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FACE
RECOGNITION
SYSTEM

TVT

TVT

Introduction //

Based on the structure of "IPC+NVR", TVT face recognition system specially designed for moving human detection and recognition in small and medium-sized applications. The system combines together with face detection, tracking, face recognition, image storage, face search and automatic warning technologies together. It can be widely used in bank, supermarket, communities, schools, stations and important entrances and exits. Compared with other face recognition systems with "Face detection camera, recognition server and storage server structure" in current market, it features simple layout and budget friendly.
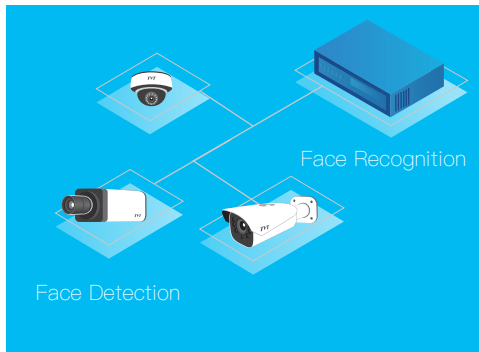
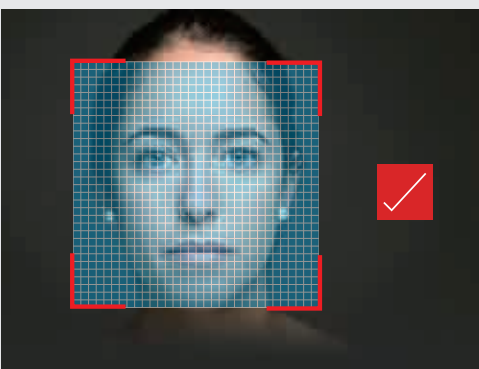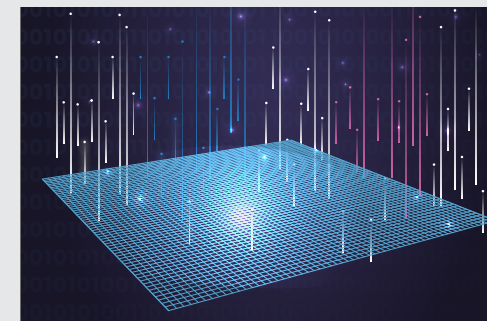# System Features//

01

Simple Structure and Budget Friendly

The simple structure with "Face detection by IPC + Face recognition by NVR" makes the surveillance easy to deploy and low cost.

Face Recognition

Face Detection

02

Good performance

Side face recognition: allowed to deviate less than 30° leftward / rightward and 20° upward / downward

Face detecting: max.10 faces simultaneously.

Face Recognition: 3~4 faces/sec

Face database: 10,000 faces

03

Ultra Starlight (24hours color recognition)

With ultra starlight and white light illumination technology, the face detection camera can provide 24 hours colorful image so that the accuracy rate can be greatly improved.

04

Simultaneously recognizing the faces from Multiple Channels

NVR allows all face detection cameras to recognize faces simultaneously.

05

Simple and user-friendly GUI
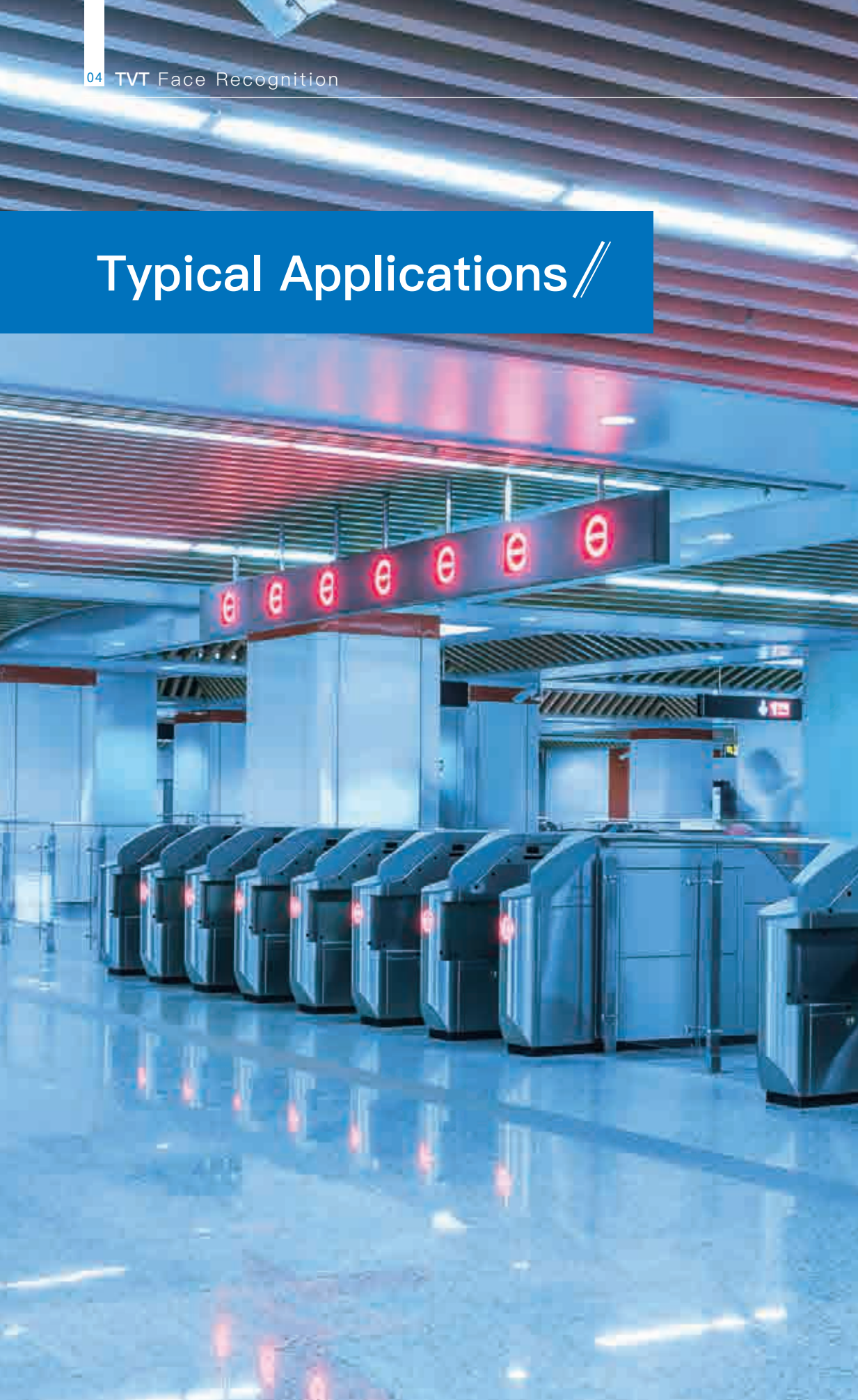
It's easy to use and high efficiency

06

Practical Functions

Various functions and detail design cover all main application , include face track, real-time alarm, face database management, face information statistics, etc.

Typical Applications

Supermarket

Campus

Overpass

Community

Hotel

Cybercafé

Hospital

Bank

Functions//

Face Detection

Detecting the best face by tracing ,capturing ,identifying and evaluating each face from video .

Face Recognition

Adopting the advanced algorithm and well optimized embedded SOC chip ,supports to extract key face features with high efficiency, and quick search from database as well.
Support real–time face recognition ,even multiple channels simultaneously .
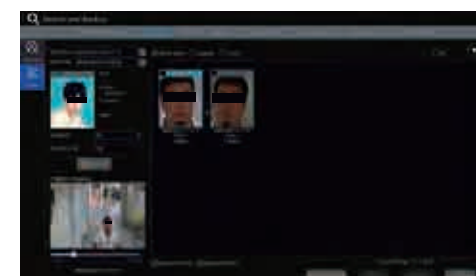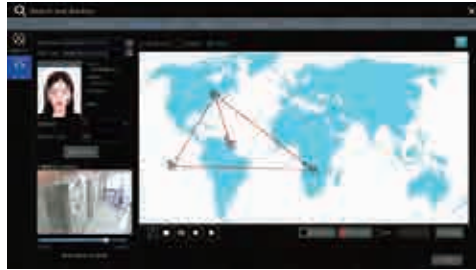

Face Registration

Support registering face with various ways, such as local detected face, external face imported from U–disk, snapshots from mobile APP, WEB client registration and so on. Support allow list ,block list and customized group.
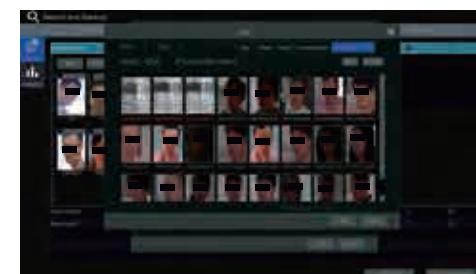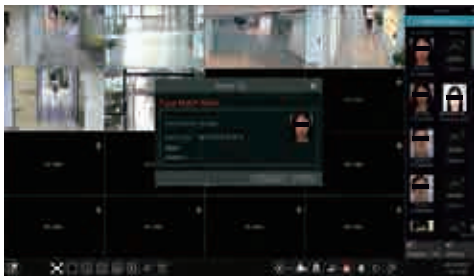

Search Face By Picture

Support face search by single mode 1:N and group mode M:N

Face Track

Support importing image & online map and deploying cameras on it. The track of the target person in the detected area can be played so that the dynamic detecting status can be viewed clearly.

Real–time Alarm

Support face linkage alarm (face from allow list, block list, strangers and customized groups are all available)

Support various alarms: sound alarm, alarm output, linkage recording and App push, popup and email.
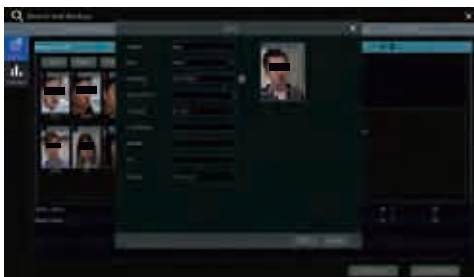
Face Database Management

Support multiple face libraries(block ist, allow list, etc.). User can add, delete, modify and view face libraries.

Face Statistics

The system can bulid multi–dimensional information statistics by time and face libraries.

Bar diagram: the number of detected face in different time period (including daily, weekly, monthly and quarterly statistics as well as the statistics of customized time period) can be bulit.

Pie chart: the percentage of the detected face in allow lisr, block list, stranger list, temporary group can be bulit.
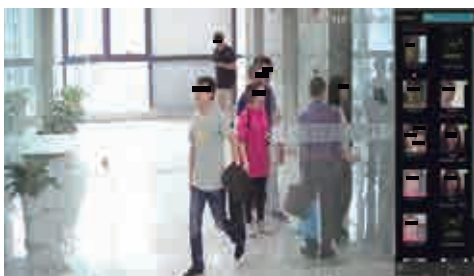
Access Control By Face Recognition

This system supports access control by face recognition.

Mobile APP //
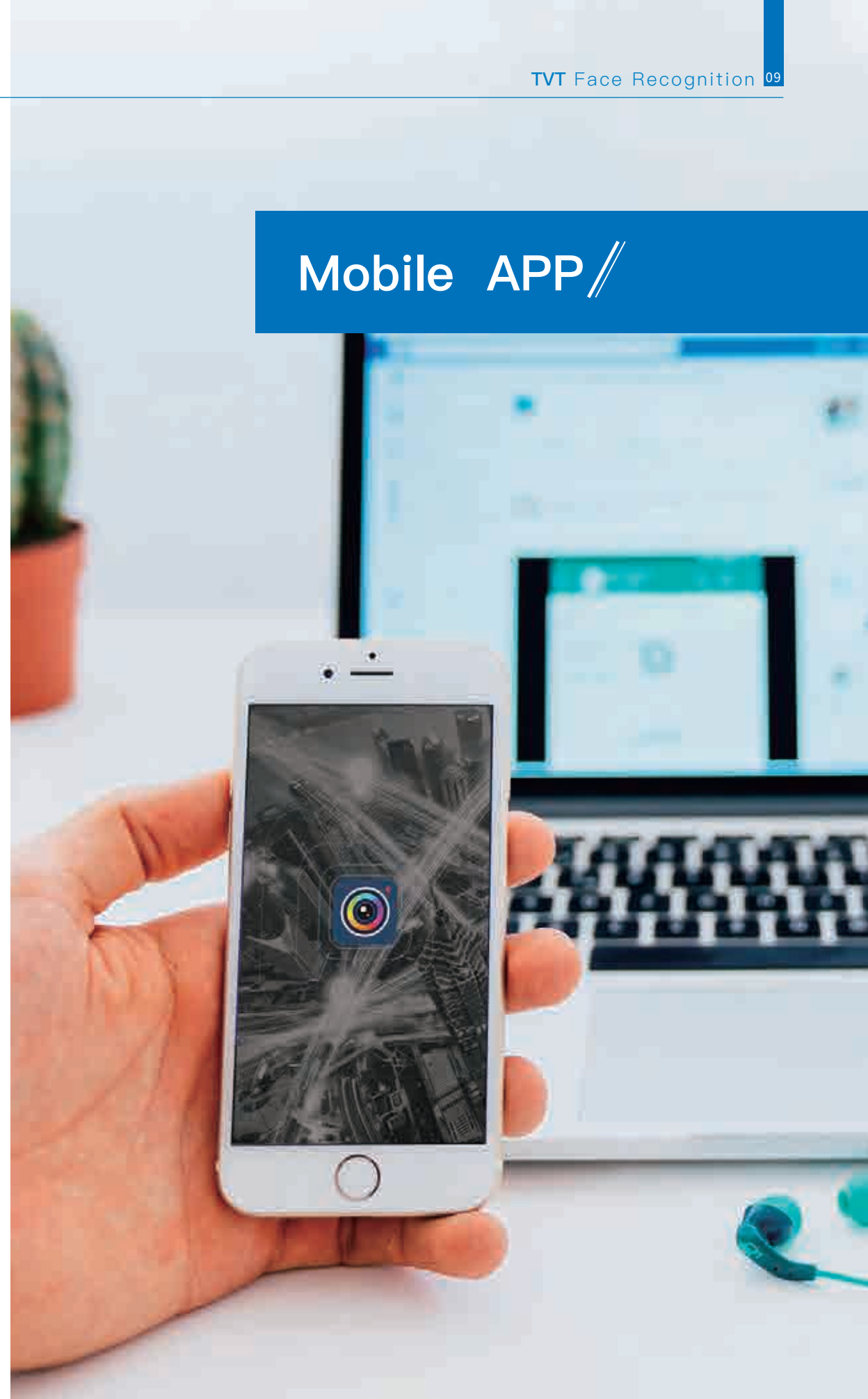
Adding Face

Take a photo and enter the corresponding information. Then, save the settings. It will be uploaded to NVR's face database .
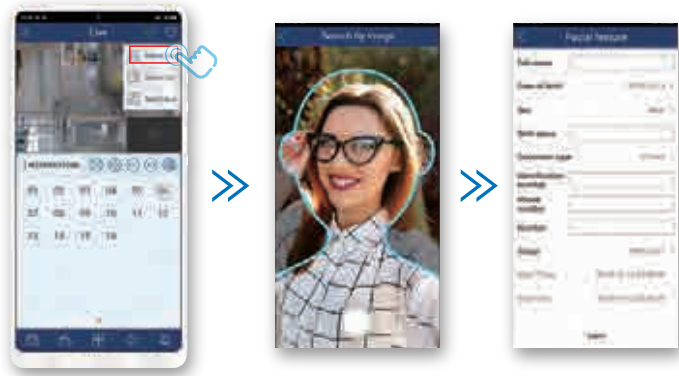
Search by picture

Take a photo and then set the similarity and the start and end time to search the related face and video.
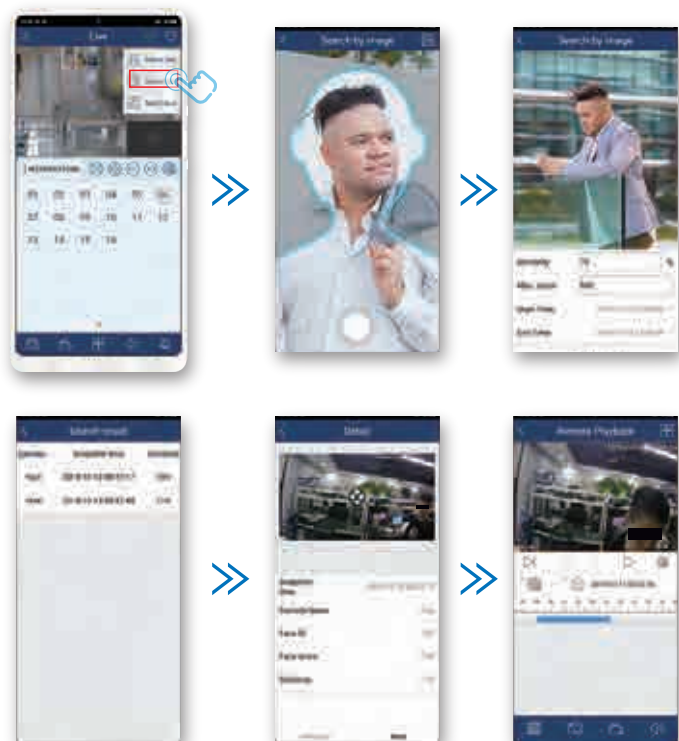
Search by name

Face can be searched by name. After type the name, then choose related face and set the terms to search picture and video.

SuperLive Plus
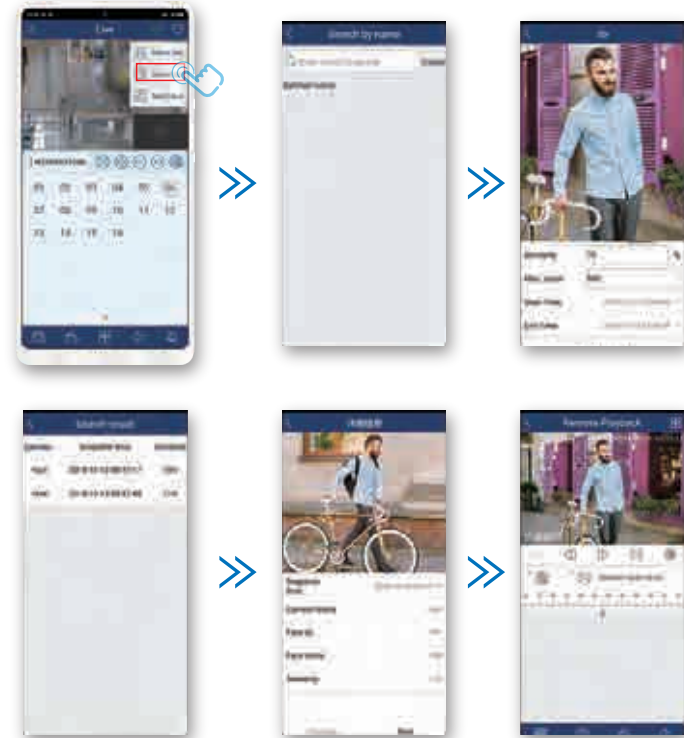
NVMS 2.0 AI⁄⁄

NVMS 2.0 AI is an intelligent security management platform,embeded with advanced AI algorithm . It supports TVT and 3rd Party's face recognition devices, is perfect for various applications that based on face recognition ,such as access control , entrance and exit ,attendance and greeting .It also supports intelligent behavior analysis and people counting ,NVMS 2.0 AI can be widely applied in projects such as campus, school, chain stores, office ,commercial buildings, etc.

Face Adding

Support single or batch adding face to database, target information includes name, sex, ID type, ID No., date of birth, place of origin, priority and notes are editable.

Face Surveillance

Support real-time surverillance, trigger block list alarm ,linkage to related system, and display target details in real time

Alarm Search

Support real-time alarms triggered by face recognition, and also support searching historical alarms by setting start time and end time afterwards.
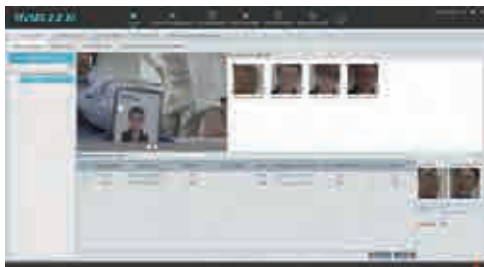
Face Search

Support searching face recogition result by time, face and channel , also support data export .

Track Playback

Support face playback and continuous track by time order, and can quickly position the target and historical track.
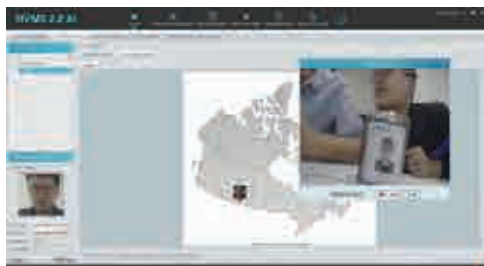
Face Greeting

Support real-time greeting for VIP and membership. Support real-time face pop-up and voice prompts. Support details search and historical visiting record.
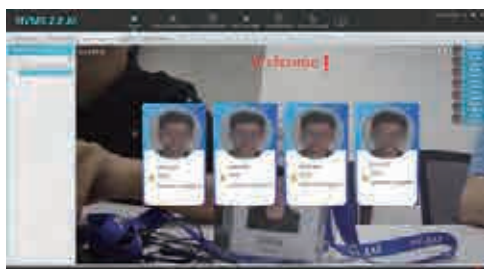
Face Attendance

Base on face detection and recognition, support afterwards review with both snapshot and video , also can search and export the attendance report. It makes sure efficient and precise attendance management.

Camera Installation Instructions ⫽

Main Factors

Factors	Picture	Description
Obscured face		Wearing sunglasses, mouth–muffle, hat or the face covered by other objects will lead to failure.
Small face, side face		When the face is less than 1/15 of the entire image, the system will not detect face. If the face deviates more than 20° upward / downward or more than 30° leftward /rightward, it will reduce accuracy rate or result in failure.
Low brightness on face		Low brightness or a large shadow on the face will reduce accuracy rate
Low definition on face		Ghost and unclear image will lead to failure.

Angle Selections

1. The camera shall be installed right in front of the passage to detect proper faces.

2. The installation height ranges from 2.0m to 3.5m （adjustable according to the focal–length of different lenses and object distances）。

3. The depression angle (α) of the camera shall be less than 15°.

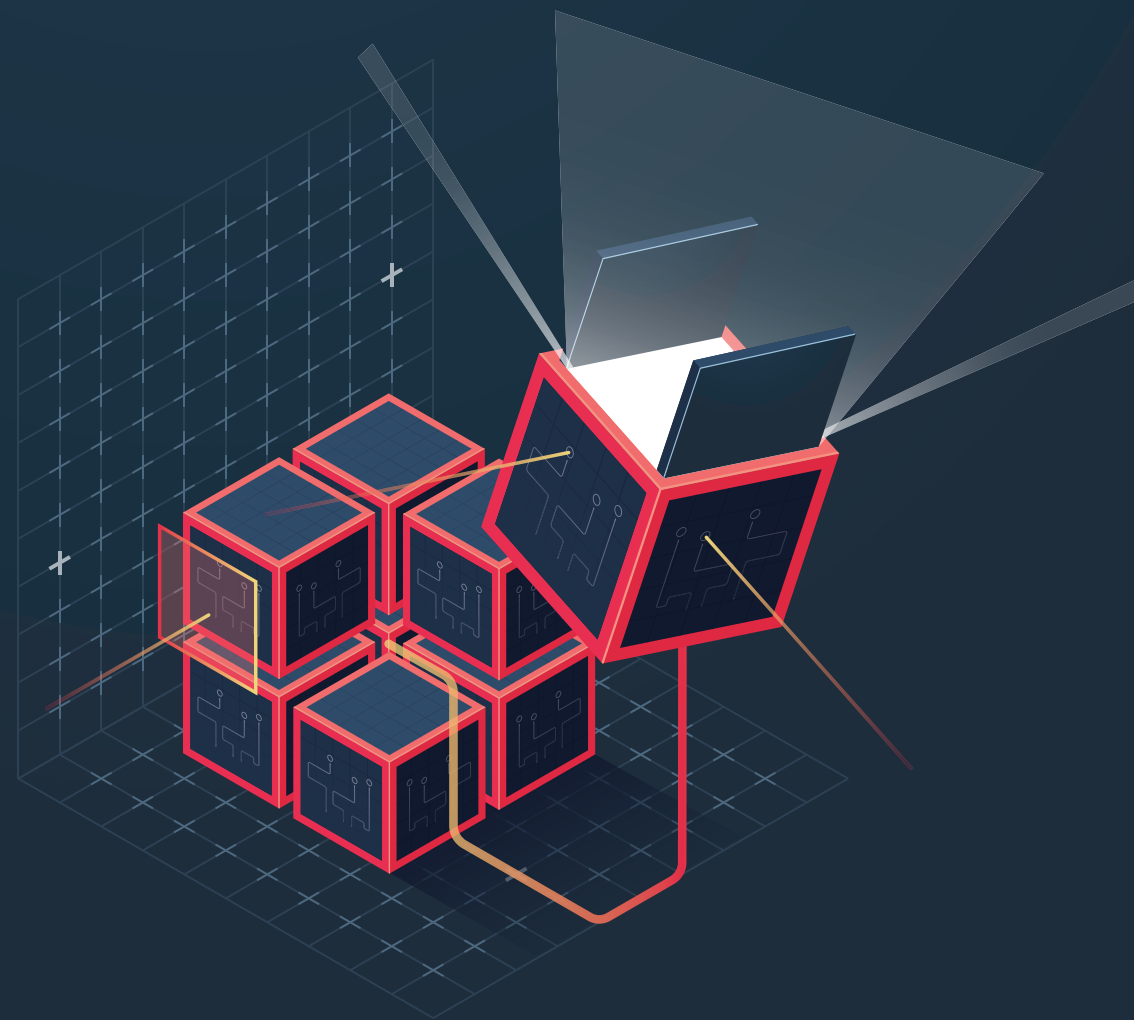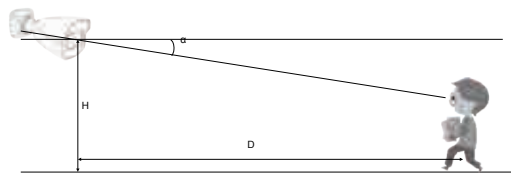4. The object distance (D) depends on the focal–length of the lens mounted in the camera.

Installation Requirements

1. To ensure the accuracy of face detection, the detected faces are only allowed to deviate less than 30° leftward/ rightward and 20° upward /downward.

2. Make sure the detected face is clear and with adequate brightness.

3. Under extreme condition, suitable light compensation is needed.

Surveillance Width	Lens	Best Detecting Distance	Installation Height	Depression Angle
2.5m	8mm	3.8m	2.2m	10°
2.5m	12mm	5.7m	2.5m	10°
2.5m	16mm	7.6m	2.9m	10°

Note: The lower the depression angle (the lower the installation height), the better the detected face.

Typical Applications

Indoor Corridor	
Installation Height	2.5m
Depression Angle	Approx. 7°
Installation	Ceiling mounting
Lens	12mm
Target Distance	2~7m
Screen ratio per target	8%~20%
Others	Corridor mode, frontal white– light compensation
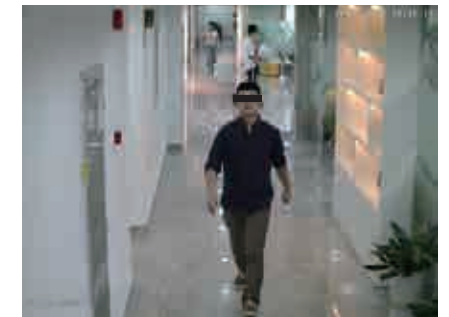
Hall Entrance & Exit	
Installation Height	2.5m
Depression Angle	Approx. 7°
Installation	Ceiling mounting
Lens	12mm
Target Distance	2~7m
Screen ratio per target	8%~20%
Others	Frontal white– light compensation

Overpass	
Installation Height	2.5m
Depression Angle	Approx. 7°
Installation	Ceiling mounting
Lens	16mm
Target Distance	2~10m
Screen ratio per target	8%~20%
Others	frontal white– light compensation at night or on cloudy days

Industrial Zone /School Entrance	
Installation Height	2.5m
Depression Angle	Approx. 10°
Installation	Ceiling mounting
Lens	16mm
Target Distance	2~10m
Screen ratio per target	8%~20%
Others	frontal white– light compensation at night or on cloudy days

Devices //

A1 Series

TD-9422A1
Face Detection Bullet AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Fixed lens 8/12mm
Face tracing, capturing & quality evaluation
Face automatic exposure
Built-in 128G Micro SD card slot
Built-in white light compensation
IP67 protection grade

Application scenes: important entrances and exits of indoors, outdoors, community, schools and stores

TD-9423A1
Face Detection Bullet AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized lens 7-22mm
Face tracing, capturing & quality evaluation
Face automatic exposure
Built-in 128G Micro SD card slot
Built-in white light compensation
IP67 protection grade

Application scenes: important entrances and exits of indoors, outdoors, community, schools and stores

TD-9522A1
Face Detection Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Fixed lens 6/8/12mm
Face tracing, capturing & quality evaluation
Face automatic exposure
Built-in 128G Micro SD card slot

Application scenes: indoors, supermarket, hospital, elevator, etc.

TD-9521A1
Face Detection Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Fixed lens 6/8mm
Face tracing, capturing & quality evaluation
Face automatic exposure
Built-in 128G Micro SD card slot
IP67 protection grade

Application scenes: important entrances and exits of indoors, outdoors, community, schools and stores

TD-9523A1
Face Detection Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized lens 7-22mm
Face tracing, capturing & quality evaluation
Face automatic exposure
Built-in 128G Micro SD card slot
IP67 protection grade

Application scenes: important entrances and exits of indoors, outdoors, community, schools and stores

TD-9525A1
Face Detection Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized lens 2.8-12mm
Face tracing, capturing & quality valuation
Face automatic exposure
Built-in 128G Micro SD card slot
Built-in white light compensation
IP67 protection grade

Application scenes: important entrances and exits of indoors, outdoors, community, schools and stores

TD–3308B1–A1
Face Recognition NVR

8 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3332H2–A1
Face Comparison NVR

32 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3316B2–A1
Face Recognition NVR

16 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3332H4–A1
Face Recognition NVR

32 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3316B4–A1
Face Recognition NVR

16 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3532H8–A1
Face Recognition NVR

32 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3308B1–8P–A1
Face Recognition NVR

8 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3316B2–8P–A1
Face Recognition NVR

16 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3316B4–16P–A1
Face Recognition NVR

16 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD–3532H8–16–A1
Face Recognition NVR

32 CH IP cameras can be connected
Up to 10,000 face datebase can be stored
Computing Ability: 240 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

A2 Face Series

TD-9322A2
Face Recognition Box AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Face automatic exposure, auto iris
Face tracing, capturing, quality evaluation & Recognition
Support storing a maximum of 20000 face characteristic values
Support Wiegand protocol
Built-in Micro SD card slot, maximum 128GB

Application scenes: indoors, banks, hotels, campus, mall, important entrances and exits, etc.

TD-9423A2
Face Recognition Bullet AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized focus, auto iris
Face automatic exposure
Face tracing, capturing, quality evaluation & Recognition
Support storing a maximum of 20000 face characteristic values
Support Wiegand protocol
Built-in Micro SD card slot, maximum 128GB

Application scenes: indoors, outdoors, banks, hotels, campus, mall, community, important entrances and exits, etc.

TD-9522A2
Face Recognition Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized focus, auto iris
Face automatic exposure
Face tracing, capturing, quality evaluation & Recognition
Support storing a maximum of 20000 face characteristic values
Support Wiegand protocol
Built-in Micro SD card slot, maximum 128GB

Application scenes: indoors, mall, hospital, elevator, etc.

TD-9523A2
Face Recognition Dome AI Network Camera

Resolution: 1920×1080
Ultra-starlight
Motorized focus, auto iris
Face automatic exposure
Face tracing, capturing, quality evaluation & Recognition
Support storing a maximum of 20000 face characteristic values
Support Wiegand protocol
Built-in Micro SD card slot, maximum 128GB

Application scenes: indoors, outdoors, community, campus, mall, important entrances and exits, etc.

TD-3532B4-A2
Face Detection and Recognition NVR

32 CH IP cameras can be connected
Up to 50,000 face datebase can be stored
Computing Ability: 3000 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

TD-3564B8-A2
Face Detection and Recognition NVR

64 CH IP cameras can be connected
Up to 50,000 face datebase can be stored
Computing Ability: 3000 pics/m
Face linkage alarm
Face trajectory tracking
Picture and video search by picture
Face picture library management
Face picture library backup
Face information statistics

Application Scenarios //
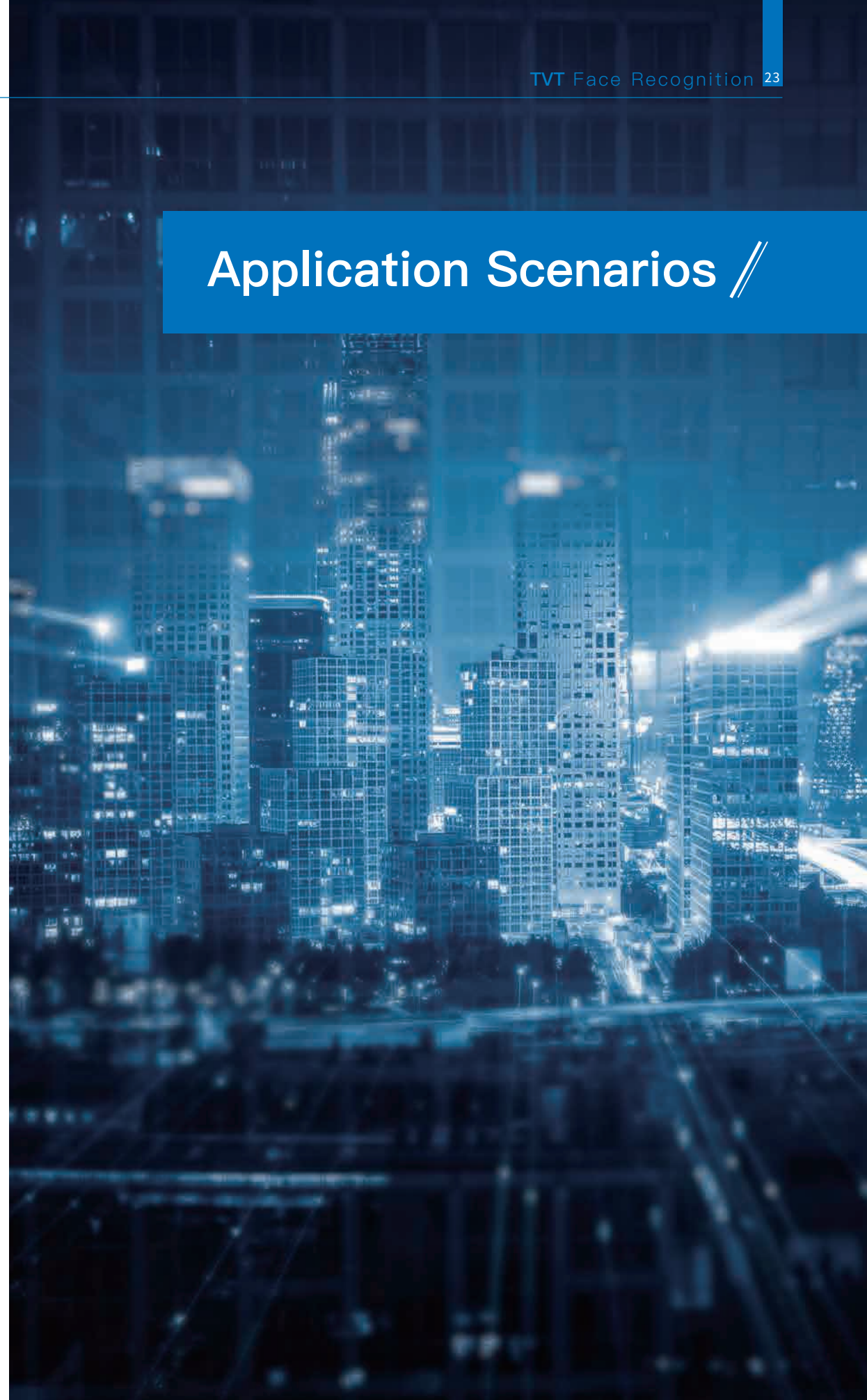
Ater developping own AI face algorithm and carefully identifying product advantages , TVT launches AI face recognition products this year , they re widely applied in various applications

Face Access Control

Taking the main advantages of AI face technology, TVT release the whole face access control system including visitor checking–in, face access control and face intelligent barrier. With advanced AI algorithm and reliable devices, it ensures good experience with unconscious pass.

PRODUCT : NVMS 2.0 AI , face detection camera , face recognition NVR , face access control, Face intelligent barrier.
APPLICATIONS : Community , office building, factory and school

Face Attendance

Base on face detection and recognition, TVT face attendance solution can support afterwards review with both snapshot and video , also can search and export the attendance report. It makes sure efficient and precise attendance management.

PRODUCT : NVMS 2.0 AI, face detection camera
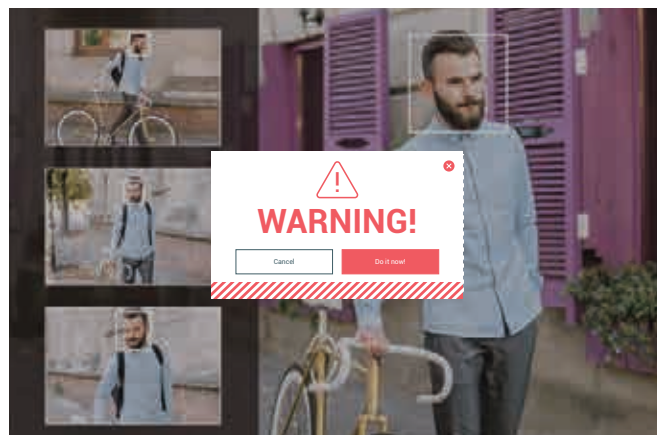**APPLICATIONS: Office, industrial zone and hospital**

Face Surveillance

With the key features such as face search, real–time face recognition, allow list and block list alarm and face track with image & online map, TVT face surveillance solution can efficiently improve the security management.

PRODUCT : NVMS2.0 AI, face detection camera, face recognition NVR.
APPLICATION : Industrial zone , smart city

Face Greeting

Combined the features with face recognition ,voice prompt and text message display , TVT greeting solution can offer fresh and comfortable greeting service for VIP groups without staff attendance.

PRODUCT : NVMS 2.0 AI, face detection camera
APPLICATION : Company ,supermarket and exclusive shop