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ASSEMBLY — 38TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 13: Aviation Security – Policy

THREAT RESPONSE SYSTEM USING STATE OF THE ART INFORMATION TECHNOLOGIES IN THE REPUBLIC OF KOREA

(Presented by the Republic of Korea)

EXECUTIVE SUMMARY

During the 197th Session of Council, ICAO adopted the amendment of Annex 17 Security to reinforce access control ensuring that persons other than passengers, prior to entry into Security Restricted Areas, are subject to screening and security controls. Prior to such discussions about the standards, the Republic of Korea (ROK) had implemented 100 per cent screening of persons other than passengers who were granted access to Security Restricted Areas. The ROK also operates the Perimeter Intrusion Detection System (PIDS) to reinforce security of airport perimeter. These measures incorporated advanced information technologies. The ROK assures that this system is effective in enhancing security of restricted areas. The purpose of this paper is to introduce the best practices on aviation security which satisfy international standards.

Strategic Objectives:	This working paper relates to Strategic Objective B — *Security*.
Financial implications:	No additional resources required.
References:	None.

1. INTRODUCTION

1.1 During the 197th Session of Council, ICAO adopted the amendment of Annex 17- 4.2.6 which states that each Contracting State shall ensure that persons other than passengers, together with items carried, prior to entry into Security Restricted Areas serving international civil aviation operations, are subject to screening and security control.

1.2 Even before the discussion related to the amendment was raised, the Republic of Korea (ROK), considering emerging aviation security threats by insiders at airport, had implemented 100 percent screening policies of persons other than passengers and vehicles being granted access to Security Restricted Areas in order to prevent any unlawful activity. The ROK strives to maintain the world's best aviation security system by establishing and operating various advanced security systems incorporating advanced information technologies.

1.3 With the support of the Korean government and due to its excellent security systems which are known for their reliability, speed and efficiency, Incheon International Airport has been recognized as the world's best airport for eight consecutive years since 2005 in the global airport service quality survey by the Airport Council International (ACI).

1.4 This paper is to present an overview of Incheon International Airport's best security practices: Airport ID Online Application System (AIOAS); Image Display System (IDS); Biometric Access Control System (BACS); Authorized Vehicle Access Control System (AVACS); and Perimeter Intrusion Detection System (PIDS), and to propose that Member States in the Asia-Pacific region establish an advanced access control system in order to strengthen the security of Security Restricted Areas and to prevent any unlawful activities by insiders.

2. AIRPORT ID ONLINE APPLICATION SYSTEM (AIOAS)

2.1 Incheon International Airport has implemented the Airport ID Online Application System (AIOAS) since February 2010 to efficiently control the large volume of Regular ID holders (approximately 40,000).

2.2 AIOAS dramatically reduced the whole processing time by adopting a new online application and management system, which was previously done manually and enhanced the convenience of employees submitting ID application from remote locations. It further improved the airport ID control capabilities, especially regarding accessing the Security Restricted Areas of new personnel and the ID issuance cap for each entity.

2.3 Moreover, in order to prevent any ID alteration or counterfeits, Incheon International Airport has designed airport IDs in the form of radio frequency cards. Access data of each staff member is stored and managed in the AIOAS in real time, which can prevent any possible ID incidents that may undermine airport security such as unauthorized use of stolen airport IDs.

3. ID IMAGE DISPLAY SYSTEM (IDS)

3.1 The employee screening process at Incheon International Airport includes airport ID visual inspection, card reader scanning and physical screening of persons. In particular, the airport has implemented the Image Display System (IDS) since January 2010 in order to eliminate the difficulty of checking photos in the airport ID in a short time and to prevent any illegal use of airport IDs or any unauthorized access to Security Restricted Areas.

3.2 As noted above, the IDS automatically displays information such as an ID photo when a staff member makes access to Security Restricted Areas by touching the card reader with his/her ID. The security personnel can also crosscheck with the naked eye in addition to checking the confirmation notice from the electronic system, which contributes to enhancing access control to restricted areas (currently operated at 27 access control points located at Incheon International Airport boundary).

3.3 Meanwhile, Jeju International Airport is operating the Facial Recognition Access System, and similar system will be installed at 14 airports including Gimpo International Airport and Gimhae International Airport of the Korea Airports Corporation (KAC) from 2014.

4. BIOMETRIC ACCESS CONTROL SYSTEM (BACS)

4.1 The 14 airports including Gimpo International Airport of the KAC are using the pass identification and fingerprint recognition system for all employees in order to ensure high-level security.

4.2 The Hand Vascular Recognition System (HVRS) and the Hand Geometry System (HGS) have been operated since October 2005 in key facilities at Incheon International Airport in order to strengthen the access control of employees.

4.3 Biometric information is a useful technology that cannot be duplicated or counterfeited, and can be used to identify each individual correctly. Accordingly, biometric technologies contribute to strictly preventing any threat from insiders and unauthorized personnel.

5. AUTHORIZED VEHICLE ACCESS CONTROL SYSTEM (AVACS)

5.1 The vehicle screening process includes vehicle access control, search on vehicle, driver and occupants and vehicle interior and exterior check. In order to supplement security screening conducted by security guards, the Authorized Vehicle Access Control System (AVACS) has been implemented since January 2011.

5.2 The AVACS automatically checks the authorized vehicle upon its approach to the access control point through a camera, based on a database of the access pass information and authorized vehicle numbers. The system is established at eight vehicle access control points at Incheon International Airport. With this advanced system, quick identification and tracking of authorized vehicle and efficient vehicle access control including preventing any unauthorized vehicles' entry are accomplished.

6. PERIMETER INTRUSION DETECTION SYSTEM (PIDS)

6.1 The ROK has installed a fence covering the airport perimeter to protect passengers and aircraft. Incheon International Airport is operating the Perimeter Intrusion Detection System (PIDS) including Taut Wire Sensors and CCTVs in order to prevent unlawful intrusion from outside. Also, the Passive Infrared Sensors and Cable Sensors are applied at vulnerable points identified by airport risk assessment.

6.2 Besides, all CCTVs and the PIDS installed at the perimeter are integrally controlled by the Perimeter Security Center (PSC). When the PIDS makes an alarm, any unlawful intrusion is suppressed in advance by dispatching security agents to the spot by identifying the intruder's path captured by the CCTVs installed at the site.

7. CONCLUSION

7.1 The ROK will continue to implement security policies to ensure safety and security of civil aviation and to efficiently respond to security threats posed by insiders or unauthorized personnel. The ROK is committed to maintaining the harmonized, global level of aviation security by sharing and collaborating on the related technologies and operational techniques with Member States.

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APPENDIX

■ Airport ID Online Application System (http://pass.airport.kr)

User Page

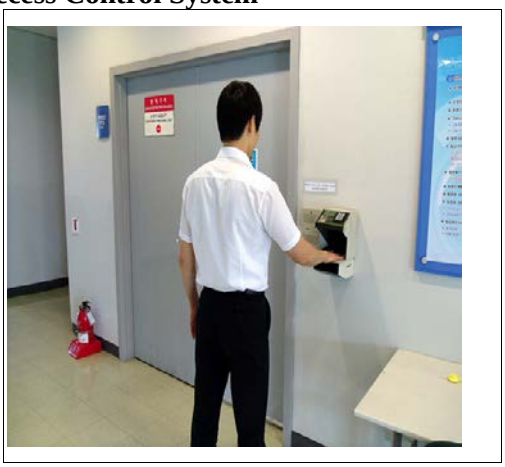
Admin's Page

■ Airport ID Image Display System

Card-Reader Scan

Physical Screening

■ Biometric Access Control System

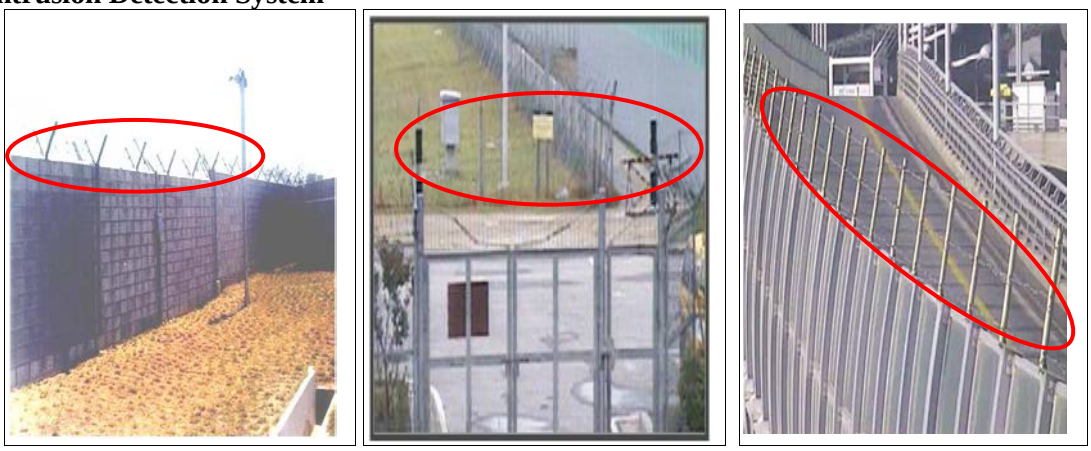


Hand Vascular Recognition System (HVRS)

Hand Geometry System (HGS)

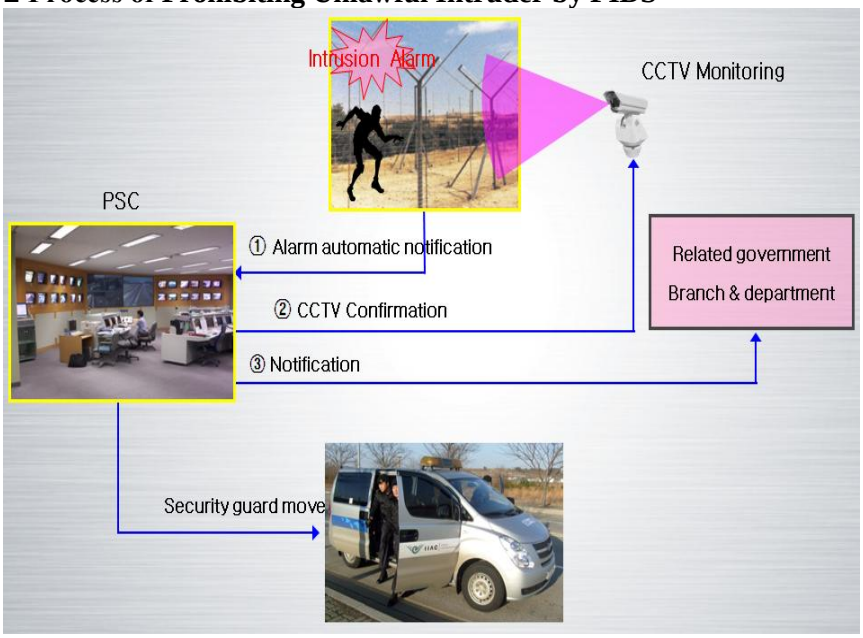
■ Authorized Vehicle Access Control System

■ Perimeter Intrusion Detection System



Taut Wire Sensor Passive Infrared Sensor Cable Sensor

■ Process of Prohibiting Unlawful Intruder by PIDS



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