

Smart Prison Development in Hong Kong

Correctional Services Department

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Mission of CSD



Solid Past Performance



Our Challenges

Labour Intensive Operation

- Direct Supervision
- Confrontation with PICs
- Physical exertion







Our Challenges Response to Emergency

- Timeliness in respond
- Mental exertion



Self-harm Act



Attempted Escape



Fighting

Medical Emergencies





Strategic Plan – development of "Smart Prison"





我們將通過以下途徑達致目標: We will achieve this through:

- 發展"智慧監獄"的概念協助工序創新及可持續發展 Developing a "Smart Prison" concept for process innovation and sustainable development

"Smart Prison" Development

Since 2018, more than 40 systems under development





























More trials coming ...

"Smart Prison" Strategic Development Directions



Security and Monitoring System



Operation and Management System





PIC Self-Management System



Staff Capacity Enhancement System

Introduction of Smart Prison Systems



Video Analytic Monitoring System



Objective

Adoption of video analytic technology for detection of abnormal behaviours

Features

Detection of six types of behaviors:-

Aggregation •

- Covering CCTV cameras •
- Fighting •

- Hanging Laying •
 - Reaching high



Robotic Monitoring System



Objective

- Supplement staff patrol at night to detect abnormality of Persons in Custody
- Enhance the efficiency of penal operations and institutional security

Features

• Connected with tablet for real-time monitoring









Automatic Drone Patrol and Monitoring System





Objective

UAS auto-patrol to detect irregularities adjacent to the perimeter areas

Features

• Image analytic technology to enhance the security of institution



Movement and Location Monitoring System



Integrated Management and Analysis Platform

Objective

Adoption of location tracking technology and the use of Smart Wristband for the monitoring of PICs' real-time location

Operational data at a glance

- ✓ Number of PICs inside and outside institution
- ✓ Distribution of PICs in day accommodations
- ✓ Real time PICs' locations
- ✓ Alarm warning statistics, etc.



Location Tracking

| 活動室1 0/113 | Ð | 活動室s 0/1 | 企 | 實時在四人士數目:68 醫療觀察:16 重點關注:2 | |
|---------------|---|--------------|---|----------------------------------|---------------|
| 活動室2 0/20 | 企 | 活動室6 0/1 | 企 | | |
| 活動室3 0/8 | 企 | 活動室7 0/12 | 企 | ^{病房1} 0/1 ▶ | ₩88章 0/ ▲▲ |
| 活動室4 0/1 | 企 | 多用迷活動室 0/ | 企 | 病原2 0/1 | 運動場 50/ D |





Smart Health Sensing System



Respiratory Rate

Objective

Assist staff to monitor physical conditions of PICs with medical and nursing needs

Features

- Non-wearable device for real-time health-sign ٠ monitoring (heart rate and respiratory rate)
- Alerts for abnormal situation •
- Statistic reports for analysis •

Health Signs Monitoring System



Objective

Assist staff to monitor physical conditions of PICs with medical and nursing needs

Features

- Application of Smart Wristband •
- Instant health sign monitoring ٠



PICs' Self-learning System

Objective

To provide electronic tablets for Persons in Custody with long-term sentences to foster self-study and selfmanagement.

Features

- E-books
- Rehabilitative videos
- Mini-games
- PICs Information
- Instrumental music
- Positive living e-Program
- University learning materials (OUHK)







Integrated Intelligent Communication System



Objective

To allow PICs to maintain contact with their family members to facilitate their rehabilitation.

Features

- Smart Wristband and Voice Biometric Authentication
- Third-party detection
- Speech to text technology for keyword spotting (Cantonese, English, Putonghua)

PICs' Self-service Kiosk





Objective

To cultivate PICs' capability to self-manage their daily matters through self-service kiosk (i.e. Canteen Purchase, Request Management, etc.)

Features

- Operate with Smart Wristband •
- Book borrowing •
- Canteen purchase ٠
- Request management •
- Incarceration information •





Request management

\$2.00



PICs' E-locker System



Objective

To cultivate PICs' self-management capability by allowing them to use the e-lockers in a self-service manner

Features

Operate with Smart Wristband







Ultimate Goals

- Big data analytics
- Artificial intelligence
- For strategic planning and penal management
- To achieve better outcomes for all policies towards the sustainable development of correctional system



Prediction



Early detection



ILG RCLIVE Classroom Training

Interactive Presentation

Grouping Design

Interactive Polling by Trainees

Intense Discussion

Interactive Training Materials

i.e. CCTV Footage

FIGUID Scenario Training

Practice Operational Knowledge and skills

Tense Atmosphere

VRTraining

Searching and Incident

Unlock Cell at Night

Training Performance Analysis BI. Tools

Challenges and Opportunities

Sharing Sessions with staff

Active staff engagement

Gain staff support

Let staff taste the fruit of success

Innovation Competition

Participation of all levels of staff

小智慧

Uncover the wisdom of new generation

A new Community Education Programme

A new crime prevention education programme for young people

Role-playing, problem-solving and teamwork escape game in a real prison

Better understand the work of correctional officers

Observe the custodial environment and prison life

Reflect on the detrimental consequences of committing crimes

Experiencing the daily challenges encountered by correctional officers in reallife scenarios

Searching for clues in a real prison

Triggering missions through interaction between mobile application and prison facilities

Accomplishing the tasks in group to foster teamwork and leadership

Sharing The Experience of COVID-19

Timely introduction of technology!

Centralized Body Temperature Detection System

Objective

Assist staff to identify staff, PICs, and any other persons suffering from fever

Features

- Body temperature detection
- Facial Recognition

UVC Disinfection Robot

Intelligent Epidemic Prevention Passage

Fever Screening Robot

Determined to Succeed

Q & A

Thank you