

macroscop 

ULTRA

## Functionality

- ✓ 15 intelligent modules of video analytics
- ✓ Videowall
- ✓ System health check
- ✓ Archiving

## Flexibility

- ✓ Open SDK / API
- ✓ Supports equipment by any manufacturer
- ✓ Supports ONVIF, PSIA, and RTSP connections
- ✓ Unlimited scale to any number of cameras and servers

## Convenience

- ✓ A common and convenient interface for managing all elements of the system
- ✓ Rights management
- ✓ Internal chat
- ✓ Remote monitoring

## Videowall

You can build a video wall with up to 32 separate monitors without using additional devices or programs to control large-scale and geographically remote facilities.

## Internal Chat

All operators and administrators of the video system can exchange service messages without using additional programs and services.

## Rights Management

In ULTRA, you can grant system configuration rights to administrators at different levels, and control access to cameras and individual functions for all users of the system.

## Open SDK

Open HTTP-API and SDK for developers allows integrating ULTRA with various third-party applications.

## Recording to archive

Recording to archive is made on all disks evenly. The video archive file size is optimized individually for each storage device. It provides maximum writing and reading speed.

ULTRA supports the archive on the camera SD card. The system automatically synchronizes the archive of the video server with one on the SD card.

## Work with archive

You can:

- ✓ set the depth of the archive for individual cameras or groups of cameras
- ✓ configure replication of the archive on a dedicated server
- ✓ decimate the archive to reduce the number of archived frames upon the expiry of the specified time
- ✓ bookmark video fragments in the archive by date, time, cameras; you can add names, descriptions, categories, notes regarding importance and add comments to bookmarks



# ULTRA System Health Check

100%

## You can:

- ✓ create reports regarding the status of monitoring system components
- ✓ monitor the status of servers and server equipment
- ✓ view the error log
- ✓ control the load of CPUs, main memory and network host adapters
- ✓ check the presence of signal from the cameras
- ✓ check status of the record in archive
- ✓ control client connections to the server

# ULTRA Intellectual Modules



We have included 16 intelligent video analysis tools in the ULTRA package:



Smoke and Fire Detection



Crowd Monitoring



Failover

**Additional modules**



Tracking



People Counting



PTZ camera control



Face Recognition



Abandoned Object Detection



Audio Stream Processing



Sabotage detection



License Plate Recognition



Face Detection



Personnel Monitoring



Fisheye dewarping



Hard Hats Detection



Suspect Search



People Counting in Queue



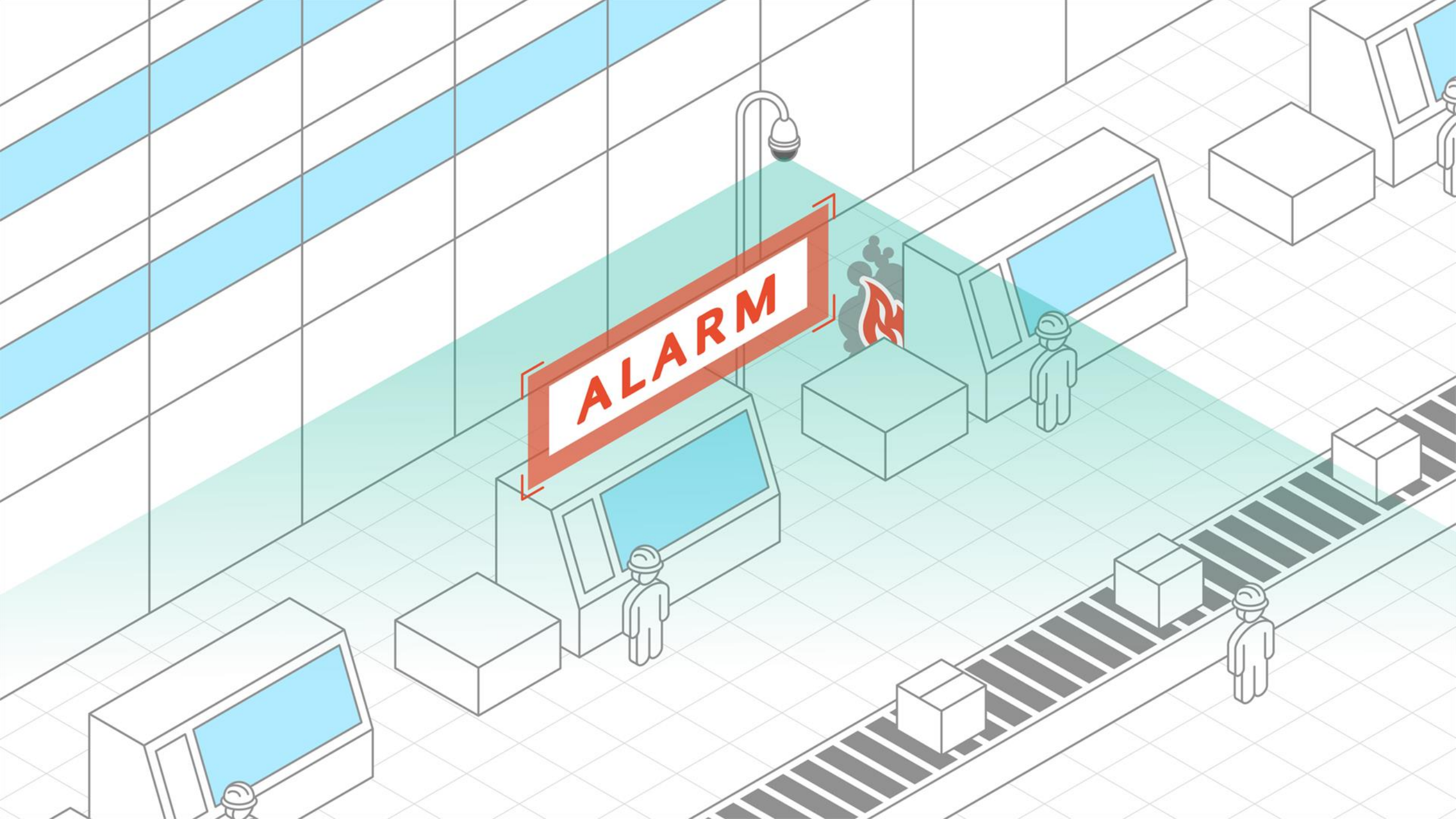
Loud Sound Detection



Heat Map



# Smoke and Fire Detection



**ALARM**

# Smoke and Fire Detection



## Purpose

**To avoid victims, loss of property and disasters caused by fires.**

## How it works

- ✓ In case of detection of "Smoke" or "Fire" events, you receive an immediate notification to your monitor, phone or e-mail.
- ✓ All module events are recorded in the Event Log for quick search in the archive.
- ✓ You can integrate the module with fire alarm or fire extinguishing system.

## Your benefits

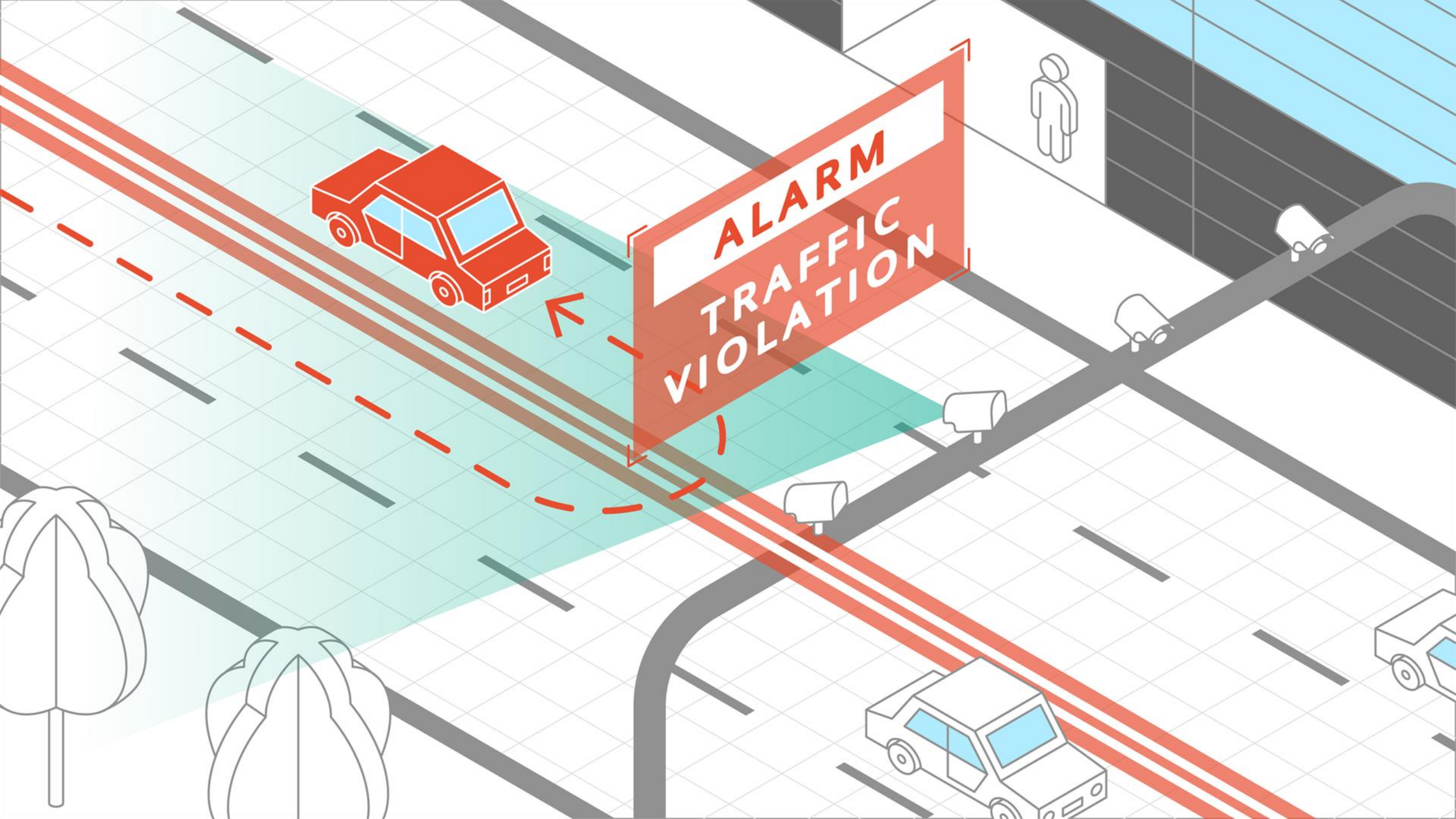
You do not need to look at video surveillance monitors 24 hours a day. Thanks to the Smoke and Fire Detection module, you can:

- ✓ prevent fire or smoke from spreading
- ✓ promptly inform people in the danger zone for their subsequent evacuation and rescue
- ✓ investigate causes of fire or smoke



**Tracking**





**ALARM**  
**TRAFFIC**  
**VIOLATION**

# Tracking



## Purpose

**To prevent terrorist acts, to minimize loss of property caused by the actions of third parties.**

## How it works

You receive an immediate notification to the monitor, phone or e-mail:

- ✓ when an object crosses the control line (intrusion into the territory, throwing of an object over a fence, etc.)
- ✓ when an object moves in the area
- ✓ when an object has remained in the area for a long time

You can search in the archive for fragments of a video on which an object entered the control zone.

## Your benefits

You do not need to look at video surveillance monitors 24 hours a day. Thanks to the Tracking module, you can dispatch security forces to neutralize the intruder and thus:

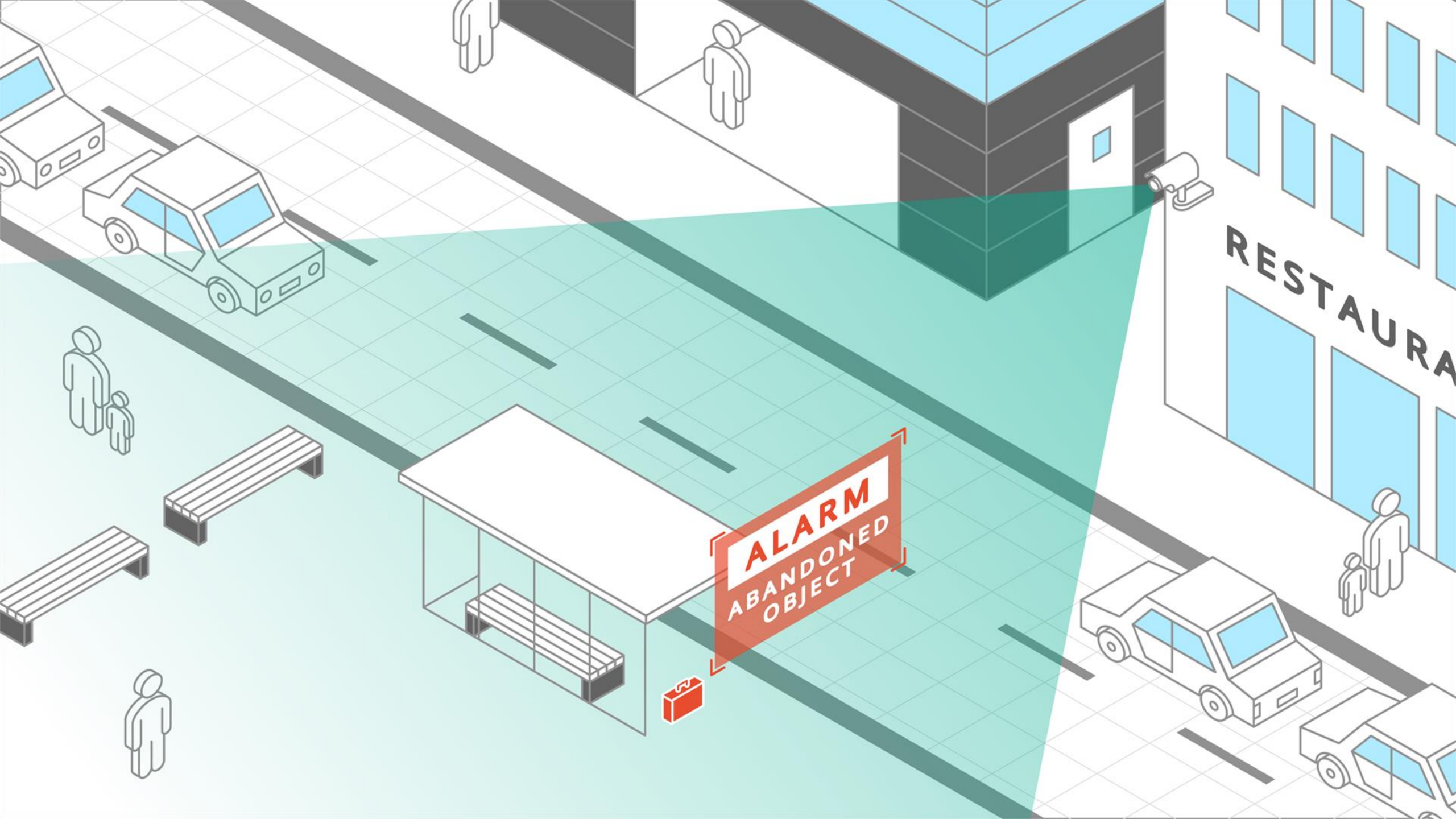
- ✓ prevent a possible terrorist attack
- ✓ ensure the safety of your employees
- ✓ safeguard your property

In addition, you can save server capacity by configuring video recording to start only when control events occur.





# Abandoned Object Detection



**ALARM**  
ABANDONED  
OBJECT

RESTAURANT

# Abandoned Object Detection



## Purpose

**To prevent terrorist attacks, to eliminate the threat to life and health of people.**

## How it works

You can:

- ✓ specify the area to search for the abandoned object on the camera image
- ✓ specify the duration of object location in the zone

When the control event is detected, you receive an immediate notification to the monitor, phone or e-mail.

## Your benefits

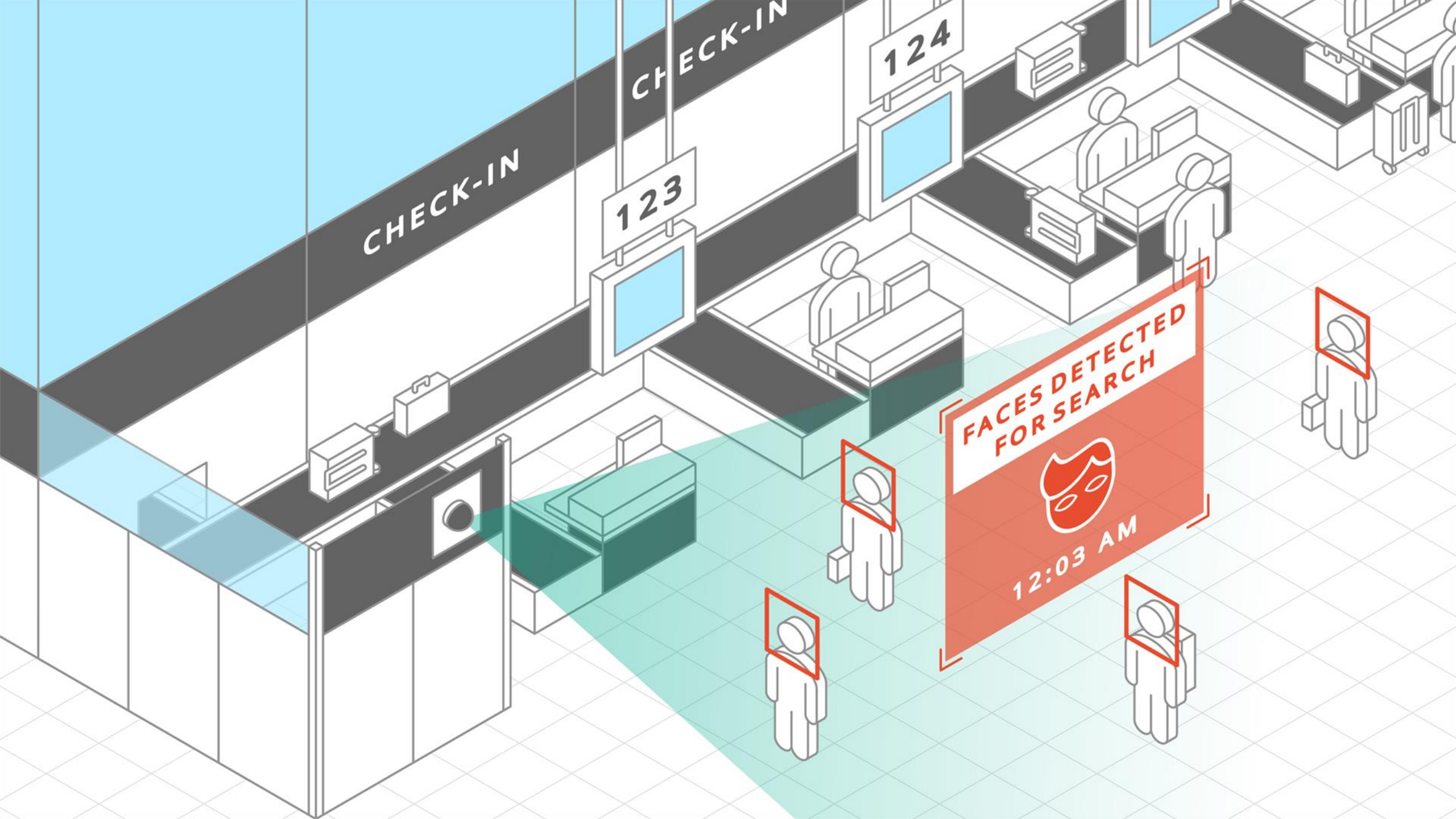
You do not need to look at video surveillance monitors 24 hours a day. Through the use of the Abandoned Object Detection module, you can:

- ✓ prevent possible terrorist attack
- ✓ promptly inform people in the danger zone for their subsequent evacuation and rescue
- ✓ identify the person who left the object

Thus, you can save the lives and health of many people, avoid grave property loss. You can also help to neutralize a perpetrator.



# Face Detection



CHECK-IN

CHECK-IN

123

124

FACES DETECTED  
FOR SEARCH

12:03 AM

# Face Detection



## Purpose

**To minimize property loss, to avoid threats to life and health of people.**

## How it works

You can:

- ✓ see all the faces which got into the field of vision of the camera
- ✓ receive automatic notifications upon detection of faces to the monitor, phone or e-mail.
- ✓ generate reports about the persons whose presence was detected, indicating the detection time
- ✓ save detected faces in JPG format

## Your benefits

You do not need to look at video surveillance monitors 24 hours a day. Through the use of Face Detection module, you receive an immediate notification:

- ✓ when a person appears in a prohibited area
- ✓ when a designated employee is absent at his/her workplace

Thus, you can prevent the occurrence of grave dangers and even disasters in the operation of the critical infrastructure attributed to human factor.



# Suspect Search







# Suspect Search



## Purpose

**To prevent and investigate offenses, to find lost children in a large building.**

## How it works

- ✓ You can choose a person on the recording from the camera.
- ✓ The program offers freeze-frames and video sequences with the images of lookalike people from different cameras in chronological order.
- ✓ The program draws the object movement trajectory on the pre-loaded plan of the premises.
- ✓ You can search for objects by their form, color, size, position in the frame in the video archive using downloaded photo.

## Your benefits

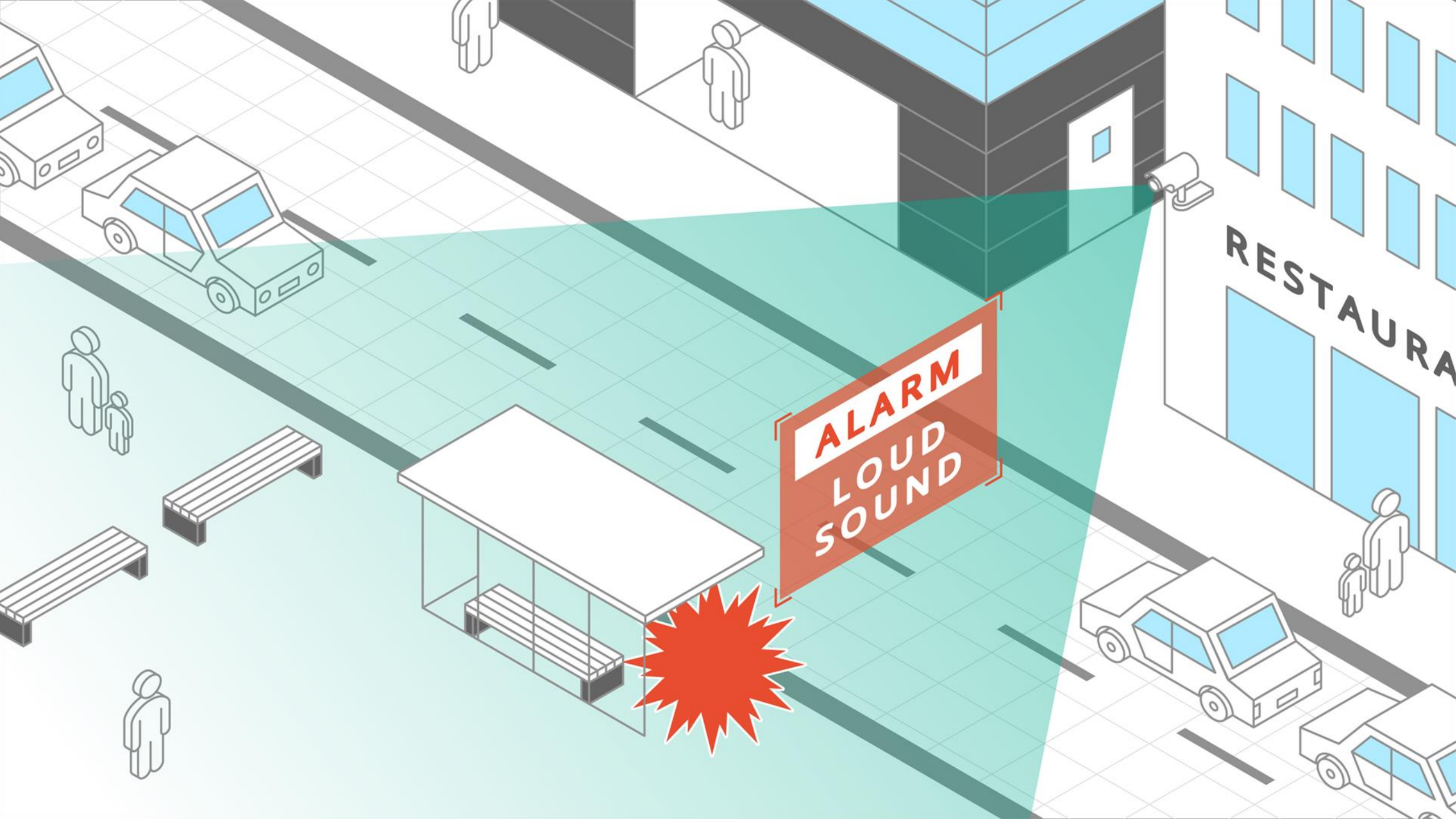
You don't have to spend time searching for frames with the right person in the video archive. With the Suspect Search module, you can reconstruct the route of this person in minutes in order to establish his/her location.

This will allow you to:

- ✓ quickly find a child lost in a shopping center and return him/her to the parents
- ✓ quickly find a suspected offender and dispatch security forces to neutralize him/her



# Loud Sound Detection



**ALARM**  
**LOUD**  
**SOUND**

RESTAURANT

# Loud Sound Detection



## Purpose

**To respond promptly to force majeure events, accompanied by a loud sound.**

## How it works

- ✓ When the sound pressure level detected by the camera microphone exceeds the preset value, you receive an immediate notification to the monitor, phone or e-mail
- ✓ If the exceeding of the preset sound pressure level is detected, the video recording to the archive starts automatically

## Your benefits

You do not need to look at video surveillance monitors 24 hours a day. Thanks to the Loud Sound Detection module, you can:

- ✓ identify the source of danger
- ✓ stop the production or service process if necessary

Thus, you can ensure the safety of your employees and visitors, and minimize damage to property.



# Crowd Monitoring

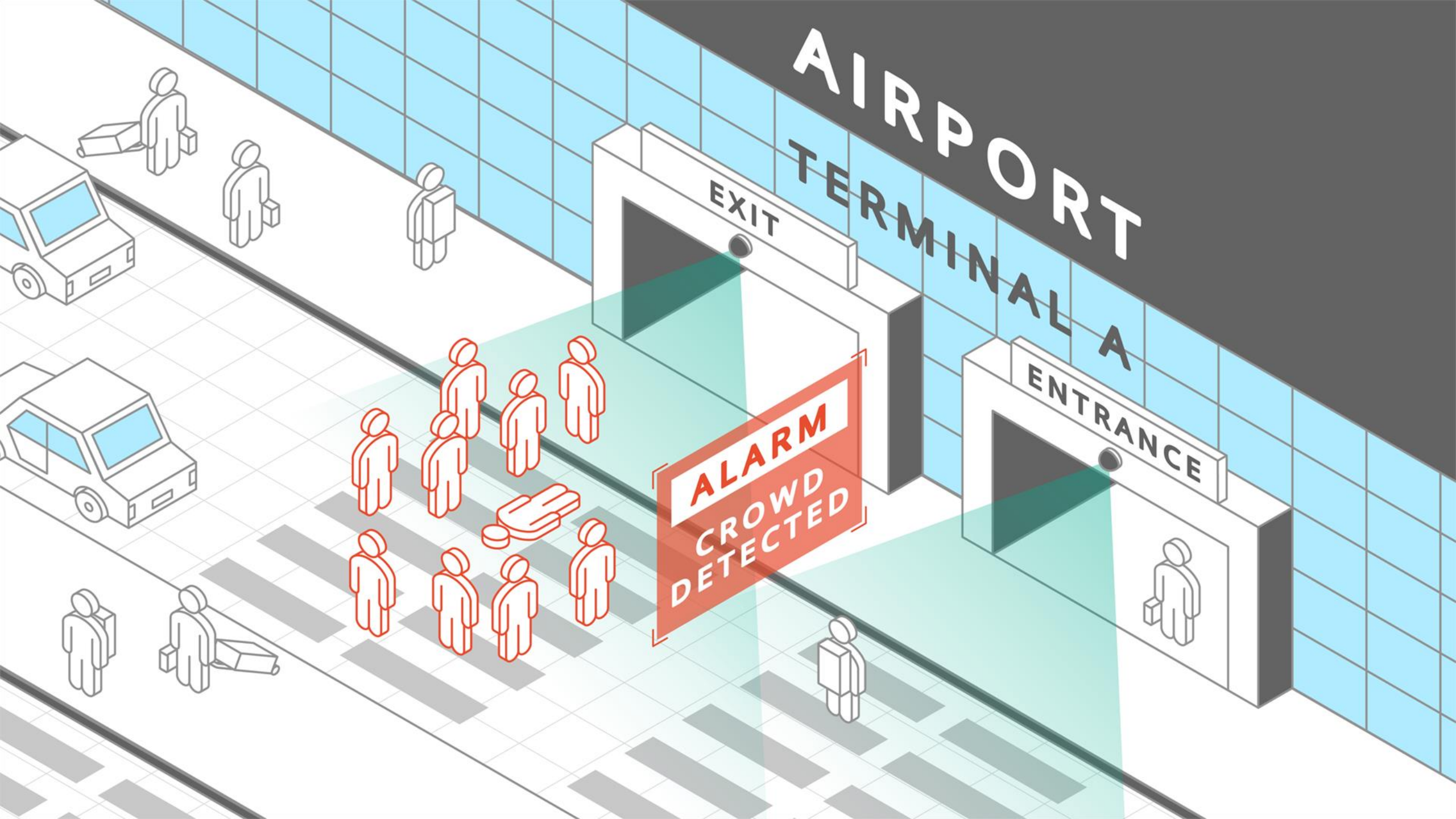


# AIRPORT TERMINAL A

EXIT

ENTRANCE

**ALARM**  
CROWD  
DETECTED



# Crowd Monitoring



## Purpose

**To prevent mass unrest and public disturbance.**

## How it works

You can:

- ✓ specify areas of the frame in which monitoring will be performed
- ✓ set two quantitative levels: "Attention" and "Alarm"

If one of the levels is exceeded, you receive an immediate notification to the monitor, phone or email.

You can plot graphs showing the number of people in a given area on the timeline.

## Your benefits

You do not need to look at video surveillance monitors 24 hours a day. Thanks to the Crowd Monitoring module, you can:

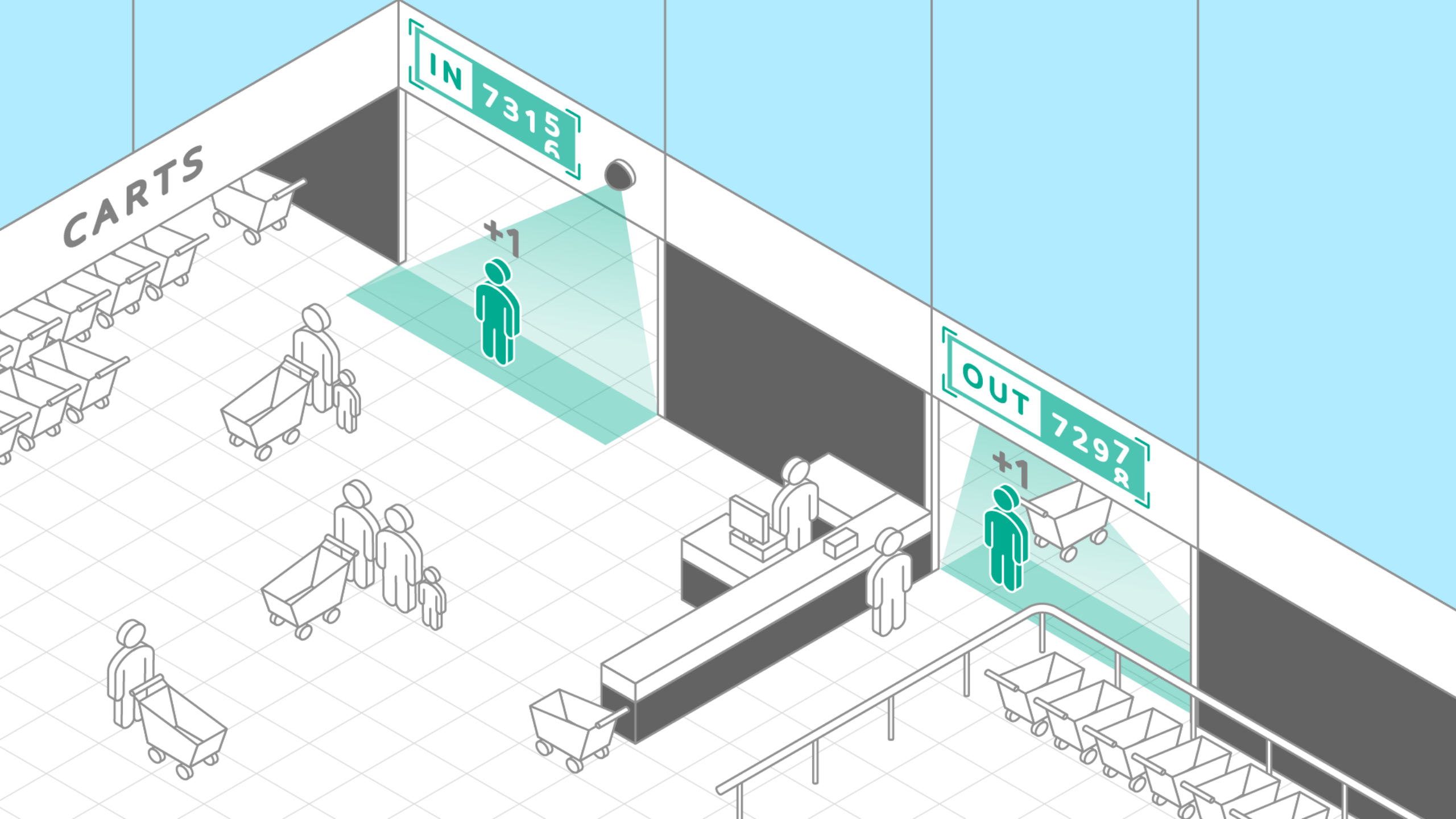
- ✓ dispatch security forces to prevent mass unrest on the territory under your control
- ✓ make adjustments to the work of staff that serves visitors

Thus, you ensure the safety of your visitors and reduce your reputational risks.



# People Counting





CARTS

IN 7315

+1



OUT 7297

+1



# People Counting



## Purpose

**To increase marketing and sales effectiveness, to adjust rental rates.**

## How it works

You can specify the minimum height of the objects to be counted in order to exclude, for example, shopping carts and baby carriages. The system counts all entering and exiting visitors.

You can:

- ✓ create reports and graphs broken down by hours, days, months, years based on the data from various cameras
- ✓ export data to CSV format

## Your benefits

Thanks to the 3D People Counting module, you estimate the number of your visitors with 99% precision. It allows you to:

- ✓ accurately calculate the conversion of visitors into purchasers
- ✓ draw conclusions about the success of marketing campaigns
- ✓ conduct a comparative assessment of the adequacy of rental rates for different facilities
- ✓ adjust service personnel work schedules

Thus, you increase the cost effectiveness of your expenses and personnel efficiency.



# Audio Stream Processing



VOICE  
RECORD

# Audio Stream Processing



## Purpose

**To prevent offences and improve staff performance.**

## How it works

- ✓ The program transmits and records audio from a camera with built-in microphone.
- ✓ You can also transmit the sound to the object of surveillance through the camera.
- ✓ You can equip the camera with a sound amplifying device if required

## Your benefits

Thanks to the Audio Stream Processing module you can:

- ✓ prevent cases of confidential information leakage
- ✓ prevent the development of conflict situations
- ✓ monitor the progress of meetings, negotiations, job interviews, service personnel performance
- ✓ prevent possible harmful actions of the subject being monitored, warning him that he is under surveillance

Thus, you prevent offences, ensure the safety of your business, and increase the efficiency of your staff.



# Personnel Monitoring





**ALARM**  
STAFF  
MEMBER  
ABSENT

RECEPTION

eocortex

eocortex

# Personnel Monitoring



## Purpose

**To increase work performance of your staff, to reduce risks attributable to human factor.**

## How it works

- ✓ You can configure up to six staff activity monitoring zones for each camera
- ✓ The system captures the movement or its absence in the activity zone in real time
- ✓ When the controlled events are detected, you receive an immediate notification to your monitor, phone or e-mail
- ✓ You can create reports for each configured zone for a specified period of time

## Your benefits

You do not need to look at video surveillance monitors 24 hours a day. Thanks to the Personnel Monitoring module, you can make effective management decisions related to:

- ✓ evaluation of time and quality of work of your employees
- ✓ optimization of your incentive program and work processes

Thus, you can improve your staff's work performance and reduce the risks of occurrence of dangerous situations related to the absence of personnel in the workplace.

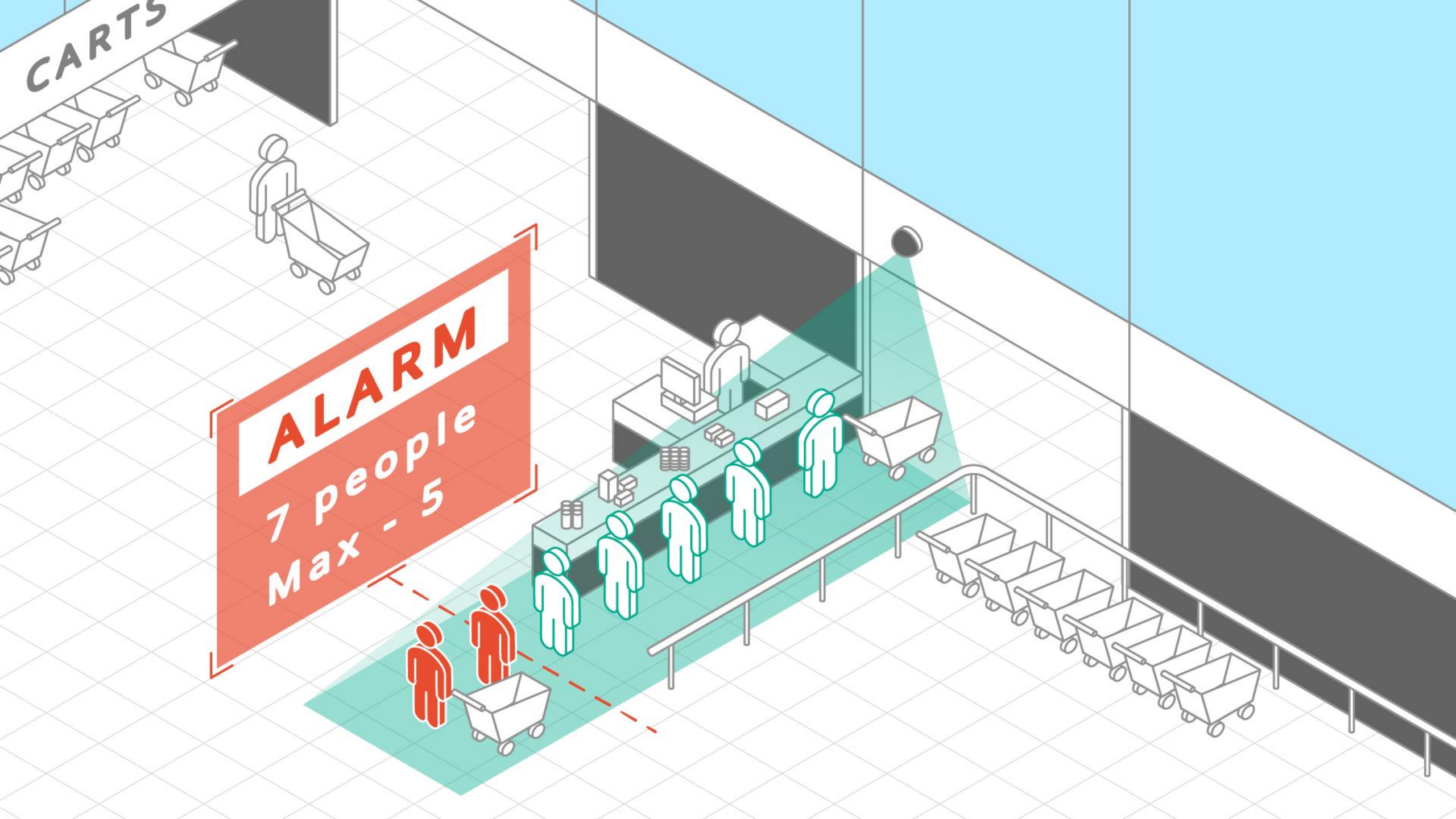




# People Counting in Queue

CARTS

**ALARM**  
7 people  
Max - 5



# People Counting in Queue



## Purpose

**To increase sales proceeds and customer loyalty.**

## How it works

You can:

- ✓ configure up to two queue detection zones for each camera
- ✓ set the threshold value of the number of people and duration of their stay in the queue

When the threshold value is exceeded, you receive an immediate notification to the monitor, phone or email.

You can create reports about the number of people in queues for any period of time, zone and facility as a whole.

## Your benefits

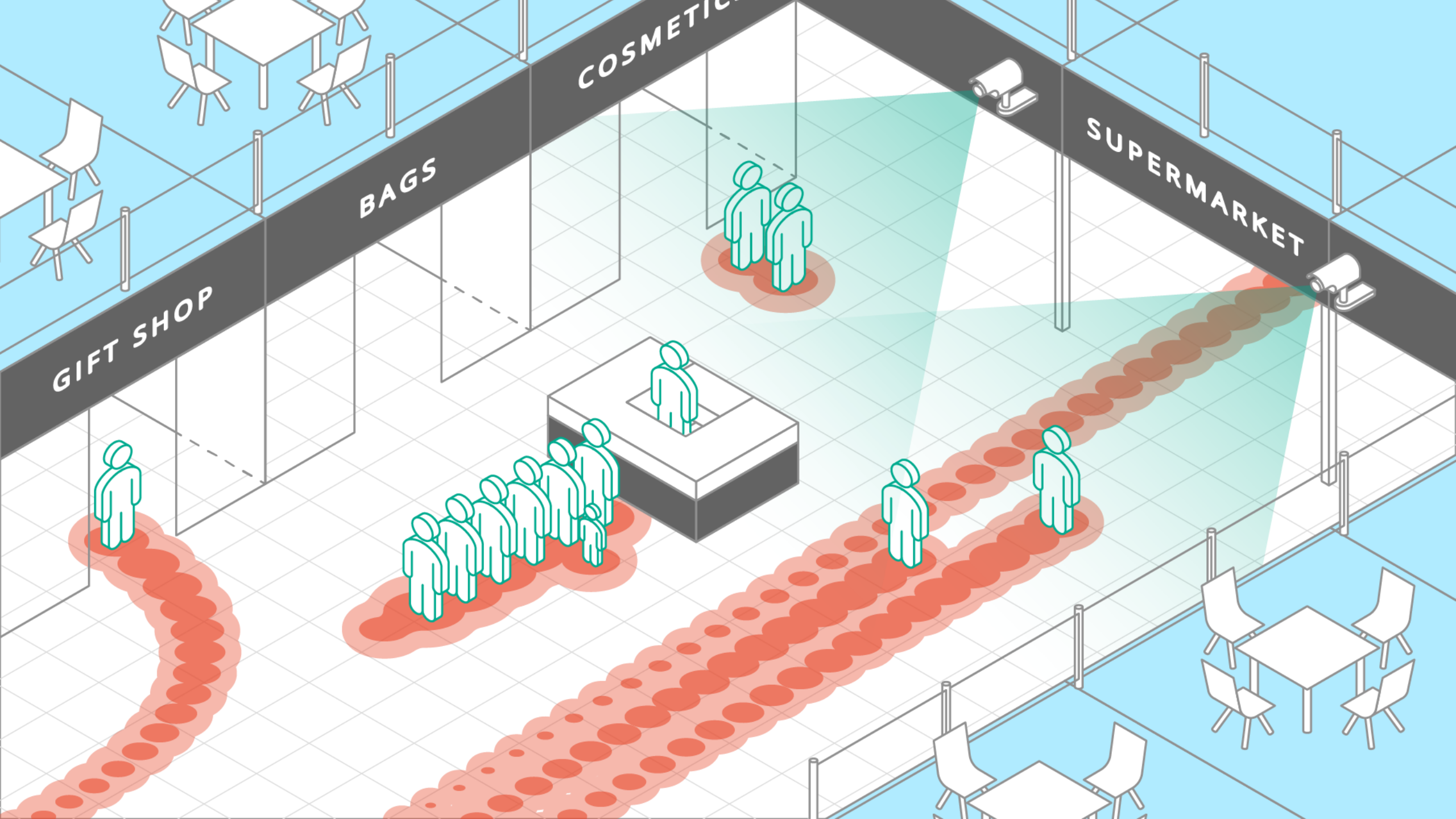
Thanks to the People Counting in Queue module, you can:

- ✓ quickly engage additional staff and eliminate the queue
- ✓ adjust opening hours of your store and the work schedule of your staff

Thus, you retain customer loyalty and optimize your expenses.



# Heat Map



# Heat Map



## Purpose

**To increase the economic return of the commercial or office space use.**

## How it works

The areas where traffic has been recorded during the last ten seconds are displayed in real time on the map

You can:

- ✓ superimpose a heat map on the image from the camera
- ✓ create a heat map on the facility layout
- ✓ make reports of traffic density analysis within the specified time intervals

## Your benefits

Thanks to the Heat map module, you can determine the routes of the movement of people in the premises. This will allow you to draw conclusions:

- ✓ on the premises layout efficiency
- ✓ on the quality of goods layout, on displaying the merchandise and point of sales (POS) materials, on showcase decoration, and to make the necessary changes
- ✓ about the popularity of certain products in stores, stands at exhibitions, cars in car sales showrooms

Thus, you increase the return from your premises and get more profit.

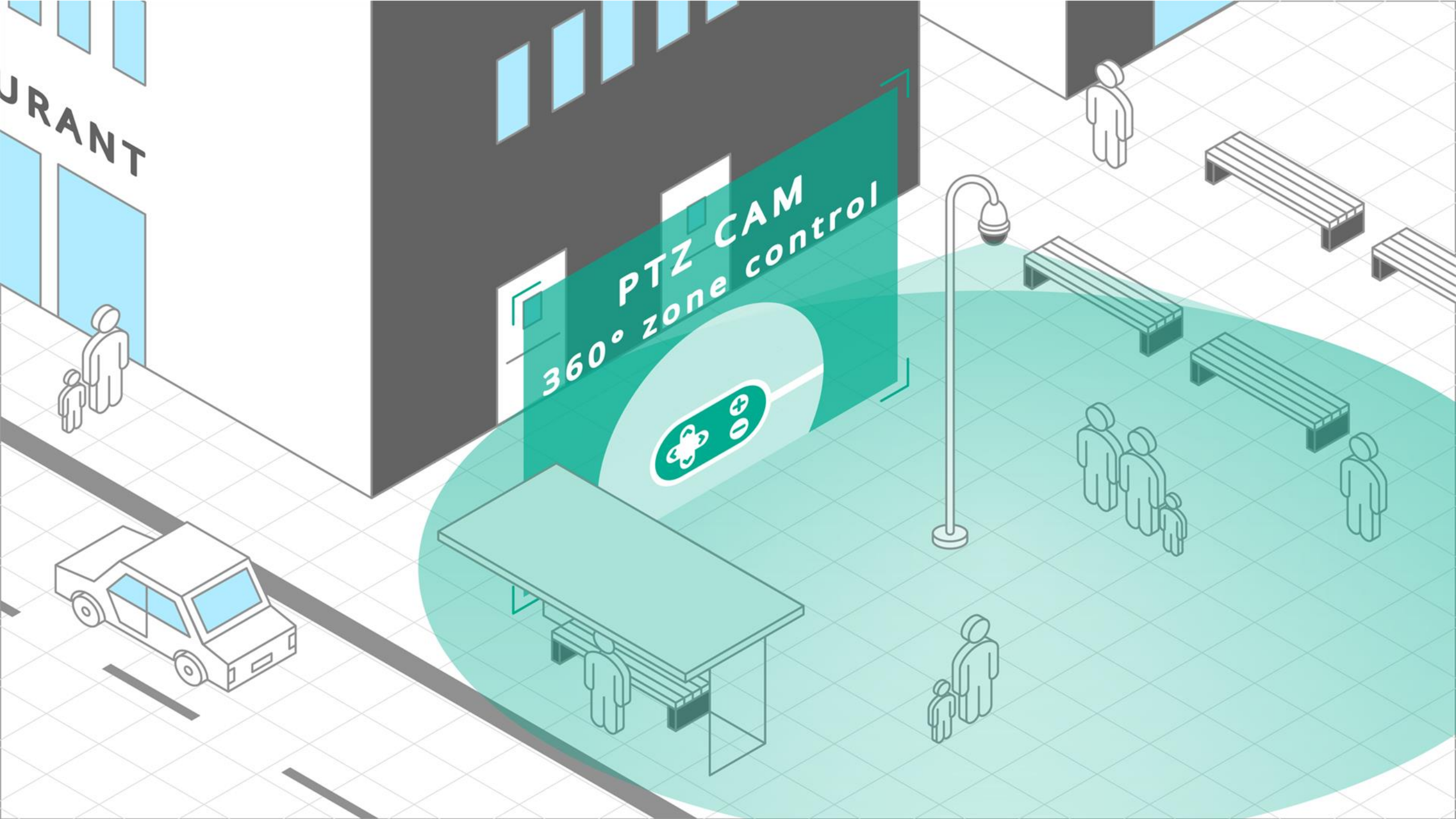




# PTZ Camera Control

URANT

PTZ CAM  
360° zone control



# PTZ Camera Control



## Purpose

**To provide greater flexibility of the video surveillance system.**

## How it works

You can:

- ✓ control the camera rotation in the desired direction by using a joystick or keyboard
- ✓ zoom camera image in and out by using the optical zoom
- ✓ control the camera focus in automatic or manual mode
- ✓ set up camera scenarios

## Your benefits

Thanks to the PTZ Camera Control module you can:

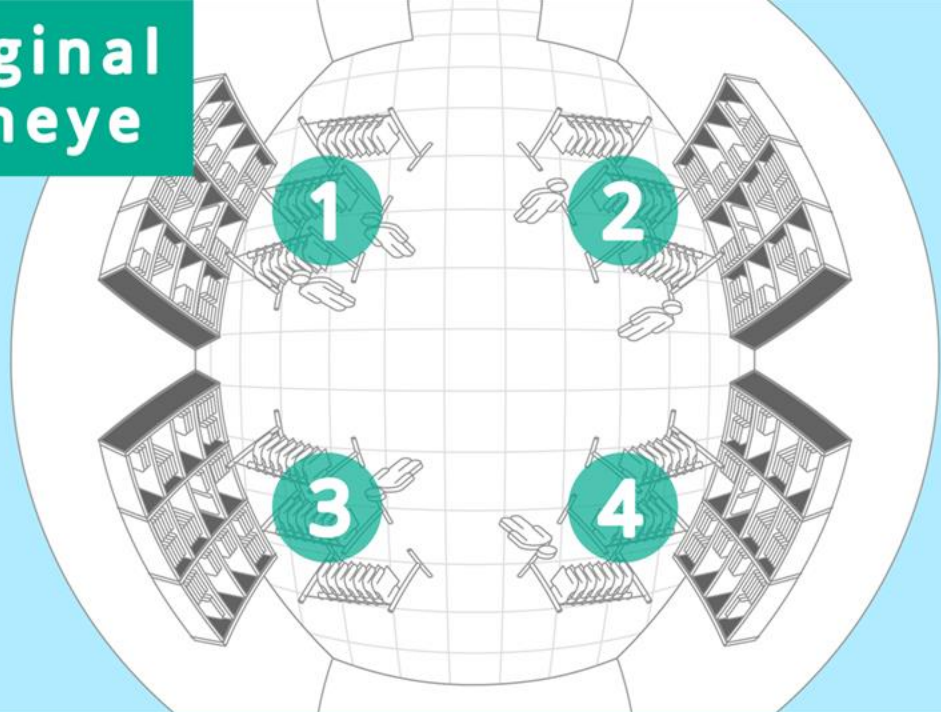
- ✓ replace several conventional cameras indoors or outdoors with a single PTZ camera
- ✓ see the smallest details of the image from the camera
- ✓ focus the camera on the desired object and track it

Thus, you increase the flexibility of your CCTV system and solve complex tasks, which is impossible when you use conventional cameras.

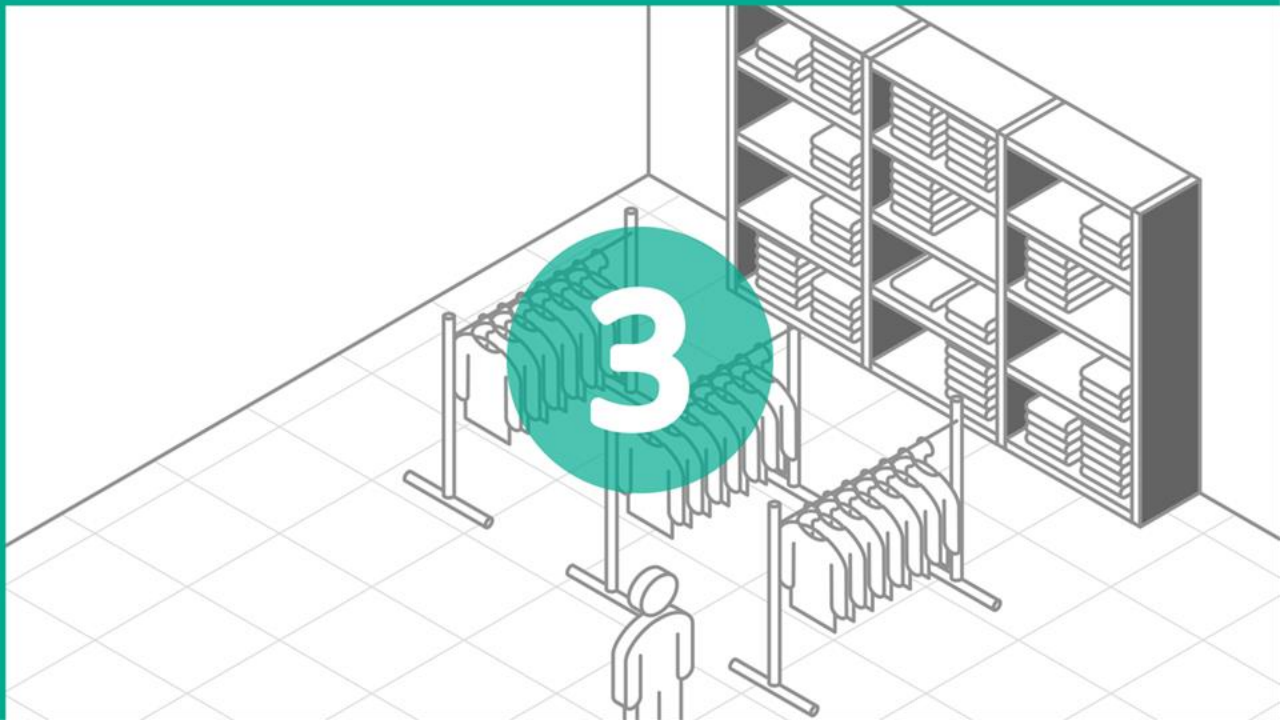
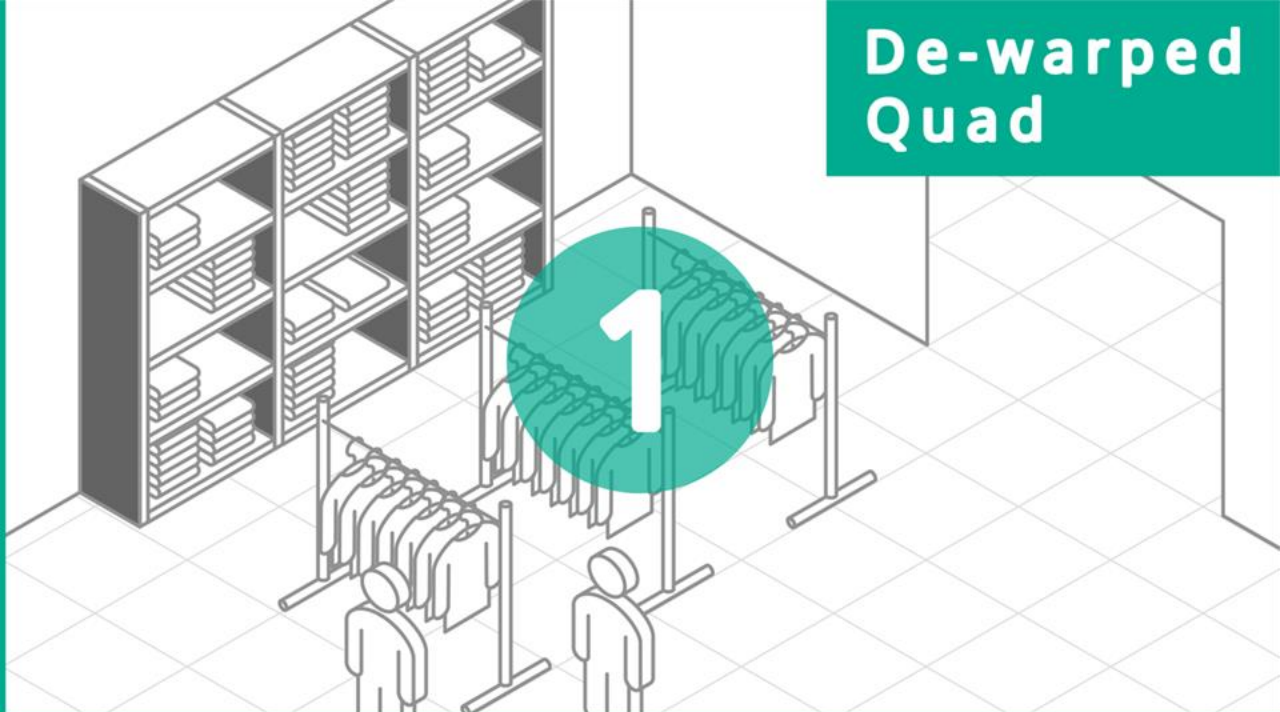


# Fisheye Dewarping

# Original Fisheye



# De-warped Quad



# Fisheye Dewarping



## Purpose

**To reduce the cost of the video surveillance system.**

## How it works

You can obtain an expanded image and control it by using joystick and keyboard:

- ✓ in the double panorama mode - the panorama is divided in two parts, 180° each
- ✓ in the 4x90 mode - the image is divided in four cells, 90° each
- ✓ in the virtual PTZ mode, which simulates PTZ camera operation

## Your benefits

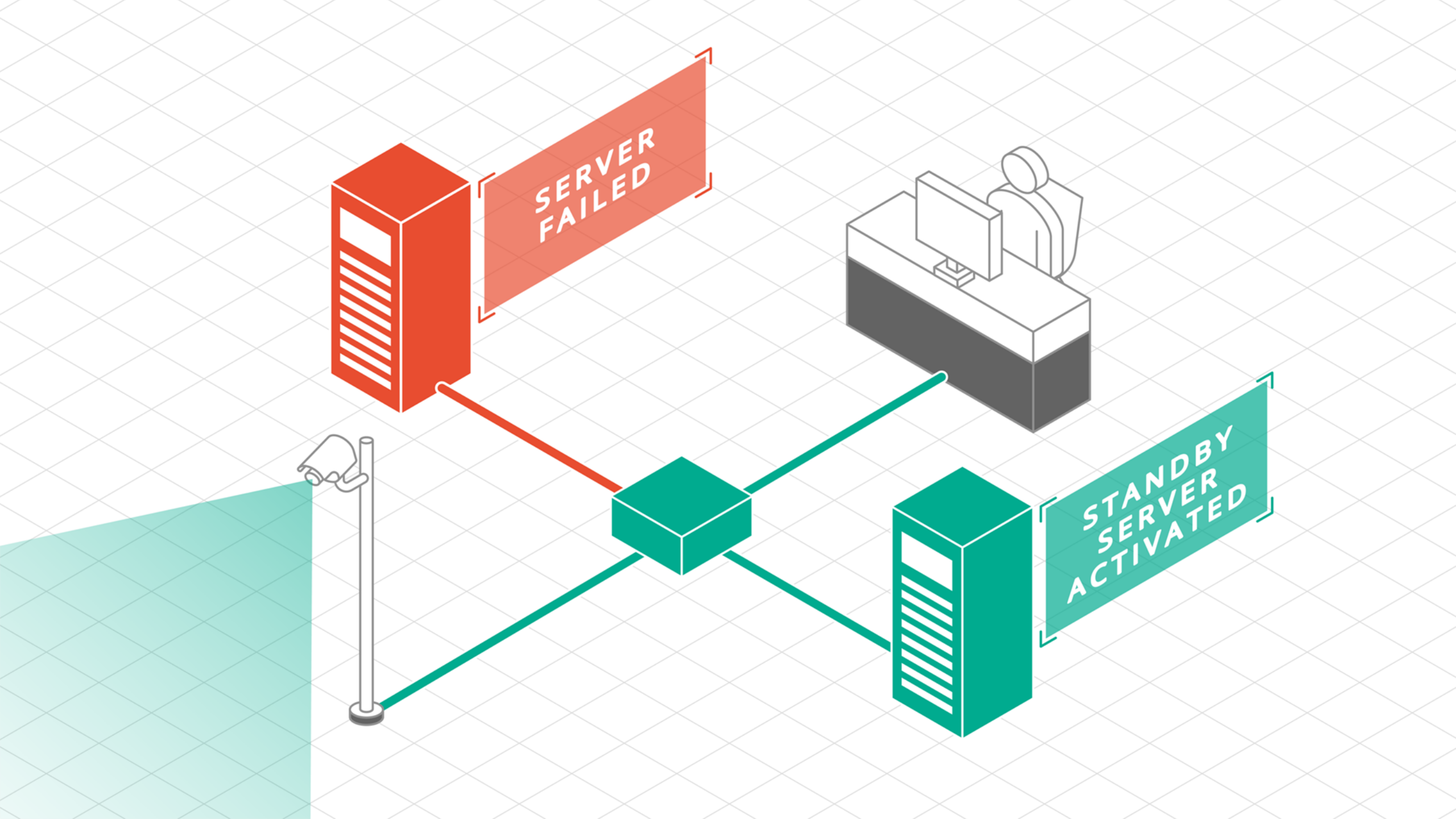
Thanks to the Fisheye Dewarping module, you can:

- ✓ replace several conventional cameras indoors with a single Fisheye-camera with wide functionality
- ✓ view several controlled areas simultaneously using a single camera





**Failover**



# Failover



## Purpose

**To provide a video stream and to record a video archive regardless of force majeure factors.**

## How it works

- ✓ The module is installed on each camera, archive and transmission of which you want to protect.
- ✓ If the server with the cameras on which the module is installed fails, these cameras will be transferred to the backup server.
- ✓ It will provide consistent transmission of video and prevent loss of archive while the server is disconnected.

## Your benefits

- ✓ Thanks to the Failover module, you will not lose a minute of video transmission or recording made by your video surveillance system.
- ✓ You continue to receive all notifications of control events from your video analytics to your phone or email, despite the potential problems with the server.
- ✓ Thus, you continuously ensure the safety of your employees and visitors.



# Sabotage Detection



**ALARM**  
**SABOTAGE**  
**DETECTED**

# Sabotage Detection



## Purpose

**To minimize the time of video surveillance cameras inoperability.**

## How it works

You can configure control events:

- ✓ camera defocusing
- ✓ panning away from pre-defined view
- ✓ flaring
- ✓ overlapping of the camera view

When any control event occurs, you receive an immediate notification to the monitor, phone or e-mail.

## Your benefits

Thanks to the Sabotage Detection module, you can quickly restore video surveillance system operability.

Thus, you will ensure uninterrupted monitoring and receiving notifications of video surveillance system about the control events:

- ✓ related to ensuring the safety of your employees, visitors, infrastructure
- ✓ related to ensuring the effectiveness of your business processes



# **Additional Modules of Video Analytics**



# Face Recognition



# Face Recognition



## Purpose

**To organize 100% controlled access of people to the territory.**

## How it works

You can:

- ✓ integrate the module with the access control system
- ✓ create a database of photos of “trusted” and “blacklisted” people
- ✓ receive automatic notifications to the monitor, phone or e-mail about infiltration attempts perpetrated by people who do not have access rights
- ✓ search for fragments with the detected face in the video archive, search for people in the video archive using their photos

## Your benefits

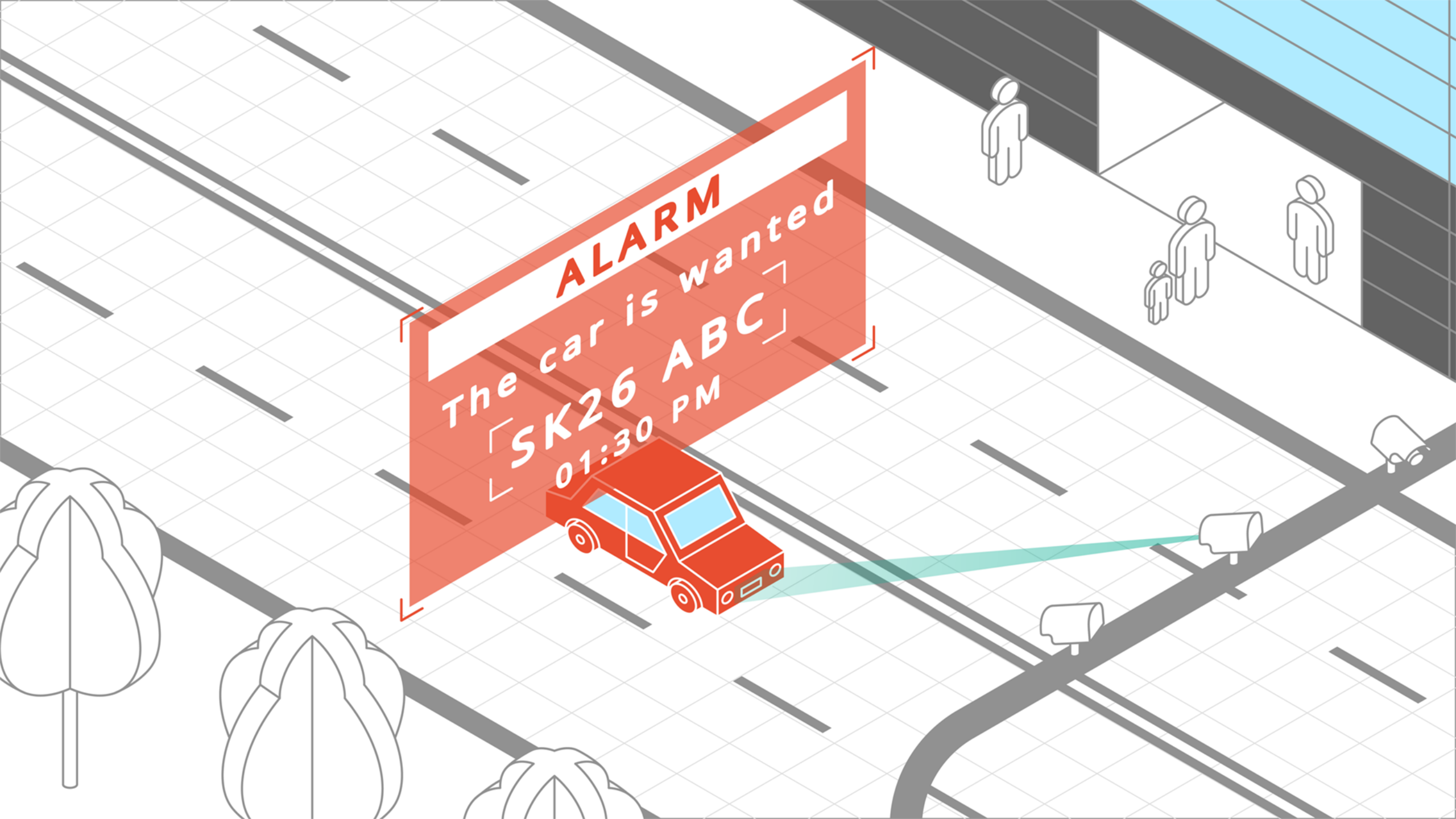
You do not need to use your staff to control the admission to all premises. Thanks to the Face Recognition module you can:

- ✓ provide automatic admission to the premises of those employees who have appropriate permission, and control the time they spend there
- ✓ prevent the unauthorized persons from entering the premises

Thus, you will be able to ensure a high level of security for your employees and infrastructure.



# License Plate Recognition



**ALARM**

The car is wanted

SK26 ABC

01:30 PM



# License Plate Recognition



## Purpose

**To organize fully controlled car access.**

## How it works

You can:

- ✓ add license plates to the database, create their "black" and "white" lists
- ✓ control the opening of a rising arm barrier
- ✓ save time and date of recognition, license plate, links to the corresponding video frame in the archive
- ✓ search for the license plates in the archive based on time and date
- ✓ upload data in XLS or CSV formats

## Your benefits

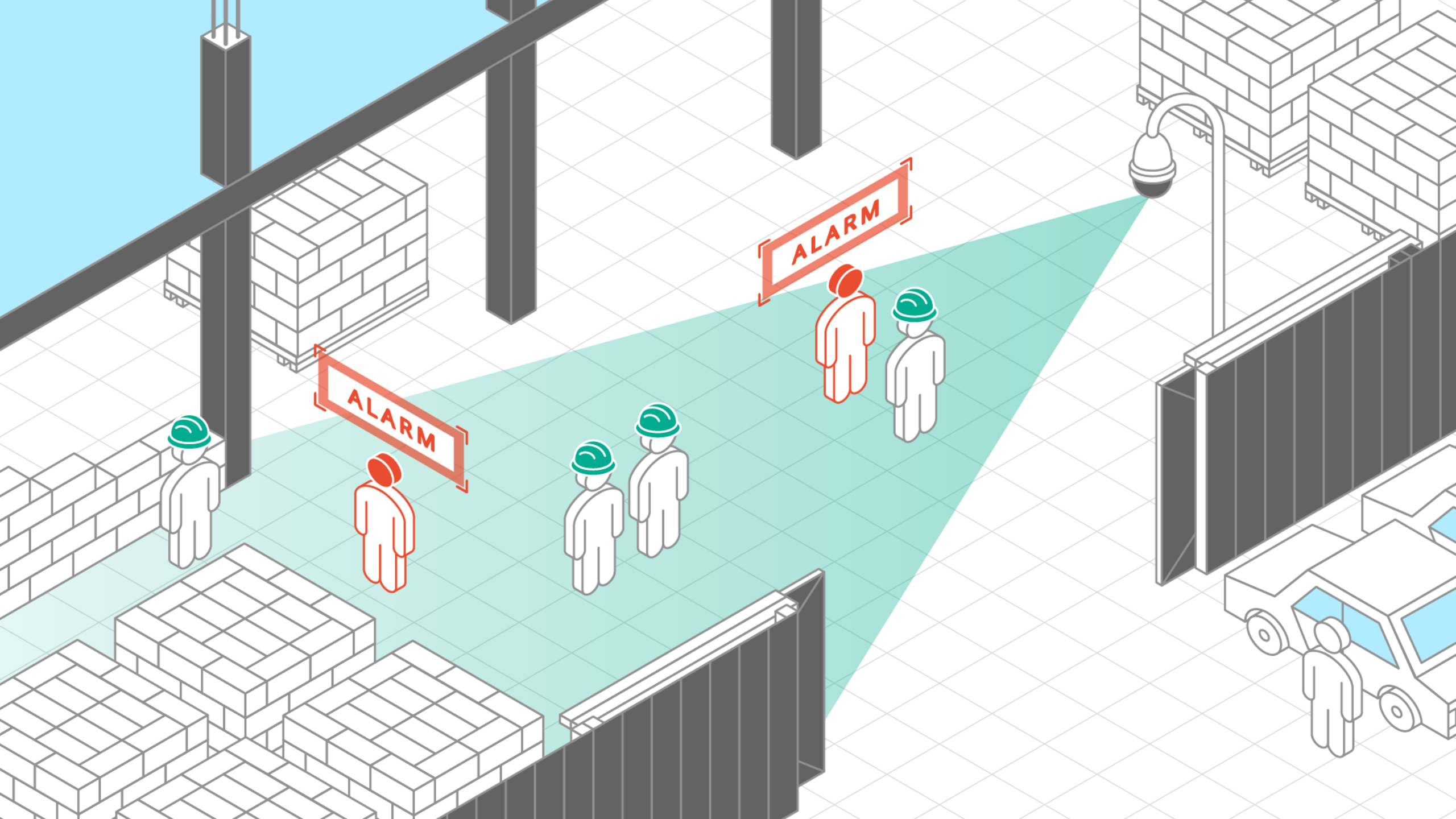
You do not need to use additional staff to control the license plates of entering vehicles. Thanks to the License Plate Recognition module, you can:

- ✓ ensure automatic admission of vehicles that have a permission to enter, and control the time they stay in the territory
- ✓ prevent the entrance of unauthorized vehicles
- ✓ register license plates of wanted cars

Thus, you can ensure the safety of your employees and reduce staff costs.



# Hard Hats Detection



# Hard Hats Detection



## Purpose

**Minimize the number of injuries due to violation of safety requirements by workers.**

## How it works

- ✓ Your video surveillance system with the activated Hard Hats Detection module identifies a person in the frame and detects the presence of a hard hat on his head.
- ✓ In the event of absence of hard hat on the head of a person, you will automatically receive a notification on your monitor, phone or e-mail.
- ✓ All control events are automatically logged. You can find a video fragment with the violation in the archive at any time.

## Your benefits

You do not need to look at monitors of video surveillance cameras 24 hours a day. Thanks to the Hard Hats Detection module you can:

- ✓ minimize the cases of violation of safety regulations by the employees
- ✓ prevent injuries in the workplace
- ✓ avoid penalties from regulatory authorities
- ✓ investigate the circumstances of cases of safety regulations violation



# **Remote Access to Your CCTV System**

# Remote Access



To get mobile access to your video surveillance system you can use mobile applications on iOS, Android and through a web client via the browser.

Video stream formats supported by mobile clients: MJPEG, MPEG-4, H.264, H.265 and any versions of operating systems.





# Remote Access



Features and functions	Android	iOS	Web-client
<b>Watch online</b>			
View images from cameras online	+	+	+
Configure the frame rate for viewing	+	+	+
Adjust the number of IP cameras in a multipicture	up to 15	up to 15	up to 5
Scale the image	+	+	+
Drag a channel in a multipicture grid	+	+	+
Take screenshots	+	+	+
Listen to the sound from cameras	+	+	+
<b>Manage online</b>			
Control PTZ cameras	+	+	+
<b>Receive notifications online</b>			
Receive push-notifications about events that are configured in video analytics	+	+	+
<b>Work with the video archive</b>			
Play the archive, search for frames by date and time	+	+	+
Speed up archive viewing 20-fold and slow down 10-fold	+	+	+



# About us



Macroscop is a global provider of an Open-Platform Video Management Software (VMS) with the added strong intelligence of video analytics and network video recorders (NVR)

# 2008

company founded

# 19

Video Analytics modules

# 5 000+

camera models +ONVIF, +  
PSIA compatible

# 10 min

time required for installation  
and configuration

# 40+

countries

# 5 000+

partners in the world

# 23 000+

projects implemented

# 300 000+

cameras operating on  
Macroscop VMS

# \$0

cost of personnel training and  
certification

# \$0

pre-sale service cost for your  
projects

# \$0

cost of technical support

# \$0

cost of all Macroscop VMS  
updates

# Macroscop in the World



Czech Republic



Germany



Italy



Denmark



UAE



Saudi Arabia



South Africa



India



Belgium



Spain



Luxembourg



UK



Qatar



Oman



Turkey



Vietnam



France



Poland



Portugal



USA



Kuwait



Egypt



Bahrain



Malaysia



Slovakia



Hungary



Netherlands



Canada



Iran



Tunisia



Pakistan



Australia

# Macroscop Compatibility

100%

AVIGILON

**AXIS**<sup>®</sup>  
COMMUNICATIONS

 **BOSCH**

**Brickcom**

  
**CISCO**

**DAHUA**  
TECHNOLOGY

  
**Dallmeier**

**D-Link**<sup>®</sup>

 **GeoVision**

 Hanwha

**HIKVISION**

**Honeywell**

 **IDIS**

 **LG**

  
**MOBOTIX**

 **LILIN**

**Panasonic**

**PELCO**

**SONY**

**uniview**

 **VIVOTEK**

 **ONVIF**

 **PSIA**  
PHYSICAL SECURITY INTEROPERABILITY ALLIANCE

And other 100+ manufacturers





**Welcome with Questions  
and Projects!**

**macroscop** 

[macroscop.com](https://macroscop.com)