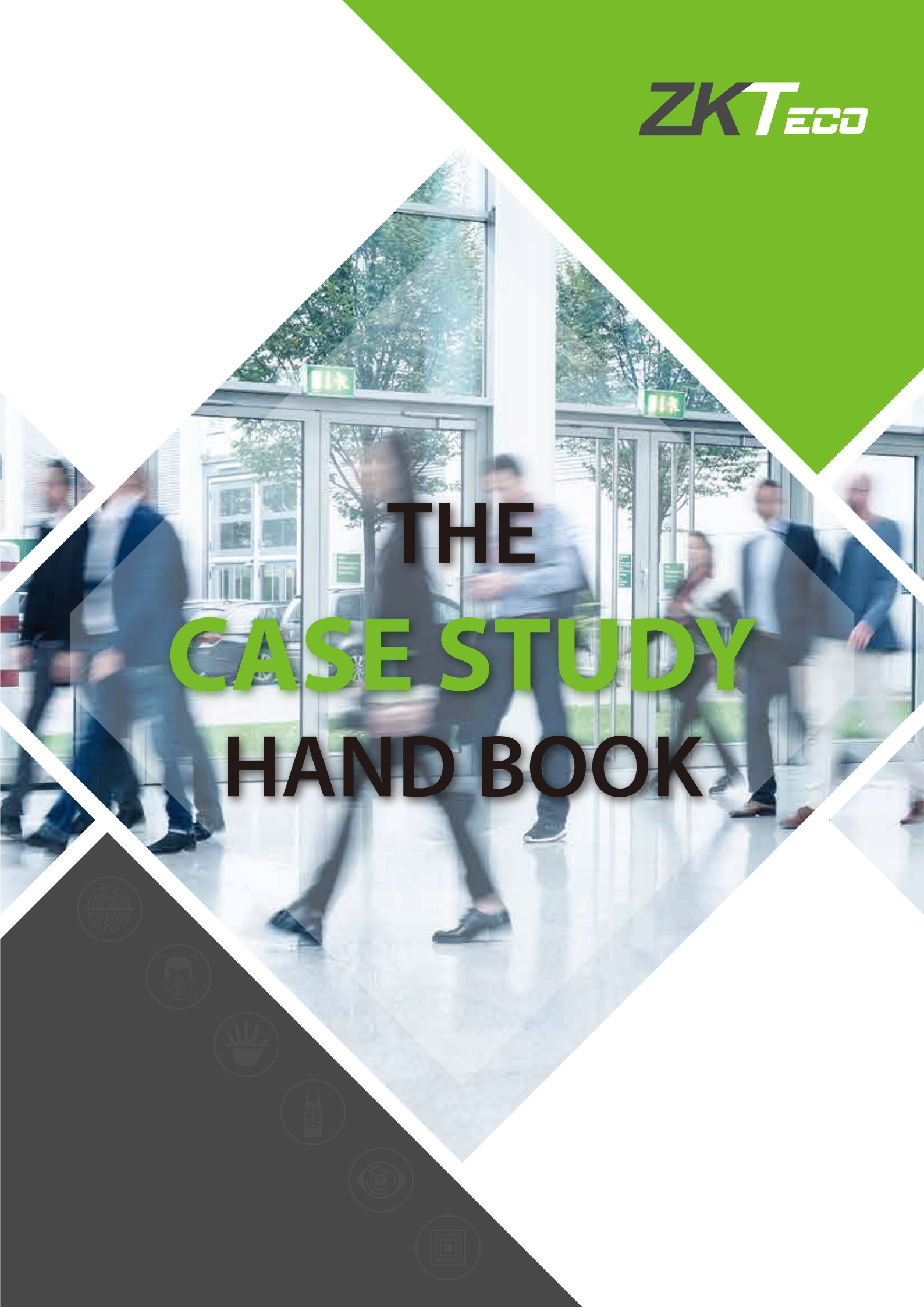




THE **CASE STUDY** HAND BOOK



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InterContinental Hong Kong



Philippines Sea Residences



Bank of Ceylon



Corona Casino



Ferrovial



HKTV Mall - Office Building



Nakhon Pathom Central Prison



National-Scale Stock Exchange

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AUDEMARS PIGUET
Le Brassus



HARIBO



INTERCONTINENTAL
HOTELS & RESORTS



SHARP

SWATCH GROUP



Vanke



KERRY HOTEL
Hong Kong
香港嘉里酒店

colourmix



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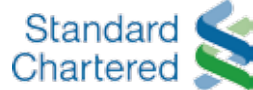
晶苑地產
Crystal Properties



BrasilTelecom



Partners





Premium Hotel Group InterContinental Hong Kong Access Control & Video Surveillance Integrated Solution Case Study

Client's Background

Internationally acclaimed as one of the world's top hotels for business and leisure, InterContinental Hong Kong has always been prized for its unrivalled views of Victoria Harbour and Hong Kong Island. The hotel features 503 contemporary guest rooms, including 87 harbour-view suites, all of which have high-speed internet access, Handy smartphones, 24-hour butler service and in-room dining. Other "around-the-clock" services include 24-hour Concierge and business services. The hotel's stunning Presidential Suite is one of the most spectacular in Asia and the largest in Hong Kong at 7,000 square feet with a 2,500 square feet terrace with an infinity swimming pool overlooking Victoria Harbour and Hong Kong Island. There are also two specialty suites (The CEO Suite and Terrace Suite), both with large outdoor terraces and Jacuzzis overlooking Victoria Harbour.



Project Requirements

A reputable premise as InterContinental Hong Kong is, it highly concerns their customers' safety and any security loophole would be threatening to it. With increasing terror attacks globally coming with the growing tension among nations and geopolitical risks, it is definitely necessary to enhance the public security level in order to prevent causing loss to clients that conventional access control systems are not satisfactory. Apart from reliable and convenient access control system, they had some specific requirements:

Actual Access Control and Monitoring

All employees of InterContinental Hong Kong are only allowed to have entry and exit of working areas after successful identity authentication with verification of their employee cards, yet it does not indicate that all illegal access without proper card verification process are effectively prevented, and in case any incident happens, management staffs are unable to obtain instant surveillance in order to acknowledge live situation of abnormal events. This, to a renowned hotel with high people flow, is a security risk that it cannot afford to ignore. However placing security staffs in every access point not only consumes great human resources costs but also may result in negative perception to users. Thus a more convenient and effective method to monitor access is required.

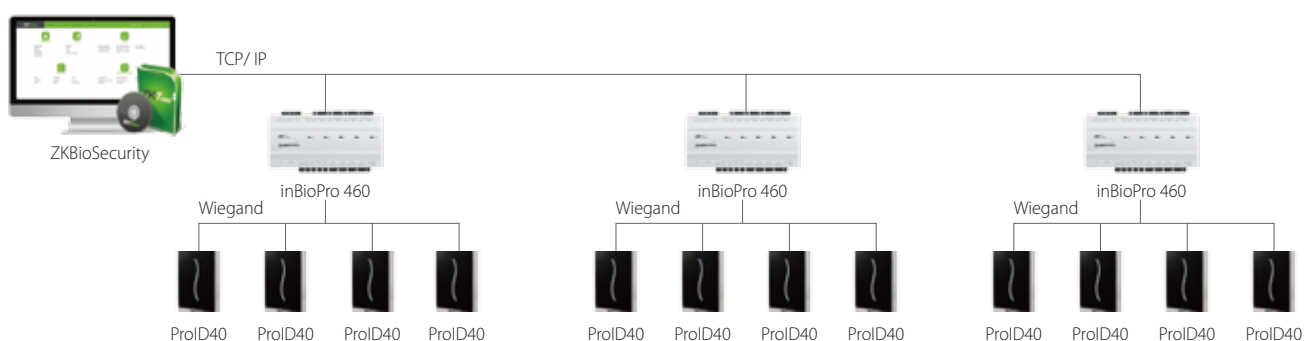
Automatic Recognition of Access Rights

There are a complex people flow entering and exiting access points with different types of employees with various duties and access rights to ensure that all employees are in proper locations performing duties. However conventional access control systems have difficulties dealing with complex access rights, thus it requires an access control system that can effectively differentiate access rights of different employees

Scalability

One of the very critical requirement is that the system must enable easy and efficient expansion due to the flexibility of the client's human resources. Thus, it requires a system that can easily connect to and synchronize with newly added devices.

Schematic Diagram



Configurations

System	Device Name	Device Model
Access Control System	Access Control Terminal	InBioPro Series Control Panel
	Access Control Card Reader	ProlD card reader
	Access Control Software	ZKBioSecurity

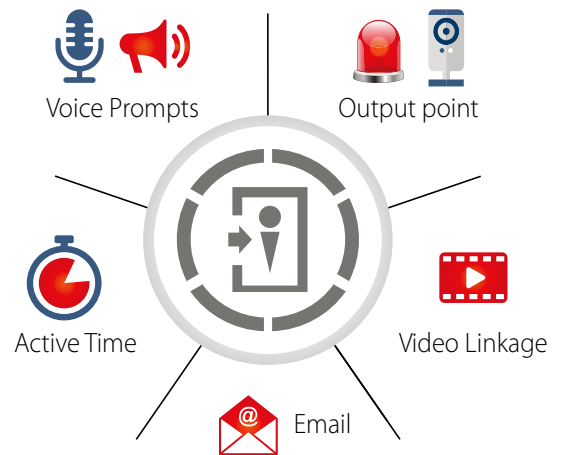
Technical Features & Solutions Function Description

- The project is deployed with an access control solution that includes 40 units of ProID Card Readers, 10 units of InBioPro Series Control Panels, and ZKBioSecurity Access Control Software for central management.
- All staffs' personal information have been enrolled and they are all issued employee cards for access control purpose. All cards are read by the card readers deployed in all access points. Staffs in order to gain access or exits to desired locations must scan their cards for verification. Once verification process is initiated, corresponding surveillance cameras will be triggered to video capture the complete access control process to ensure that both cards and persons match and the verifications are authentic.
- In case any abnormal event occurs including unpermitted entries and exits, forced door opening, surveillance cameras will also be triggered to record and display live videos which are viewable in the back-end system.
- Once alarm for abnormal event is triggered, email or optional mobile app. notifications will also be delivered to notify administrators.
- All staffs are registered with specific access rights written in their staffs cards, thus they are only allowed to have access into certain areas that they are authorized to.
- The System enables global-anti-passback function. Anti-passback is a security mechanism that prevents a person from passing back her access card to the next person. Thus, no person who performs illegal and unauthorized access will be able to obtain exit.
- The entire system is centrally managed by the ZKBioSecurity Access Control Software. As the Software is web-based, with connection to the ZKBioSecurity Access Control Software, all staffs' information could be efficiently saved and centrally managed, which lets management staffs easily add personnel. And any newly added card reader can be flexibly connected to the Software, enabling great scalability.
- The ProID family of card readers is designed to offer card technologies options to customers such as 125KHz EM, 13.56MHz MIFARE, DESFire, FeliCa or Legic. With a robust all-weather protection and a beautiful modern design, the ProID family is the best choice for indoor or outdoor applications.
- InBioPro Series is a project oriented high-end product line with unique features such as embedded fingerprint verification and advanced access control functions, which can be managed by TCP/IP communication thru LAN or WAN networks. The InBioPro Series are the perfect match for ZKBioSecurity web based software platform to provide a full featured biometric security solution. In combination with the FR1300 RS485 reader, the panels can authenticate users under multiple verification modes such as fingerprint, card and password for a higher security level.
- ZKBioSecurity is an access control system management platform based on the browser/server architecture. Users can access and log in to the platform directly from browsers and view the verification conditions of all connected devices in real time on the browsers.

ZKTeco's Solution Competitive Advantage

Global Linkage

One of the highlighted functions of the ZKBioSecurity is the Global Linkage. It is able to automate system cross platform interactive functions and notifications system. There are multiple tiers to the alert process including relay inputs and outputs, video recording and photo capture (ONVIF), active time, email notification and linkage voice prompts.

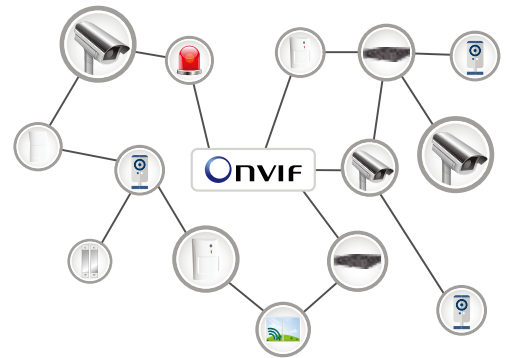


E-Map

E-Map enables administrators to have a clear and accurate view of all event points. With its cutting edge multi-level E-map structure, administrators can simultaneously monitor multi-levels / areas events.

Fully Integrate 3rd Party IPC/DVR/NVRs

Currently ZKBioSecurity software supports ZKVision (EZ, E, W series), GT/PT Series, Hikvision, Dahua, through private protocol integration, and using ONVIF to connect other cameras and NVRs.



Supports ONVIF

ONVIF is an open industry standardized interface for IP-based physical security products, ZKBioSecurity is using ONVIF for most of the 3rd party cameras and NVRs integration to enlarge its extensive ability.



Ferrovial Total Security Solution Case in Spain

Enhanced Security Level by Deploying Fingerprint Technology for nearly 10,000 Staffs Access Control Management

Client's Background

Ferrovial, founded in 1952, is one of the world's leading infrastructure operators and municipal services companies, committed to developing sustainable solutions. The company has more than 95,978 employees and a presence in 6 main markets. It is a member of Spain's blue-chip IBEX 35 index and is also included in prestigious sustainability indices such as the Dow Jones Sustainability Index and FTSE4Good. The company's activity is carried out through four business lines, including Services (efficient provision of urban and environmental services and maintenance of infrastructures and facilities), Toll Roads (promotion, investment and operation of toll roads and other infrastructures), Construction (the design and construction of infrastructures in the areas of civil engineering work, building and industrial construction) and Airports (airport investment and operation). A commitment to society is one of Ferrovial's distinguishing characteristics. Accordingly, they are committed to Corporate Responsibility, best practices in Quality and the Environment, and the advancement of Innovation. They provide services to large communities to promote socio-economic development, helping improve people's living standards and contributing to their development.



Project Requirements

The building is daily accessed by approximately 800 employees and an estimated number of 600 visitors per day. The enterprises require identity verification of persons, and also access authorities of persons to the construction site. Here are their requirements

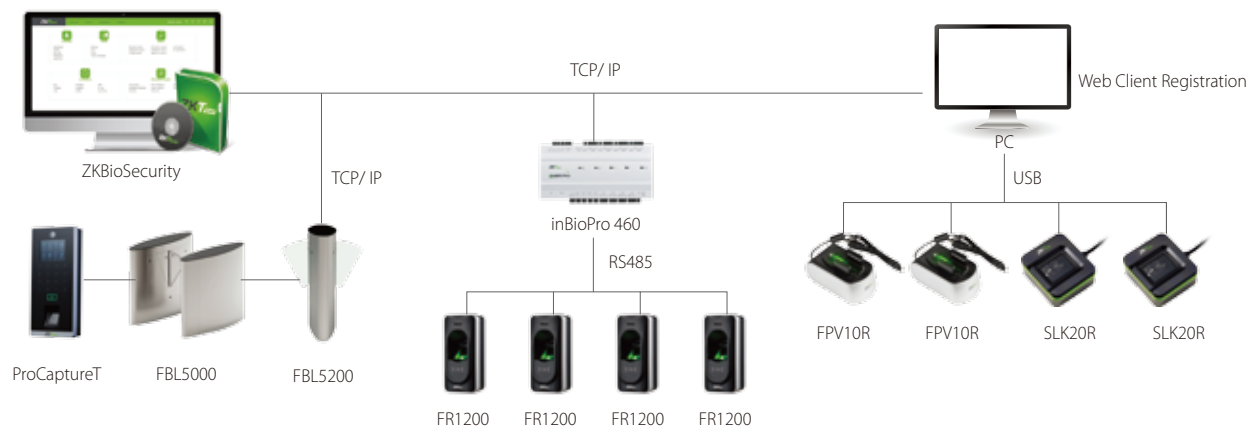
Reliable Access Control System

The site is daily accessed by as a large number as 2,000 people. For security reason, to secure that the safety and privacy of the sites are not threatened, a reliable authentication method which prevents illegal and improper access must be deployed.

Quick Visitor Registration

The site is estimated to be daily accessed by approximately 600 people. As our client requires extra secure visitor management, they asked if it was able to apply same biometric verification methods to visitors as is applied to employees while still maintaining high efficiency of visitor registration.

Schematic Diagram



Configurations

System	Device Name	Device Model
Entrance Control	Flap Barrier	FBL5000
	Flap Barrier	FBL5200
Access Control	Fingerprint and Card Reader	FR1200
	Fingerprint and Face Recognition Terminal	ProCapture T
	Finger Vein Terminal	inPulse+
	USB Fingerprint Reader	SLK20R
	FPV Fingerprint and Finger Vein Reader	FPV10R
	Access Control Panel	InBioPro 460
	Access Control Software	ZKBioSecurity 3.1.0.0

Technical Features & Solutions Function Description

The building is deployed with a security solution comprising of entrance control and access control devices and software. A unit of FBL500 Single-lane Flap Barrier, 2 units of FBL5200 Dual-lane Flap Barriers have been installed to construct a 3-channel entrance. Each channel has been deployed with 2 units of ProCapture-T Access Control Terminals for entrance and exit management.

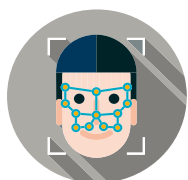
- Employees are pre-registered with their personal information, fingerprint data and face data for access control purpose. They are required to be verified with scanning their fingerprint or face for access and exit.
- All premises in the building have been installed with access control devices. 30 units of FR1200 Fingerprint Readers have been deployed to most of the premises for fingerprint verification to access. For some premises that require higher security level, inPulse+ Fingerprint and finger Vein Readers have been deployed for doubled security verification.
- For visitor management, all visitors are required to perform registration prior to the visits to the building.
- In order to remain quick registration, SLK20R USB Fingerprint Readers and FPV10R USB Fingerprint Vein Readers have also been installed which are connected to the computers performing visitor information registration. Thus all fingerprints and finger vein data of the visitors are able to be quickly recorded for access control purpose, and it ensures that visitors could only have access to the premises they are authorized to.
- Apart from that, as our client requires precise information registration of their visitors, Desco Penta Scanner devices have also been deployed for OCR (optical character recognition) purpose. All visitors' document of identity proof able to be quickly recorded. With connection to our ZKBioSecurity Access Control Software, all visitors' information could be efficiently saved and centrally managed.
- ZKTeco solutions offer high flexibility of customization and integration, as our clients has already had its own vehicles barrier and LPR (license plate recognition) system, to better utilize client's resources, we have integrated the carpark system to our installation by installing an FR1200 fingerprint reader for biometric verification.
- ProCapture-T is an access control terminal applying the most advanced SilkID fingerprint sensor. Its outstanding performance provides a high identification rate towards dry, wet and rough fingers, being capable to detect alive finger for a higher security level.
- The fingerprint verification speed has been dramatically increased by its optimized fingerprint algorithm and the brand new ZMM220 hardware platform, equipped with a fast 1.2GHz processor. The touch keypad delivers a smooth and easy user operation to enroll and delete users, set device and access control parameters, etc. Its built-in camera allows to capture user's photos and events snapshots to provide attendance evidence (optional function).

- inPulse+ is a multi-biometric reader capable of capturing and processing finger vein and fingerprint biometric data at the same time. Ergonomic, intuitive and highly secured, inPulse+ leads us to a new era of enhancing security with biometrics. Its infra-red rays illuminate the vein pattern which is then converted into a biometric template. Both the vein and fingerprint templates are then stored in the database for subsequent matching.
- FR1200, a fingerprint reader with RS485 communication interface works with biometric access controllers and fingerprint standalone access control, including inBio series controllers, F8 and so on. It offers the function of capturing and transferring fingerprint samples to access control panel. With its IP65 rated rugged structure, FR1200 offers extra durability in all weather conditions including outdoor environments.
- SLK20R is a leading fingerprint scanner designed by ZKTeco USA laboratory which adopts the advanced optical design. It has a superior ability to do live fingerprint detection and capture high-quality fingerprint images by 2 Megapixel camera. It can be the most comfortable and affordable desktop enrollment and identification device. FPV10R is a fingerprint and finger vein combined scanner. In mathematics, it has index level accuracy improvement. With a single scanning, it does two verification of both fingerprint and the finger vein. It has the capability to scan both surface signature of the skin (fingerprints) and the inner side (finger vein), and offers reliable solution to block fake attempts to the system. They are both able to be connected with USB to computer that offer high flexibility and convenience of installation.

ZKTeco's Solution Competitive Advantage

Support various verification (Fingerprint, Finger Vein, Card...etc.)

ZKBioSecurity supports various kinds of biometric verifications, such as, fingerprint, finger vein, PROX card, which submitted data will be recorded by ZKBioSecurity.



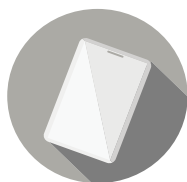
Face Recognition



Finger Print Recognition



Finger Vein Recognition



EM Card Recognition

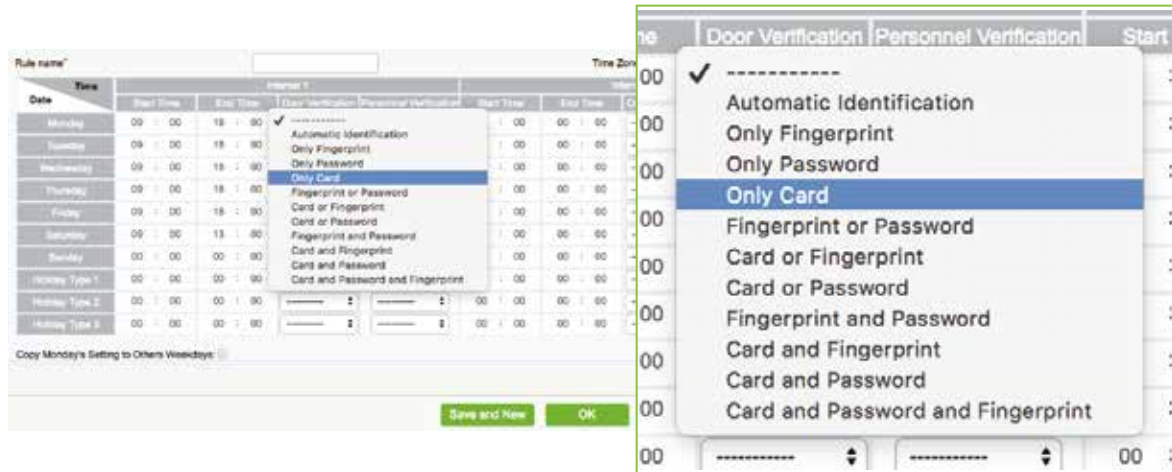
Biological Template Quantity 0

Personal ID*	Department*	Gender*	 Upload New Photo Browse Capture
First Name	Last Name	Card No.	
Gender	Password	Certificate Number	
Certificate Type	Mobile Phone	Card Number	
Device Security Number	Biometric		
Registration Code			
Biological Template Quantity	0		

Access Control	Time Attendance	Behavior Control	Face Register	Personnel Detail
Levels Settings ☒ Master	Add Check All Clear All	Supervisor Device Connection Mode Delay Passage Disabled Set Valid Time	Add Delete Refresh	Role Ordinary User

Access Control Time Zone (Card/ Fingerprint)

Allows administration to set specific time zones during the day that specific credentials are valid. Example; During the normal business hours the records room can be access with a PROX card, however after 5:00 a person would be required to use the PROX card as well as fingerprint and/or facial recognition and/or password. Multi-authentication during specific time zones.



Visitor Management Process

Employees can help the visitors to make reserved registration, successful reservation information will be delivered via email or SMS to notify recipients, visitors and registration managers etc. Visitor registration can also be done by identity card registration (OCR or ID Reader), signature, photo capturing, passport capturing or car information registration etc. in order to enhance the safety level. Visitor authority supports automatic distribution of recipient department authority group according to visitor's location. Also, copying function enables users to select needed visitor information and copy to new registration interfaces, including recipient information, reasons for visit, corporate information, authority information etc., which can bring convenience and save time to group visit registration. After successful registration, visitors may have access to designated areas with visitor cards or visitor receipts. It supports multiple verification modes including card, password, finger print, QR code etc. After visit, visitors may return cards in the registration site for checking out.



Once the visitors registered, he might be allowed to access all area of the office/ building





Bank of Ceylon (Sri Lanka)

Multi-Location Web-Based TA Management with simple AC function

Client's Background

Bank of Ceylon is a government-owned, major commercial bank in Sri Lanka with its head office located in Colombo. It has a network of 628 branches, 689 CDM network and 15 regional loan centers within the country. Not only had they focused in Sri Lanka but also offers its banking service to the countries of Maldives, India, United Kingdom, and Seychelles. To serve the migrant communities of other country, they have expanded their services through representatives at exchanges houses in UAE, Qatar, Kuwait, Bahrain, Oman, KSA, etc. For this, they have been awarded in Sri Lanka as the No. 1 Bank and Brand for the 10th consecutive year and the only Sri Lankan brand recognized as one of Asia's Best Brands in 2013 offered by the Chief Marketing Officer's Council based in India.

Project Requirements

Fingerprint Identification Time Attendance Terminal

Rather than relying on ID cards for punching in and out, a biometric verification will ensure a true identity and avoid buddy punching. Plus using biometric as a form of identification brings more reliability and preciseness.

Large Capacity Time Attendance Terminal

With its network of 628 branches, they have reached more than 8500 employees which considered them as the bank with the largest employer in the banking and financial services sector. With such number of employees, they required a time attendance terminal with large capacity and fast performance.

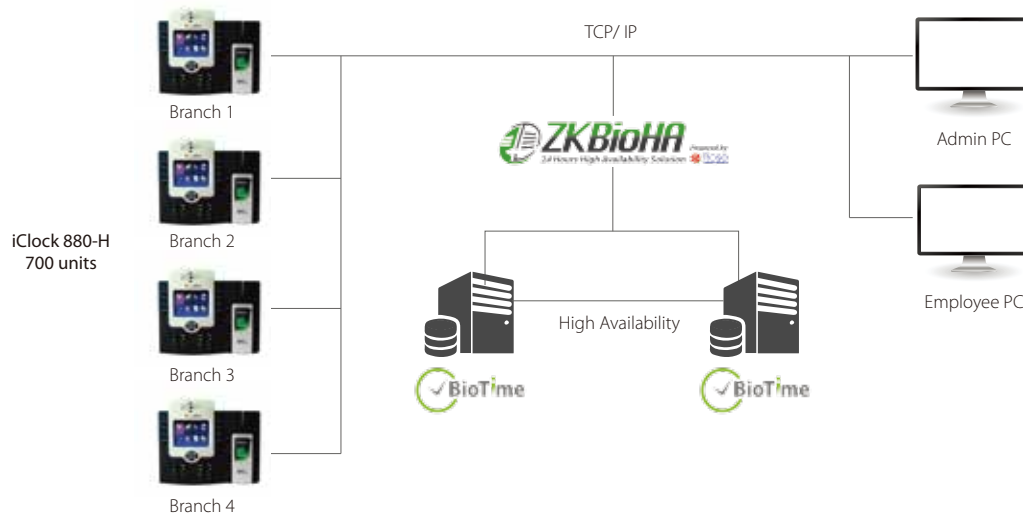
Multi-Location Centralized Time Management Software

The client needed to allocate 1-2 time attendance terminals each branch and monitor employee's attendance logs. They need a single platform which can collect and view all attendance logs of each branches.

Attendance Calculation and Reports

In order to have a complete and organized attendance system, the client needs to generate weekly or monthly reports and keep records of. Reports can be generated according to branches or departments.

Schematic Diagram



Configurations

System	Device Name	Device Model
Time Attendance	3.5-inch TFT Screen Time & Attendance and Access Control Terminal	iClock880-H
	Web-Based Time & Attendance Management Software	BioTime 7.0

Technical Features & Solutions Function Description

The project was deployed with a total of 700 units of large capacity and high-level time attendance terminal, iClock880-H. Each branch has 1-2 units of iClock880-H where employees enrolled their fingerprints along with their information. Whenever they come to office, they need to punch in and out to record their attendances.

In order to manage all the data coming from the time attendance terminals of each branches, it has been connected to the web-based attendance software, BioTime 7.0 which has been continuously synchronizing biometric templates and data from one-time attendance terminal to another. So, if an employee is relocated from Branch A to Branch B, he/she can still punch in without registering his/her fingerprint and details again. As long as the devices are connected and assigned in the same "Area" in the software, it will automatically synchronize with each other.

The client has used two servers for BioTime which are both communicating and sharing information with each other. A BioTime server can support up to 500 time attendance devices working together.

BioTime 7.0 is a multi-location centralized time management system where HR or IT administrator can monitor all attendance logs in real-time. They can also access the software anywhere using their web browser to remotely manage the iClock880-H. In case of late, absence, or early leave, the employee will receive an automatic e-mail from the BioTime server.

The BioTime software offers two kinds of log-in: Administrator and Employee log-in. Administrator has full functions of the software while employee has limited. Employee can also access the software anywhere using his/her web browser for checking his/her attendance logs. The employees can also apply for leave, training, or manual punch using the software and will be subjected for approval of the Admin, then they will be notified if it has been approved or rejected.

HR department is able to generate weekly or monthly attendance reports based on the branches.

ZKTeco's Solution Competitive Advantage

Web-Based Time Attendance Software

Users can access the centralized system anywhere by their web browser to remotely manage thousands of T & A terminals under complex network (WLAN).



Simple Access Control Module

Simple access control module that can set up the access control settings on the time attendance devices.



Embedded HR Integration

BioTime 7.0 is a platform which can be integrated with ERP and HR software to do synchronization using Middle table in these fields (Employee, Department, Area, Job).



Payroll Management

BioTime 7.0 is a platform designed to organize all the tasks of employee payment and generate salary reports. These tasks can include keeping track of hours, calculating salary, and overtime allowance.

Payroll Structure

- Salary Structure
- Allowance
- Cash Advance
- Salary Increment
- Expense
- Payroll Report

Payroll Formula

Users can use either defined or fixed formulas for the payroll calculation.

Payroll Report Export

The payroll and salary reports are calculated easily and can be exported in CSV, PDF, and XLS format.



Personnel No.	First Name	Last Name	Department No.	Department	Position No.	Position	Month	Basic Salary	Currency	Normal OT	Incentive OT	Holiday OT	Late	Early Leave	Absent	Leave	Allowances	Deductions	Expense	Cash Advance	Salary
2001	Albert	M.	2	Executive	1	Manager	Jan-17	40000	USD	2000	0	0	0	0	0	0	0	0	0	0	42000
2001	Albert	M.	2	Executive	1	Manager	Feb-17	40000	USD	2000	0	0	0	0	0	0	0	0	0	0	42000
2001	Albert	M.	2	Executive	1	Manager	Mar-17	40000	USD	2000	0	0	0	0	0	0	0	0	0	0	42000
3002	James	Chan	2	Executive	2	Staff	Jan-17	20000	USD	1000	0	0	0	0	0	0	0	0	0	0	21000
3002	James	Chan	2	Executive	2	Staff	Feb-17	20000	USD	1000	0	0	0	0	0	0	0	0	0	0	21000
3002	James	Chan	2	Executive	2	Staff	Mar-17	20000	USD	1000	0	0	0	0	0	0	0	0	0	0	21000
4008	Steven	Benier	4	HR	2	Senior Staff	Jan-17	30000	USD	1500	0	0	0	0	0	0	0	0	0	0	31500
4008	Steven	Benier	4	HR	2	Senior Staff	Feb-17	30000	USD	1500	0	0	0	0	0	0	0	0	0	0	31500
4008	Steven	Benier	4	HR	2	Senior Staff	Mar-17	30000	USD	1500	0	0	0	0	0	0	0	0	0	0	31500

Employee Self-Service

Access login is provided for each employees to check their attendance. Employees can apply for online leave to approved by the manager or admin.

Employees can:

- Apply leave
- Apply manual punch
- Apply overtime
- Self Report Enquiry





Nakhon Pathom Central Prison (Thailand) Carpark Management Case Automatic License Plate Recognition System

Client’s Background

Prison owns a long life as does human civilization, which is a critical mechanism for stability of a region or a nation. It performs correctional function by limiting persons’ freedom. Of course, “Prison Break” is a fictional drama, and reality is reality, however there are various kinds of criminals in prison which creates uncertainty to the operation of prisons. As stability and safety is important to a proper operation of a prison, apart from well managing prisoners, refining and plugging security loopholes externally is crucial to a prison’s safe and efficient operation.

Prisons are not the places for walk-ins and random visits, entry of a prison requires strict security inspection, identity authentication and registration of information, carpark is undoubtedly one of the entrances which requires extra attention. Seeing the shortcomings of conventional carpark managements which did not meet their requirements, the Makhon Pathom Central Prison hoped that ZKTeco could offer them a safe and efficient carpark management system.



Project Requirements

Nakhon Pathom Central Prison is daily accessed by as large quantity as 500 vehicles of staffs and visitors. Here are their requirements :

Increasing Security Level

Entry to the Prison requires strict identity verification of the staffs and visitors, yet its conventional carpark management made it difficult and time-consuming to manually identity staffs' car and differentiate them from illegal entries. Thus they required a carpark system that truly and precisely authenticates staffs' vehicles.

Enhancing Carpark Efficiency

As the carpark of the Prison is daily accessed by an approximate number of 500 vehicles, conventional carpark management applied to the Prison carried out heavy workload to the Prison's security staffs, and it sometimes accumulated heavy traffic loading. Thus it required a carpark system that is able to enhance the operation efficiency.

Schematic Diagram



Configurations

System	Device Name	Device Model	Quantity
Carpark Management	Standalone Terminal	LPRS1000	2
	Parking Barrier	PB3000	2
	Software	ZKBioSecurity	-

Technical Features & Solutions Function Description

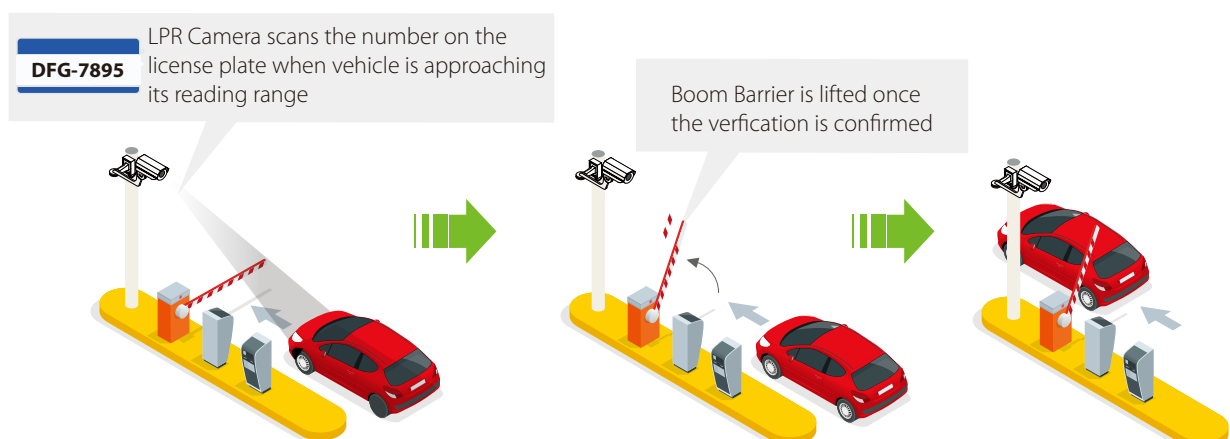
- The carpark entrance of the site is deployed with 2 units of LPRS1000 License Plate Recognition Integrated Machine.
- All vehicles entering the carpark are required to have their license plated scanned.
- The LPRS100 is able to perform recognition of the license plate numbers in an ultimately quick time of less than 200ms and from a distance up to 10 metres with an accuracy over 99.7%.
- The devices are able to read license plates of cars with a maximum speed up to 15km/h. Thus, vehicles are not required to stop for license plate recognition or any conventional verification process like card swiping.
- The devices automatically read numbers and identify if the read license plate belongs to any staff's car.

- The LPRS1000 terminals are connected to and managed by the ZKParking software, which is a client/server architecture parking lot management software self-developed by ZKTeco.
- For visitors' cars, after reading and recognizing the license plates, carpark security staffs can decide to authorize or deny temporary pass for entry.
- Thus the system smoothenes the entire carpark access and registration process without any additional manual workforce needed.
- Like many other car parks, the system is installed outdoor thus requires all-weather functionality. The system performs 24/7 license plate recognition with its IP65 dust and waterproof camera, which enables it to perform outdoor license plate recognition carpark management.
- LPRS1000 adapts a set of independent research and development of top-class license plate recognition algorithm, and combines years' experience in industry application. Without needing to stop and card swiping, its quick access to the parking lot of the automatic license plate recognition mode, provides users with more intelligent, more convenient, more perfect experience.
- LPRS1000 is integrated with license plate recognition camera, LED display, voice broadcast, fill light, fixed base and other integrated structure, and has a simple and elegant appearance and multi-functional design. It is convenient for the installation of the engineering business and get rid of the large ticket box, which is widely used in parking lot management.
- ZKParking contains six functional modules: system management, personnel management, authorization management, financial management, terminal management and report management. With a user-friendly UI and complete parking lot management function, ZKParking provides the most professional solution for a simple and convenient user experience.

ZKTeco's Solution Competitive Advantage

Automatic License Plates Verification (with LPR camera)

LPR technology is an application of computer video image recognition technology in license plate identification area. Its operation starts when the vehicle is located at the entrance of the parking lot, the LPR camera will scan on the license plate characters, and its recognition technology will identify the license plate number, color and other information. If the number on the license plate is valid, the car park barrier will lift for access, otherwise, no access will be allowed.





Philippines Sea Residences 6-tower Residential Project

Advanced Access Control Management with Carpark Management

Client's Background

Based on actual requirements, the design fully considers the system progressiveness, security, cost-effectiveness, and friendliness of maintenance. By using advanced security protection hardware and management software, the system can improve the security and reliability of the access control system in all-round manner and provide an important guarantee for security management. To secure that the safety and privacy of the residents are not threatened, a reliable authentication method which prevents illegal and improper access.

Project Requirements

Nakhon Pathom Central Prison is daily accessed by as large quantity as 500 vehicles of staffs and visitors. Here are their requirements :

Increasing Security Level

Entry to the Prison requires strict identity verification of the staffs and visitors, yet its conventional carpark management made it difficult and time-consuming to manually identity staffs' car and differentiate them from illegal entries. Thus they required a carpark system that truly and precisely authenticates staffs' vehicles.

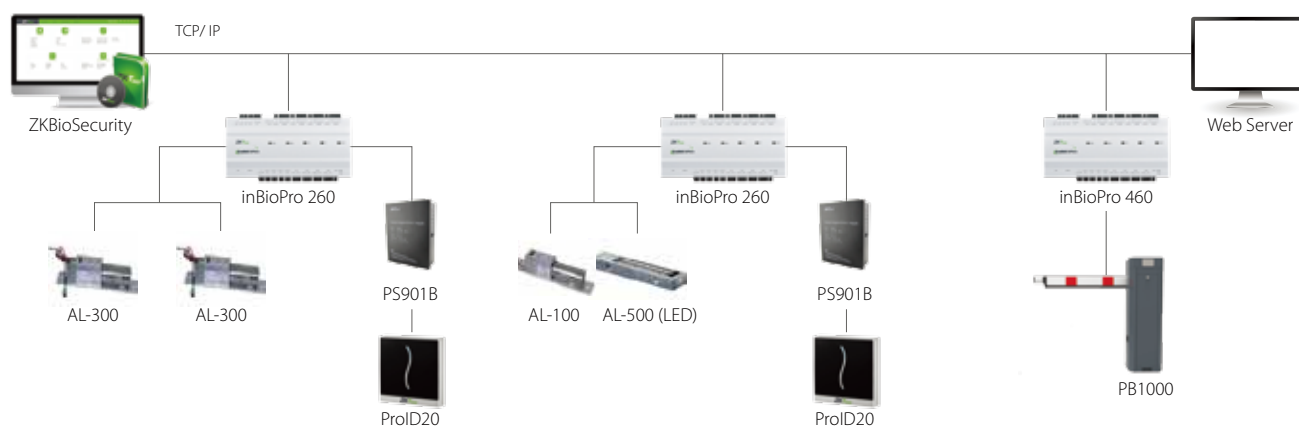
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Configurations

System	Device Name	Device Model
Access Control	ZKTeco Green Label Physical Milfare Desfire Card Access Reader	ProID20 BD-RS
	ZKTeco Electric Strike	AL-300
	ZKTeco Electric Strike	AL-100PF
	ZKTeco Electromagnetic Lock	AL-500(LED)
	ZKTeco L Bracket for Electromagnetic Lock	AL-500PL
	ZKTeco Z Bracket for Electromagnetic Lock	AL-500PZ
	ZKTeco Power Supply w/ Battery Leads	PS901B
	ZKTeco Electromagnetic Lock	AL280 (LED)
	ZKTeco L Bracket for Electromagnetic Lock	AL-208PL
	ZKTeco Z Bracket for Electromagnetic Lock	AL-208PZ
	Card Issuer	Card Issuer
	Alarm For Parking	Alarm For Parking
	ZKTeco Green Label Access Control Panel w/PSU	InBio206 Pro Box
	FSP FP 1000VA/600w Line-Interactive Simulated Sinewave Toer UPS	FP1000
	ZKTeco Loop for Parking Barrier	Loop
	ZKTeco Protocell	ZKTeco Protocell
	ZKTeco Loop Detector for Parking Barrier	Loop Detector
	Web based security platform	ZKBioSecurity

Schematic Diagram



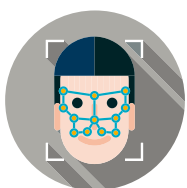
Technical Features & Solutions Function Description

- Multi Biological Recognition Authentication. Biometric authentication is a user identity verification process that involves biological input, or the scanning or analysis of some part of the body.
- In order to legally access, verification of residents or visitors is required. They are only eligible to access to the areas they are authorized to after successful verification.
- All controllers are centrally managed by the ZKBioSecurity access control software. This web-based security platform enables real-time monitoring of all access control status. It also enables access report generation.
- Global Interlock: Interlock among access controllers is supported, if any door is open, other associated access controller prohibit the other doors from opening (including door opening by normal authentication, pressing buttons, and remote control). This will help also to capture illegal passers.
- Multi- Identification: When a person fails to pass authentication for three times, the system automatically makes judgment and generates alarm signals. For high security and protection of the resident.
- Vehicle Authorization: Temporary and fixed vehicle authorizations, fixed vehicle extensions. For convenient parking of the resident and visitors. They will be given a card with access level.
- Customized Parking Lot Charging Rules: Supports various charging rules, meets all types of parking lot. Resident will be charged if Monthly or daily same with the visitors. This system is able to manage vehicle through-fare.

ZKTeco's Solution Competitive Advantage

Support various verification (Fingerprint, Finger Vein, Card...etc.)

ZKBioSecurity supports various kinds of biometric verifications, such as, fingerprint, finger vein, PROX card, which submitted data will be recorded by ZKBioSecurity.



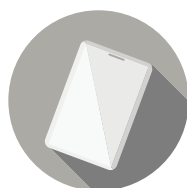
Face Recognition



Finger Print Recognition



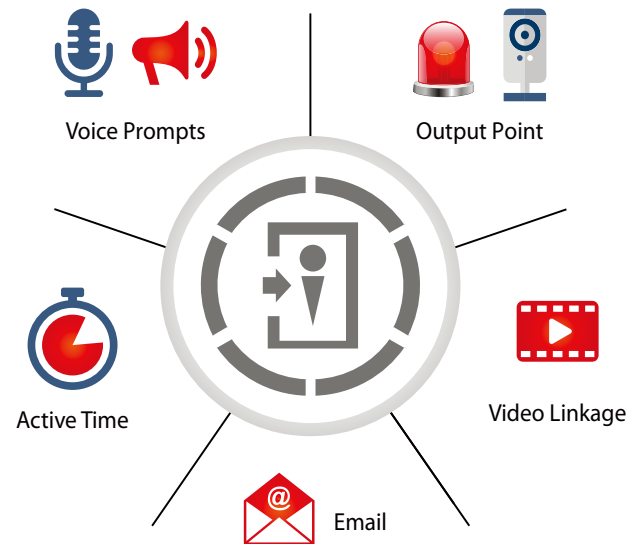
Finger Vein Recognition



EM Card Recognition

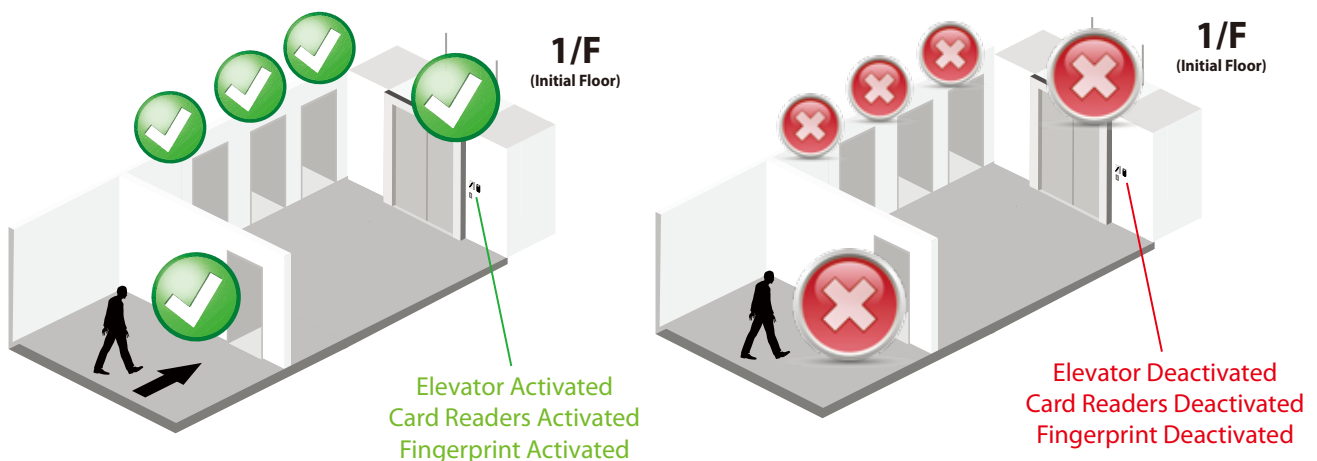
Global Linkage

One of the highlighted functions of the ZKBioSecurity is the Global Linkage. It is able to automate system cross platform interactive functions and notifications system. There are multiple tiers to the alert process including relay inputs and outputs, video recording and photo capture (ONVIF), active time, email notification and linkage voice prompts.



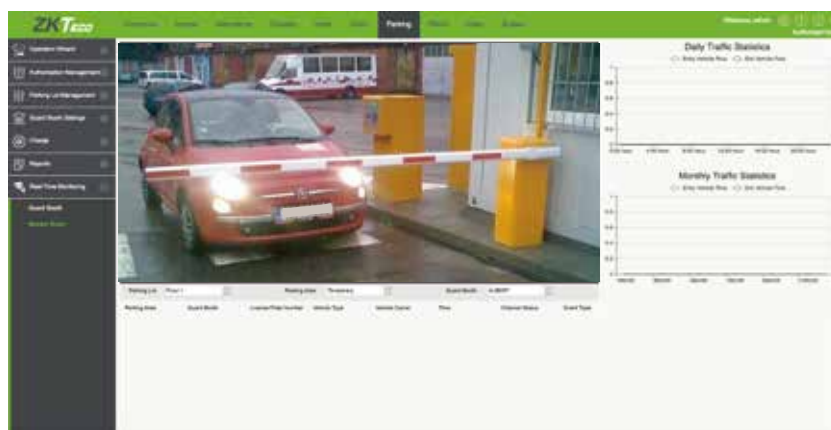
Global Interlock

Global Interlock is an advanced security function that heightens the security level by interacting with different security areas. It is designed to prevent persons from opening more than one door at a time even, if the persons have multiple door access authorities. It is able to precisely appoint access authorization including activations of access authorization of specific doors when the correlated doors are locked properly. Most commonly used in man-traps.



Real Time Parking Lot Monitoring

It provides an additional function for administrators to have a real time monitoring in the monitor room, you can check video images and entrance and exit information of all guard booths in all parking lots.





Corona Casino (Vietnam) Entertainment and Hotel Premise in Vietnam Entrance Control Management

Client's Background

Vingroup is a Vietnamese conglomerate focusing on real estate development. It is controlled by Pham Nhat Vuong, who is the wealthiest Vietnamese. The company operates a total of over 1,000 retail stores across Vietnam and served over 4 million visitors in its amusement parks yearly. Vingroup was founded in Ukraine in 1993 as Technocom by Pham Nhat Vuong. Originally producing dried foods, such as instant noodles, mainly under the Mivina brand, in 2000, the company started operations in Vietnam. In total Vingroup has 48 subsidiary companies. Since 2007, Vingroup is listed on the Ho Chi Minh City Stock Exchange. Corona Casino is a project implemented by Vingroup which is located in the utility complex of the Phu Quoc Super Project, with approximately US\$ 4 billion investments. It covers up to 30,000 sq. meters for gambling entertainment, and is equipped with 400 gambling tables and over 2,000 gambling slots and poker machines. A five-star hotel is also included in this project consisting of 8 floors, 1,440 rooms, swimming pools, conventional center, special spa area, theater, shopping premises and restaurants.



Project Requirements

Elegant Entrance Outlook

Corona Casino is positioned as a luxurious premise, as they needed to maintain the entrances of their 4 halls of the casino including a main and a VIP lounge elegant and fine-looking, it thus required a system that is presentable and compatible with their visual design.

Mifare Card Verification

To verify visitors' identity, our client required a RFID card verification system for the various entrances.

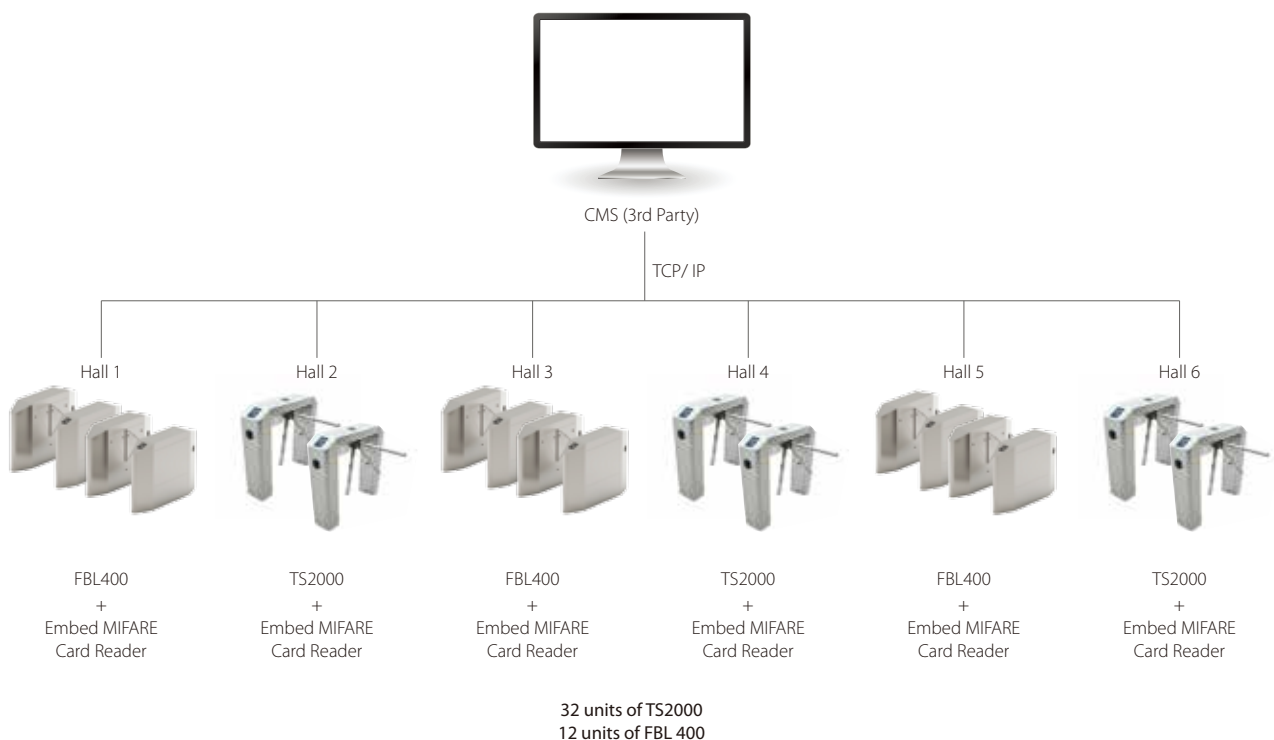
Quick Verification

Due to the large visitor flow of the premise, in order to enhance efficiency, it is required to have quick verification method which prevents inability of the readers to scan cards that consumes time.

Configurations

System	Device Name	Device Model
Entrance control	Flap barrier	FBL4000
	Tripod turnstile Embed MIFARE Card Reader	TS2000 MIFARE Card Reader

Schematic Diagram



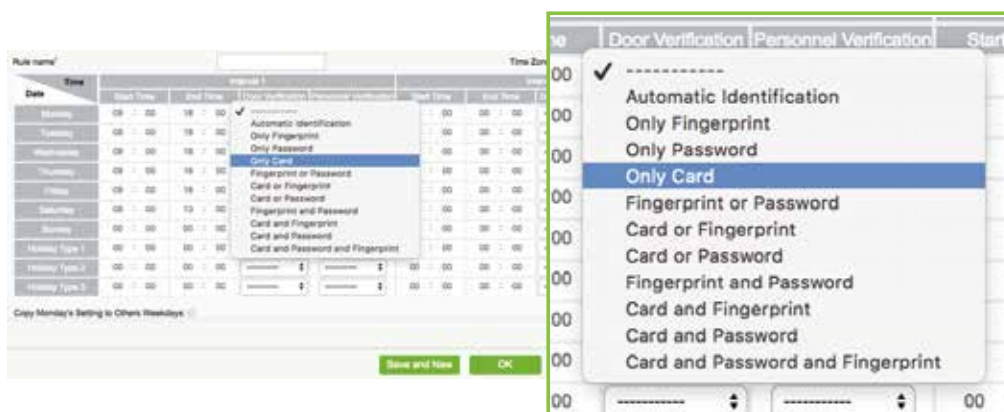
Technical Features & Solutions Function Description

- Each entrance of the halls is deployed with an entrance control system. It consists of 12 units of FBL4000 flap barrier.
- All visitors of the casino are registered with their identities and are issued a Mifare 13.56 MHz card for verification.
- All cards are read by the card readers embedded in each flap barrier. They are only eligible to access through the casino to after successful verification.
- As the Mifare cards are able to perform distanced scanning that is up to maximum 10cm, they have magnificently reduced the time consumption for card scanning and verification to enhance efficiency of visitor flow management.
- The exits of the casino are deployed with 32 units of TS2000. Visitors in order to exit must scan their registered cards for verification to prevent illegal entrance.
- ZKTeco FBL4000 Flap Barriers are made of high-quality components including SUS304 stainless steel casework with smooth finishing and no exposed screws for elegant appearance. Their ergonomic design also enables fast and simple verifications.
- ZKTeco FBL Series flap barriers are simple yet effective entrance control devices with a reading distance ranging up to 10cm. Users with a need of conventional entrance control method are able to have quick verification than ever.
- For more efficient entrance, users may combine FBL4000 and FBL4200 flap barriers for a multi-channel entrance to enhance speed of entrance control.
- The durability of the readers are advanced with external LED control, external buzzer control, indoor & outdoor operation, solid Epoxy potted, waterproof IP64 or IP65 and reverse polarity protection.
- Tripod turnstiles are compact and cost-effective entrance solutions. Designing for smooth and silent operation, reducing power consumption, wear and tear. It is suitable for areas with a high traffic.
- The TS2000 series offer a well-designed, two-legged casework made of stainless steel, ideal for sites where a high traffic and robustness are issued.

ZKTeco's Solution Competitive Advantage

Access Control Time Zone (Card/ Fingerprint)

Allows administration to set specific time zones during the day that specific credentials are valid. Example; During the normal business hours the records room can be access with a PROX card, however after 5:00 a person would be required to use the PROX card as well as fingerprint and/or facial recognition and/or password. Multi-authentication during specific time zones.



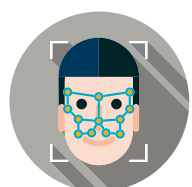
Supports Various Cards Format

ZKBioSecurity is compatible with most PROX card formats, such as: EM, MiFare, DesFire EV1, Desfire EV2, Legic, HID Proximity, HID iClass, Felica, Type B, ... etc.



Support various verification (Fingerprint, Finger Vein, Card...etc.)

ZKBioSecurity supports various kinds of biometric verifications, such as, fingerprint, finger vein, PROX card, which submitted data will be recorded by ZKBioSecurity.



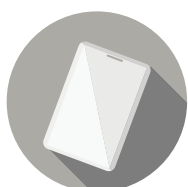
Face Recognition



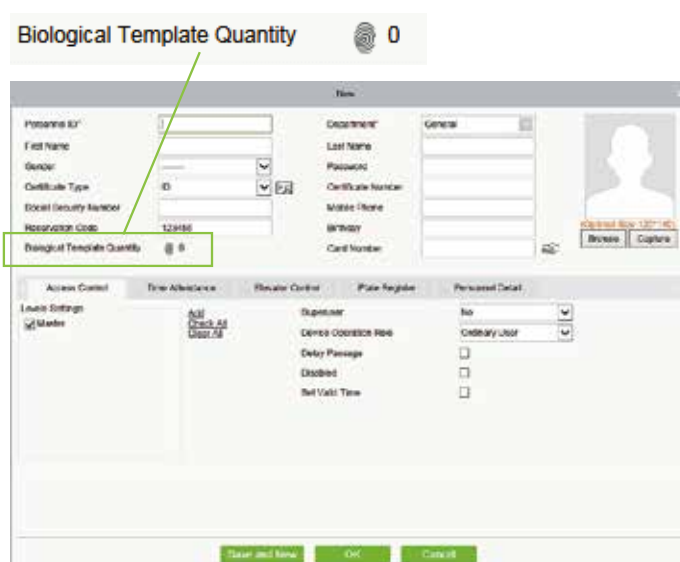
Finger Print Recognition



Finger Vein Recognition



EM Card Recognition





HKTV Mall - Office Building Access Control Management

Access Control & Entrance Control Integrated Solution Case Study

Client's Background

Hong Kong Television Network Limited (HKTV) is a Hong Kong television station. HKTV provides an over-the-top shopping and entertainment platform named HKTV Mall. It aims to provide a variety of programmes to cater and entertain customers, and commenced broadcasting on 19 November 2014 through live broadcasting and video on demand. HKTV Mall is a one-stop online shopping platform of Hong Kong Television Network Limited ("HKTV"), with over 500 overseas & local brands and stores, and beyond 6,000,000 products including direct Japan & Korea imported fashion and accessories, food and grocery, beauty & health, household & lifestyle, electronics, baby & kid, etc., it aims to serve every aspect of customers' daily lives.



Project Requirements

The construction work of the E-commerce Distribution Centre of HKTV with over 31,000 sq. metres area commenced in 2015, including a 6-level building and a single level building. They have appointed ZKTeco HK as their access control solution provider. Here below are their major requirements.

All-in-one Security Platform

HKTV desired to have a high level security covering all areas of its E-commerce Distribution Centre. However, as a premise for e-commerce operation, there are multiple floors and a wide surface area with complex and rapid logistics and distribution processes. If a plenty of access control systems are deployed separately in different areas, the difficulty of personnel management would be severely increased. Thus, a completely all-in-one access control system instead of installing different systems are their needs in order to conveniently and centrally manage the entire site anytime and anywhere.

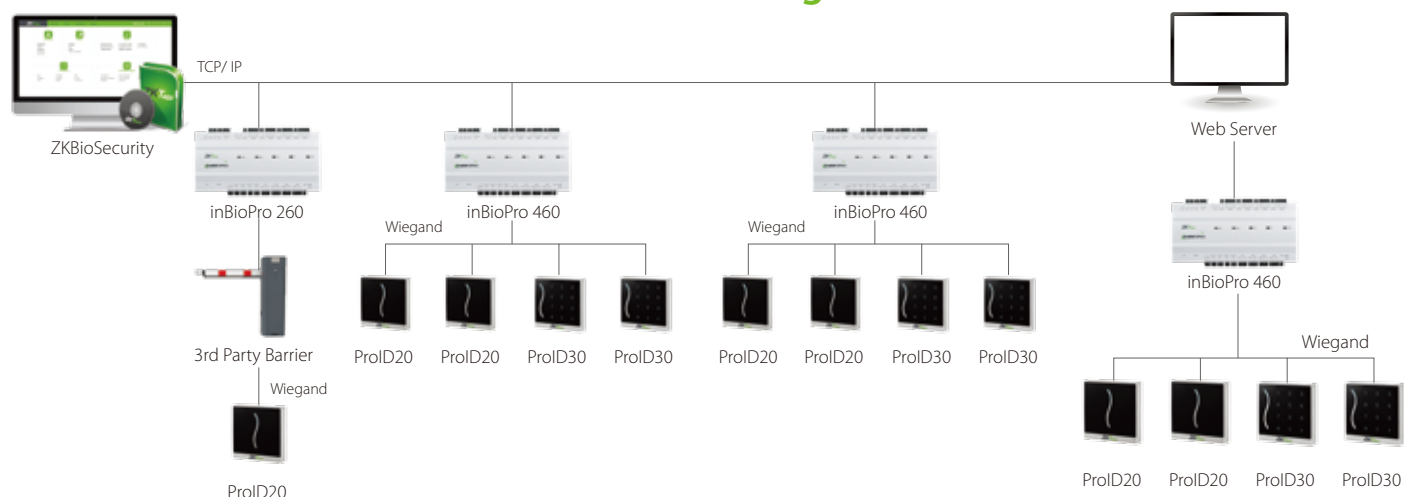
Specific Permission and Duration of Access

Due to the nature of the projected site, it involves a lot of logistics process, clients' goods and their personal information including contacts and delivery address are stored, HKTV also required that they would be able to flexibly set different permissions and durations of access according to the actual needs. Some levels with confidential information or storage are only open to a group of permitted staffs in a certain duration.

Access Control Report

A scale enterprise as HKTV is, they have a well-established management method. Thus, they required an access control system that is able to automatically generate access control reports with detailed information including names, locations and access status etc.

Schematic Diagram



Configurations

System	Device Name	Device Model
Access Control System	Access Control Panel	InBioPro460
	Access Control Panel	InBioPro260
	Card Reader	ProID20BM
	Card Reader	ProID30BM

Technical Features / Solution

- The applied access control solution involves 20 units of InBioPro460 access control panels, 35 units of InBioPro260 access control panels, 55 units of ProID20BM card reader and 45 units of ProID30BM card reader. They are deployed in all accesses in the buildings, including the existing swing barriers installed by our client, they are embedded with ZKTeco's controllers to form a complete access control system.
- All staffs or any other person who needs to have entry to the buildings are required to be issued cards for access. Guests are also given cards upon successful visitor registrations.
- All access control panels and readers of the buildings are connected to and are centrally managed by the ZKBioSecurity access control software. This web-based security platform enables central remote control of access and real-time remote monitoring of all access control status.
- Management staffs are able to make specific permissions for certain levels in specific timeslots with different verification methods. For example, a certain group of staffs are permitted to have access to a certain floor in a specific timeslot with their cards. They are allowed to have access to the floor anytime if they have successful password verification.

Function Description

- ZKBioSecurity is an access control system management platform based on the browser/server architecture. Users can access and log in to the platform directly from browsers and view the verification conditions of all connected devices in real time on the browsers. Automatic generation of access reports are also available.
- ZKBioSecurity is an all-in-one web-based security platform developed by ZKTeco. The version applied in this project is an 3.0.3 ver. with superb security functions such as HTTPS encrypted communication, doors emergency lockdown, up to 66 bits flexible card format, personnel multi-card support, smart data analysis and the latest add on - the Patrol Module - to efficiently manage security guards patrol tours using the existing access control readers, reducing costs and ensuring patrol tasks.

ZKTeco's Solution Competitive Advantage

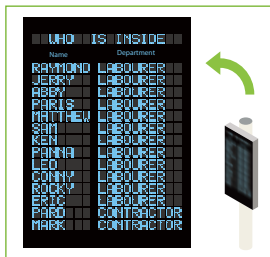
E-Map

E-Map enables administrators to have a clear and accurate view of all event points. With its cutting edge multi-level E-map structure, administrators can simultaneously monitor multi-levels / areas events.



Flexible and editable text function for LED / LCD Display Panel

ZKBioSecurity provides a programmable LED / LCD display function to show real time and editable “who is inside” personnel information. It allows for users to generate reports showing where card holders are within a facility. As a card holder swipes he/she will be granted access to the area and his/her name and location will be simultaneously shown on the connected LCD screen.



LED Display

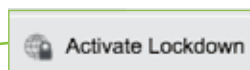
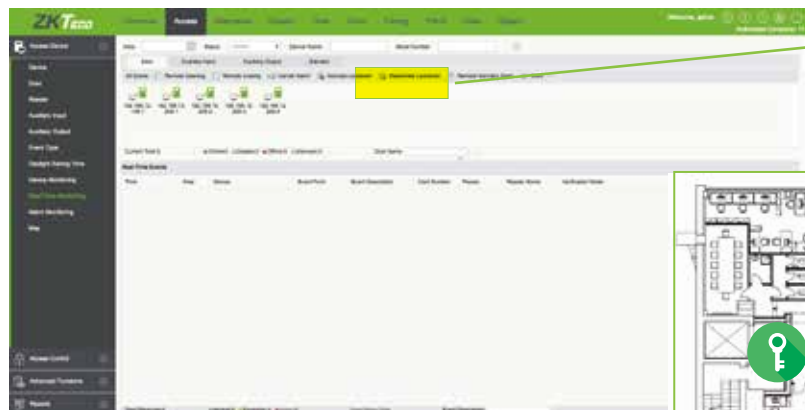


LCD Display

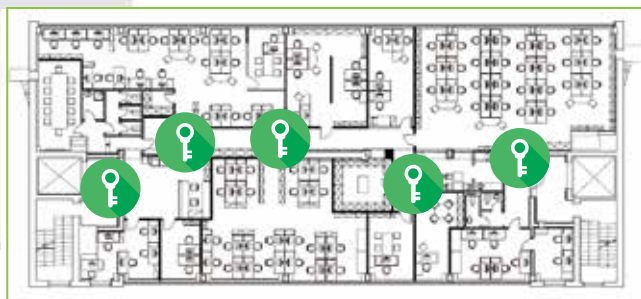
LED / LCD display to show who is inside the specific area

Remote Lock-Down

Administrators can remotely open/close and/or lock down all or selective doors on the system. When in ‘Lock-Down’ all access is overridden until lock down is deactivated.



When the “Active Lockdown” command is activated, all doors will be locked at the same time





National-Scale Stock Exchange Access Control, Entrance Control and Visitor Management Integrated Solution Case Study

Client's Background

Our client is a national-scale stock exchange based in Asia. At the end of 2012, the stock exchange had 462 listed companies with a combined market capitalization of \$426.78 billion. It has a group of employees of up to 40,000.

Project Requirements

The access control system needs to accommodate the large flow of 40,000 employees and 5,000 visitors every day.

The global access anti-passback needs to be supported. Blacklist and Alarm Functions.

The blacklist is supported and alarms will be generated for blacklisted users.

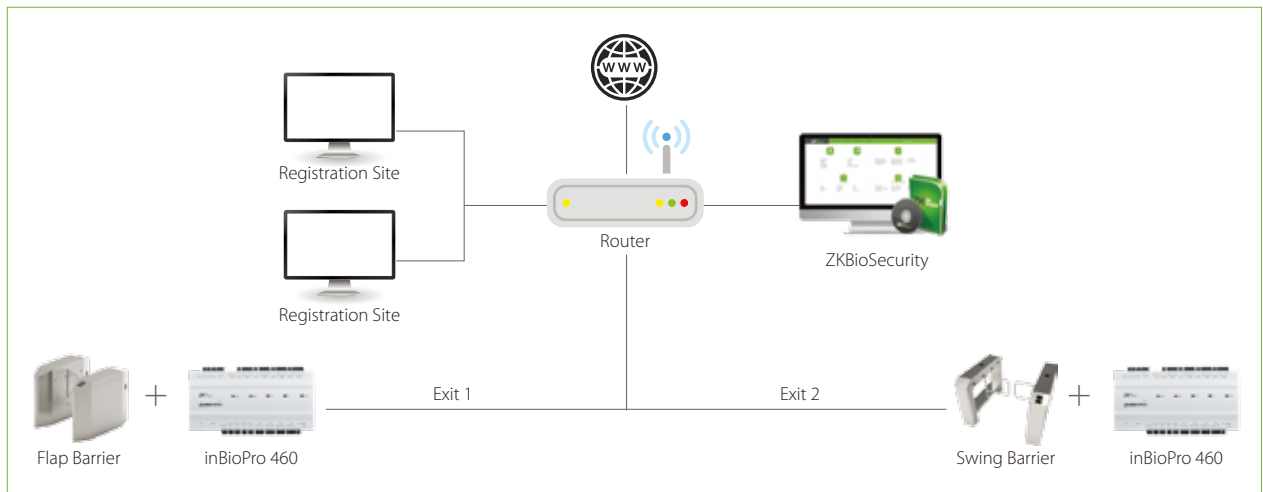
The system supports high-speed scanners and Optical Character Recognition (OCR), and automatically reads the card number.

The system management software adopts the browser/server architecture.

The access status needs to be monitored in real time.

Different reports can be customized and exported.

Schematic Diagram



Configurations

Type		Products	Quantity
Software		ZKBioSecurity	45,000 Clients
Hardware	Access Control Panel	InBio260 Pro	24
	Access Control Panel	InBio160 Pro	3

Technical Features / Solution

The offline and online hybrid mode is adopted to manage the daily flow of 40,000 employees and 5000 visitors on average.

Function Description

The comprehensive access control platform is highly expandable and strongly compatible. The access control system management software ZKBioSecurity supports the access of third-party IPCs, including Hikvision and Dahua devices. This management platform integrates the access control, elevator control, visitor management, and video and time attendance modules and easily meets requirements for elevator management and control and other access control aspects in Phase II.

The global anti-passback is supported.

When a user swipes a card to enter the building from any entrance, the system automatically detects whether the previous record of the card is a check-out record. If not, the system forbids the card holder to go inside. Likewise, when a user swipes a card to go outside, the system automatically detects whether the previous record of the card is a check-in record. If not, the system forbids the card holder to go outside.

The OCR function is available.

The system supports high-speed scanners of different models. When visitor information is registered, the system automatically reads card number and other information through the high-speed scanners.

The blacklist function is incorporated into the visitor function.

All visitors need to have their information registered with the registration personnel. The registered information is compared with the blacklist library. After a visitor passes comparison, the registration personnel issue a temporary card. The visitor can swipe the temporary card to enter the office area. If a visitor fails to pass comparison, the system directly displays information about the blacklisted user and automatically calls the security guard, and the registration personnel reject to issue a temporary card.

Reports can be exported as required.

Access control reports or visitor reports can be exported as required. The software uses the browser/server architecture and displays monitoring information in real time. ZKBioSecurity is an access control system management platform based on the browser/server architecture. The client can be any PC, where the program does not need to be installed. Users can access and log in to the platform directly from browsers and view the verification conditions of all connected InBio Pros in real time on the browsers.

ZKTeco's Solution Competitive Advantage

High-speed Portable HD Doc Scanner Supports

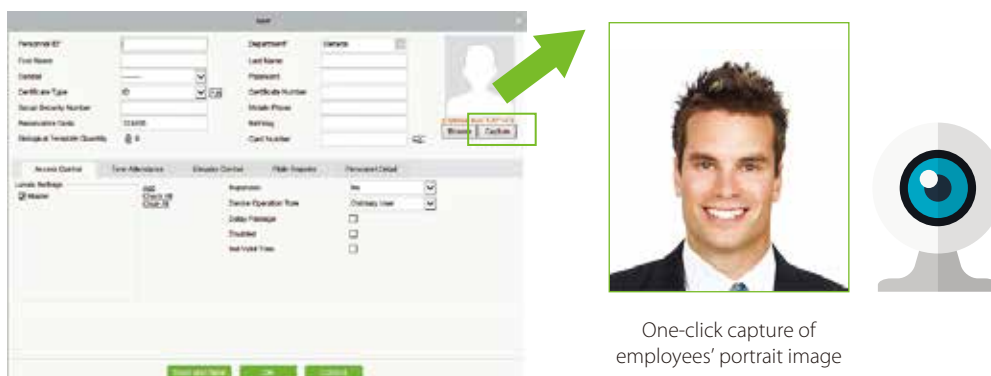
User's Information Capturing + Passport Photo + OCR Recognition

During visitor registration, it supports one-click capture of users' portrait image, passport photo and saving, and uses OCR function to automatically read identity document (identity card, passport etc.) and fill in effective information in order to realize quick registration.

Passport Photo + OCR Recognition

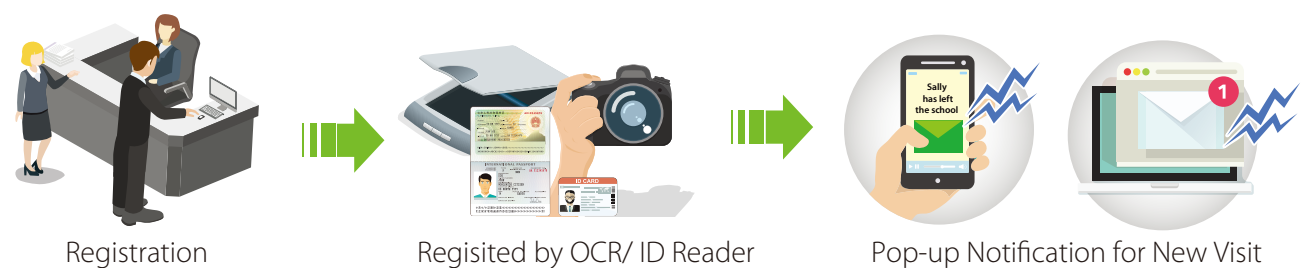


User's Portrait Capturing or Uploaded from the local PC



Visitor Management Process

Employees can help the visitors to make reserved registration, successful reservation information will be delivered via email or SMS to notify recipients, visitors and registration managers etc. Visitor registration can also be done by identity card registration (OCR or ID Reader), signature, photo capturing, passport capturing or car information registration etc. in order to enhance the safety level. Visitor authority supports automatic distribution of recipient department authority group according to visitor's location. Also, copying function enables users to select needed visitor information and copy to new registration interfaces, including recipient information, reasons for visit, corporate information, authority information etc., which can bring convenience and save time to group visit registration. After successful registration, visitors may have access to designated areas with visitor cards or visitor receipts. It supports multiple verification modes including card, password, finger print, QR code etc. After visit, visitors may return cards in the registration site for checking out.

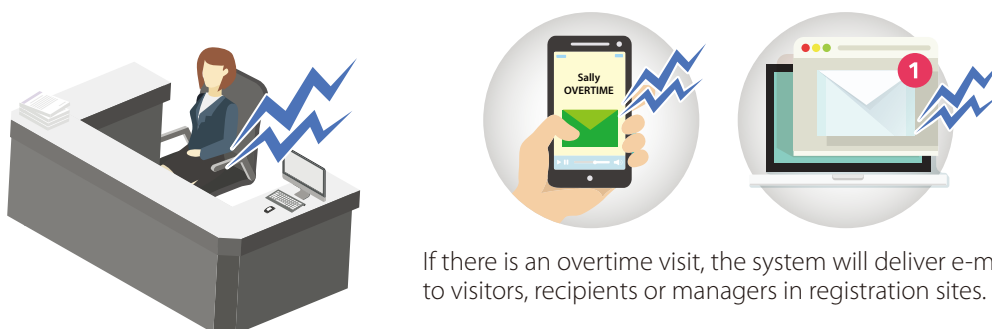


Once the visitors registered, he might be allowed to access all area of the office/ building



E-mail and SMS Notification Functions

During visitor registration, in case of overtime visits, visitor registration, overtime visitor registration, visitor checking out, monitoring lists, the system will deliver e-mail or SMS notification to visitors, recipients or managers in registration site. SMS and e-mail templates support customization, templates with different contents, delivery rules and recipients according to conditions can be customized. If it is set to deliver in day of visit, all notifications will be delivered to the specific recipients on specific time.



If there is an overtime visit, the system will deliver e-mail or SMS notification to visitors, recipients or managers in registration sites.

Global Anti-Passback

Global Anti-Passback is a security function designed to eliminate authorized and/or unauthorized personnel from going into area without presenting proper credentials (i.e. tail-gating). In the event a person enters a secure area without authentication, as the red colored person in the image below, that person will be detained in the secure area, even if they have access rights to the area. Administrative personnel will have to override the system to allow the unauthorized person to exit then enter the area in the future.



Name: [Text Field]
Zone: [Dropdown Menu]
The following doors control access in and out of the zone:
Zone: [Text Field]
Anti-Passback Type: Logical Anti-Passback
Logical Function: [Text Field]
Reset Anti-Passback Status: [Text Field]
Anti-Passback Function: [Text Field]
Apply to: [Dropdown Menu]
[Save and Cancel] [OK] [Cancel]

All Personnel Just Selected Personnel Exclude Selected Personnel

All Personnel:

Global Anti-Passback will work on all people.

Just Selected Personnel:

Anti-passback is only effective for these selected personnel.

Exclude Selected Personnel:

The anti-passback is only effective for these exclude selected personnel.



