, facilitate understanding and prediction of human resources conditions by making use of analytic functions, optimise related operations and procedures for personnel and welfare services, and reduce application and processing time for personnel and welfare-related services.

Expected Benefits

5. The proposed PICS III will bring about benefits in the following four aspects –

(a) *Strengthening Information Technology Security*

To address potential information security risks in future, and to prevent cyberattacks from outside and from within, a central monitoring system will be set up for the proposed PICS III to collect system logs and event records. An endpoint security platform will be established to monitor system users and to alert system administrators. Watermarks containing user information will be added to system screens and exported files to trace the source of leaked data.

(b) *Advanced Analytics Solutions*

Advanced analytics and decision support solutions will facilitate HKPF to have better understanding in its insight about human resources situation and make better predictions, thereby making better use of its human resources. Relevant features of the proposed PICS III include interactive dashboards, predictive modelling, and collaborative sharing capabilities.

(c) *Artificial Intelligence Analytics and Applications*

By making use of comprehensive analysis for HKPF personnel through artificial intelligence, the proposed PICS III will enable rational allocation of human resources and provide more convenient personnel and welfare services to system users. This includes job matching and succession planning, as well as chatbot assistance in answering internal enquiries.

/(d)

(d) Digitisation of Core Functions

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

FINANCIAL IMPLICATIONS**Non-recurrent Expenditure**

6. HKPF has conducted parallel tendering for the proposed PICS III. After considering the returned tender prices from the parallel tendering, the estimated non-recurrent expenditure for the proposed PICS III for the period from 2024-25 to 2027-28 is \$141,500,000, with breakdown as follows –

	2024-25	2025-26	2026-27	2027-28	Total
	(\$'000)	(\$'000)	(\$'000)	(\$'000)	(\$'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

7. On paragraph 6(a) above, the estimated expenditure of \$21,299,000 is for acquisition of computer hardware, including servers, storage devices and system backup equipment.

8. On paragraph 6(b) above, the estimated expenditure of \$28,066,000 is for acquisition of related computer software, including system software and software suite.

9. On paragraph 6(c) above, 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.

10. On paragraph 6(d) above, 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.

11. On paragraph 6(e) above, the estimated expenditure of \$22,899,000 is for engagement of contract staff to provide support for project planning and supervision, and conducting system acceptance testing.

12. On paragraph 6(f) above, the estimated expenditure of \$1,000,000 is for staff training.

13. On paragraph 6(g) above, the estimated expenditure of \$170,000 is for “Security Risk Assessment and Audit” and “Privacy Impact Assessment” of the proposed PICS III.

14. On paragraph 6(h) above, the estimated expenditure of \$12,864,000 represents a 10% contingency on the cost items set out in paragraphs 6(a) to (g) above.

Other Non-recurrent Expenditure

15. HKPF will need to establish a project team for the development of PICS III, including project management, provision of professional advice to contractors on user requirements and system development, and system acceptance tests. The project team will entail a non-recurrent staff cost of \$36,418,000 from 2024-25 to 2027-28, which will be absorbed by the existing resources of HKPF.

Recurrent Expenditure

16. The estimated recurrent expenditure for the proposed PICS III 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 the cost of hardware and software maintenance, system maintenance, and contract staff, with the breakdown as follows –

/2027-28

	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

17. On paragraph 16(a) above, the annual estimated expenditure of \$2,788,000 is for hardware and software maintenance and software licensing fees to support information technology infrastructure and systems.

18. On paragraph 16(b) above, the annual estimated expenditure of \$3,253,000 is for hiring external service providers to provide system maintenance services.

19. On paragraph 16(c) above, the annual estimated expenditure of \$5,726,000 is for hiring contract staff to support information technology infrastructure, system maintenance, daily maintenance for the interfaces between PICS III and other systems, monitoring security logs, and user support.

20. After offsetting the relevant annual realisable savings of \$5,203,000 (as detailed in paragraph 21(a) below), the proposal will require a net annual recurrent expenditure of \$6,564,000 from 2027-28 onwards. Besides, the existing staff supporting and managing PICS II will continue to be responsible for the support and management of the proposed PICS III. The annual staff costs involved is \$1,622,000 which will continue to be absorbed by the existing resources of HKPF.

Cost Savings

21. After the proposed PICS III is fully operational, it is estimated that from 2027-28 onwards, there will be an annual cost savings of \$35,768,000, which includes –

(a) *An annual realisable savings of \$5,203,000*

After the commissioning of the proposed PICS III, there is no need to maintain the existing system. There will also be saving in printing costs. The annual realisable savings from 2027-28 onwards amount to \$5,203,000.

/(b)

(b) *An annual notional savings of \$30,565,000*

The improved work efficiency and assistance in handling certain hotline enquiries by chatbot function of PICS III is expected to result in an annual notional savings in staff cost of \$30,565,000 from 2027-28 onwards. Since the relevant manpower is currently deployed for supporting other tasks, the cost savings cannot be realised through deletion of posts. However, the fragmented manpower saved will be redeployed to support other police duties.

Encl. 22. The cost and benefit analysis for the proposed PICS III is at Enclosure.

IMPLEMENTATION PLAN

23. As the proposed PICS III has undergone parallel tendering, subject to the funding approval of the Finance Committee (FC), it is expected that the contract will be awarded in September 2024. The proposed PICS III will be rolled out in two phases. Phase One is planned for launch in July 2026, covering the original, improved or revamped features of the existing PICS II, an enhanced information security system, and new advanced analytics solutions and electronic services for personnel and welfare-related applications; and Phase Two is planned for launch in January 2027, covering new features such as the application of artificial intelligence technology, mobile applications and chatbot. The implementation timetable is as follows –

Milestone	Target Completion Date
(a) Award of contract	September 2024
(b) System analysis and design	April 2025
(c) System development	November 2025
(d) User acceptance testing	July 2026
(e) Phase One implementation	July 2026
(f) Phase Two implementation	January 2027
(g) System maintenance and inspection	May 2027

/PUBLIC

PUBLIC CONSULTATION

24. On 4 April 2023, we presented this proposal to the Panel on Security of the Legislative Council. During the meeting, Members supported HKPF to develop the proposed PICS III, and welcomed the use of parallel tendering to ensure that the funding application will take into account the returned tender prices and avoid the need to increase approved commitment due to higher-than-expected tender outturn prices which will lead to project delays. Subsequently, we conducted parallel tendering for the proposed project. After considering the returned tender prices from the parallel tendering, we consulted the Panel on Security on the above proposal on 7 May 2024. Members supported the above proposal and the submission to FC for funding approval.

25. Comparing with the amount presented to the Panel on Security in April 2023, the non-recurrent cost of the proposed PICS III has decreased from around \$190 million to around \$142 million (reduced by 25% approximately), demonstrating that under market mechanism parallel tendering allows the returned tender prices to better reflect market situation, thereby facilitates project management and increases cost control effectiveness.

Security Bureau
Hong Kong Police Force
June 2024

Cost and Benefit Analysis for the Development of Third Generation of Personnel Information Communal System (PICS III)

Item	Cash flow (\$'000)											Total
	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	
1. Non-recurrent												
Expenditure	5,927	63,690	70,401	1,482	-	-	-	-	-	-	-	141,500
Staff cost	6,768	13,537	13,537	2,576	-	-	-	-	-	-	-	36,418
Total Non-recurrent Cost	12,695	77,227	83,938	4,058	-	-	-	-	-	-	-	177,918
2. Recurrent												
Expenditure	-	-	954	11,767	11,767	11,767	11,767	11,767	11,767	11,767	11,767	95,090
Total Recurrent Cost	-	-	954	11,767	11,767	11,767	11,767	11,767	11,767	11,767	11,767	95,090
Total Non-recurrent and Recurrent Cost (A)	12,695	77,227	84,892	15,825	11,767	11,767	11,767	11,767	11,767	11,767	11,767	273,008
3. Savings												
Recurrent realisable savings ¹	-	-	-	5,203	5,203	5,203	5,203	5,203	5,203	5,203	5,203	41,624
Recurrent notional savings ²	-	-	-	30,565	30,565	30,565	30,565	30,565	30,565	30,565	30,565	244,520
Total Savings (B)	-	-	-	35,768	35,768	35,768	35,768	35,768	35,768	35,768	35,768	286,144
Net Savings (C) = (B) - (A)	(12,695)	(77,227)	(84,892)	19,943	24,001	24,001	24,001	24,001	24,001	24,001	24,001	13,136
Net Cumulative Savings	(12,695)	(89,922)	(174,814)	(154,871)	(130,870)	(106,869)	(82,868)	(58,867)	(34,866)	(10,865)	13,136	

¹ After the commissioning of the proposed PICS III, there is no need to maintain the existing system. There will also be saving in printing cost.

² The improved work efficiency and assistance in handling certain hotline enquiries by chatbot function of PICS III is expected to result in an annual notional savings in staff cost. Since the relevant manpower is currently deployed for supporting other tasks, the cost savings cannot be realised through deletion of posts. However, the fragmented manpower saved will be redeployed to support other police duties.