

For Discussion on
13 March 2012

**Panel on Security of the Legislative Council
Security of the Automated Passenger Clearance System (e-Channel)**

Introduction

This paper briefs Members on the security measures adopted by the Immigration Department (ImmD) for the Automated Passenger Clearance System (e-Channel).

Background

2. The e-Channel service was introduced by the ImmD in December 2004 to provide self-service immigration clearance for Hong Kong permanent residents. Thereafter, the ImmD has continued to enhance the e-Channel service, including extending the service to enrolled frequent visitors in 2008; extending the service to permanent residents of Macao and newly enrolled Hong Kong residents to expedite clearance in 2009; and providing the service to enrolled Mainland frequent visitors from early 2012. At present, the ImmD has put in place 391 e-Channels at 11 immigration control points. Details are at Annex.

3. For using the service, the Hong Kong residents or visitors are required to place the smart identity card or the travel document onto the document reader of the e-Channel. The system will capture the fingerprint of the passenger through a scanner, which will be verified against the fingerprint recorded by the ImmD. Fingerprint recognition technology is a reliable and effective method of identity verification which is widely recognized and adopted internationally.

Measures to ensure security and reliability of e-Channels

4. The ImmD attaches great importance to safeguarding the security and reliability of the e-Channel service. Since the introduction of the e-Channel service in December 2004, the ImmD has continued to review and enhance the testing procedure in ensuring satisfactory performance of new scanners before deployment. Such procedures include the use of

different materials to fabricate fake fingerprints to test the fingerprint scanner's performance for detecting such. The ImmD also requests the maintenance contractor to test each and every new fingerprint scanner thoroughly in accordance with the testing procedure to ensure that the new device could achieve stringent system requirements before it is put into service.

5. In addition, the ImmD closely monitors the day-to-day operation of all the e-Channels. Gatekeepers are deployed to monitor the operation of e-Channels and to provide assistance to e-Channel users as required. The ImmD also requires the maintenance contractor to conduct regular maintenance for the fingerprint scanners. If any fingerprint scanner does not perform satisfactorily due to wear and tear, it will be repaired or replaced immediately. The ImmD will suitably upgrade the hardware or software of the system to enhance the overall performance of e-Channels in the light of technological advancements.

6. Following a press report concerning the security of e-Channels this January, the ImmD has conducted an investigation and confirmed that the e-Channel concerned had encountered technical problems. The ImmD had it repaired immediately. The ImmD also approached the newspaper agency concerned to obtain the fingerprint model and the material used. With the assistance from the manufacturer and the maintenance contractor, a comprehensive inspection on all e-Channels was conducted. The ImmD confirmed that all e-Channels were in normal operation.

Future Development

7. To devise its information systems strategy for the next decade, the ImmD completed the third Information System Strategy review in September 2010, and is now conducting a feasibility study on an immigration control system for the next generation to enhance the system performance and improving immigration clearance efficiency. One of the areas to be considered is whether to introduce a second biometrics¹ such as facial recognition technology with a view to enhancing the immigration service.

¹ There are different types of biometrics available for identity verification in the global IT market, e.g. fingerprint, face, iris, voice, palm, etc.. Fingerprint and facial recognition technologies are the two most commonly adopted for identity verification by various immigration authorities in developed countries or regions.

Advice Sought

8. Members are invited to note the content of the paper.

**Security Bureau
March 2012**

Number of e-Channels at Various Control Points

Control Point	Number
Lo Wu	125
Lok Ma Chau Spur Line	70
Shenzhen Bay	36
Lok Ma Chau	20
Hung Hom	10
Man Kam To	9
Sha Tau Kok	6
Airport	41
Macau Ferry Terminal	46
China Ferry Terminal	22
Tuen Mun Ferry Terminal	6
Total	391