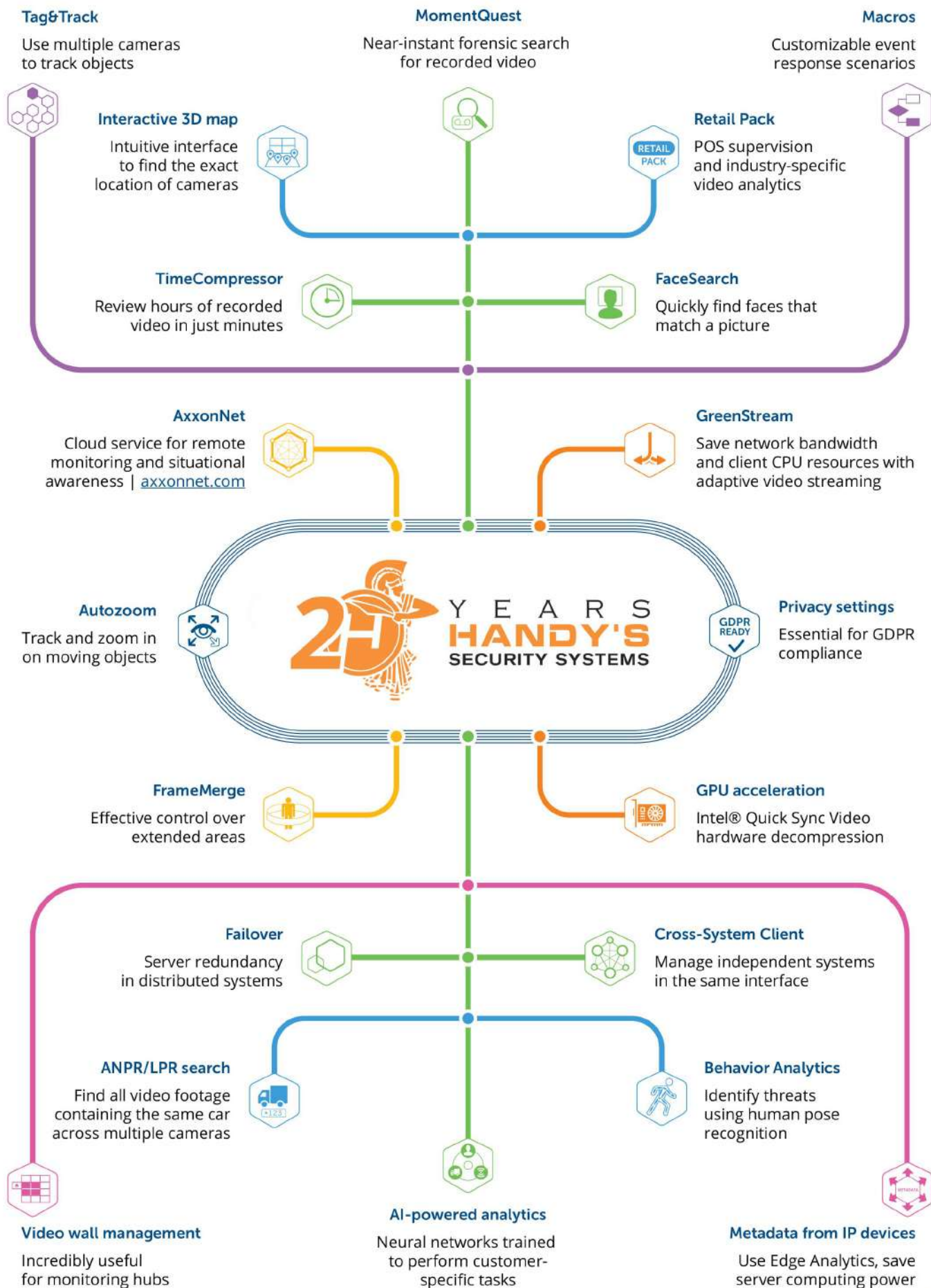# AXXON NEXT
VMS

Axxon Next is a limitlessly scalable Video Management Software that combines comprehensive support for 10,000+ IP devices and a streamlined user interface. Axxon Next offers unique value through features like smart forensic search in recorded video, TimeCompressor visual scene synopsis, and customizable video analytics powered by artificial intelligence.

We inspire you to feel safe

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to track objects

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Intuitive interface
to find the exact
location of cameras

Retail Pack
POS supervision
and industry-specific
video analytics

RETAIL
PACK

TimeCompressor
Review hours of recorded
video in just minutes

FaceSearch
Quickly find faces that
match a picture

AxxonNet
Cloud service for remote
monitoring and situational
awareness | axxonnet.com

GreenStream
Save network bandwidth
and client CPU resources with
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HANDY'S
SECURITY SYSTEMS

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to perform customer-
specific tasks

Metadata from IP devices
Use Edge Analytics, save
server computing power

AI-POWERED ANALYTICS

Behavior Analytics

Human pose recognition

WATCH ON YOUTUBE

Behavior Analytics recognizes hazardous situations by detecting specific human poses: for example, a cashier's raised arms, or a person crouching by an ATM. Based on Behavior Analytics, the **Active Shooter** tool detects a potential gunman in real time. Swift alerts to first responders minimize the risks for individuals, groups, and facilities.
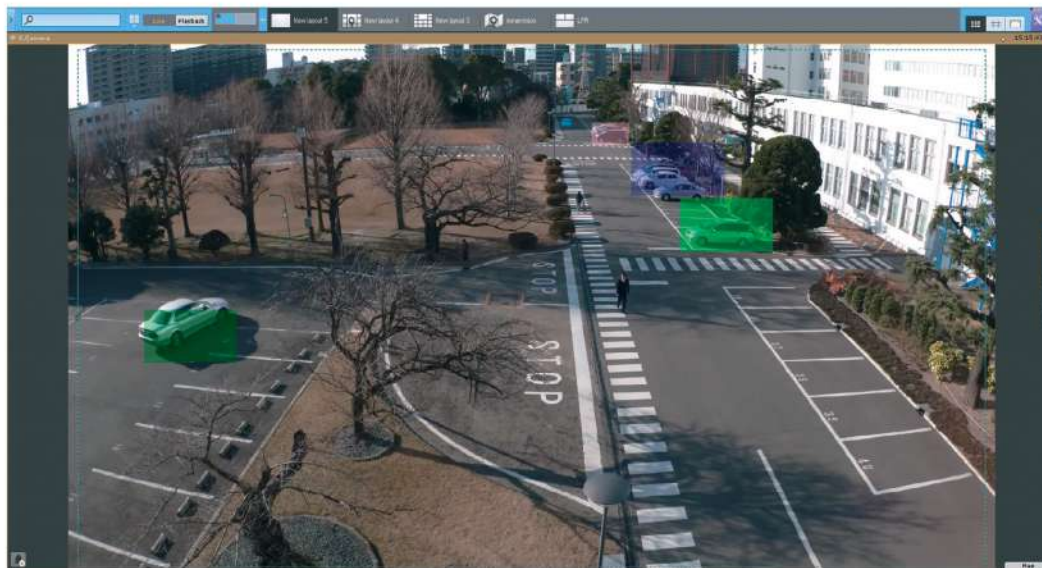
Tracking and counting specific object types

Neural networks trained to perform customer-specific tasks

WATCH ON YOUTUBE

When applied to the **Object Tracker**, the neural network accurately detects specific types of moving objects, e.g. humans or vehicles. This technology can filter out false alarms in busy scenes where multiple moving objects might interfere with the results. You can apply any conventional video analytics (loitering, line crossing, object appearance and disappearance, etc.) to the detected objects.

The **Neural Counter** counts moving or static objects of a specific type within the scene, e.g. cars in a parking lot, people on the sales floor, wares moving on a conveyor belt, etc. This is a valuable tool for non-security-related solutions.

Neural networks can meet the needs of a particular facility by learning from video material obtained onsite.

Smoke and fire detection

Detect fire early in open, and large enclosed spaces

WATCH ON YOUTUBE

Intelligent fire and smoke video detection operates in areas where other types of sensors are ineffective, e.g. in open spaces. It provides early detection of fire hotspots which leads to a significant reduction in damage.

Number plate recognition

PLATE NUMBER RECOGNIZED
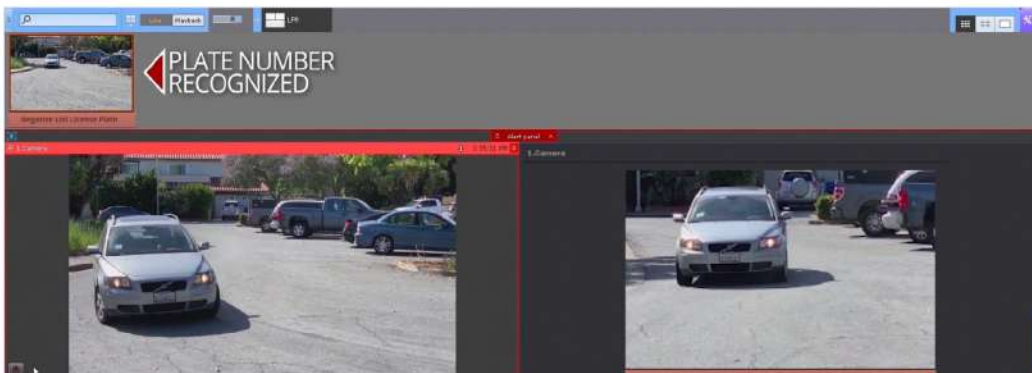
Positive/negative list support

WATCH ON YOUTUBE

Configure automatic scenarios when a match is found. For instance, notify the operator if the recognized number is blacklisted. ANPR runs on the server side or on supported LPR/ANPR cameras.

Intel® Distribution of OpenVINO™ toolkit

(intel)

Increase AI performance by up to 8.3 times

OpenVINO™ is a toolkit for computer vision applications which extends workloads across Intel® hardware (including accelerators) and maximizes performance. Intel® Distribution of OpenVINO™ toolkit is applied for neural network inference in AxxonSoft AI analytics tools.

Axxon Next supports the latest Intel® Vision Accelerator Design products with Intel® Movidius™ VPU and Intel® Arria® 10 FPGA:

- Neural Compute Stick 2
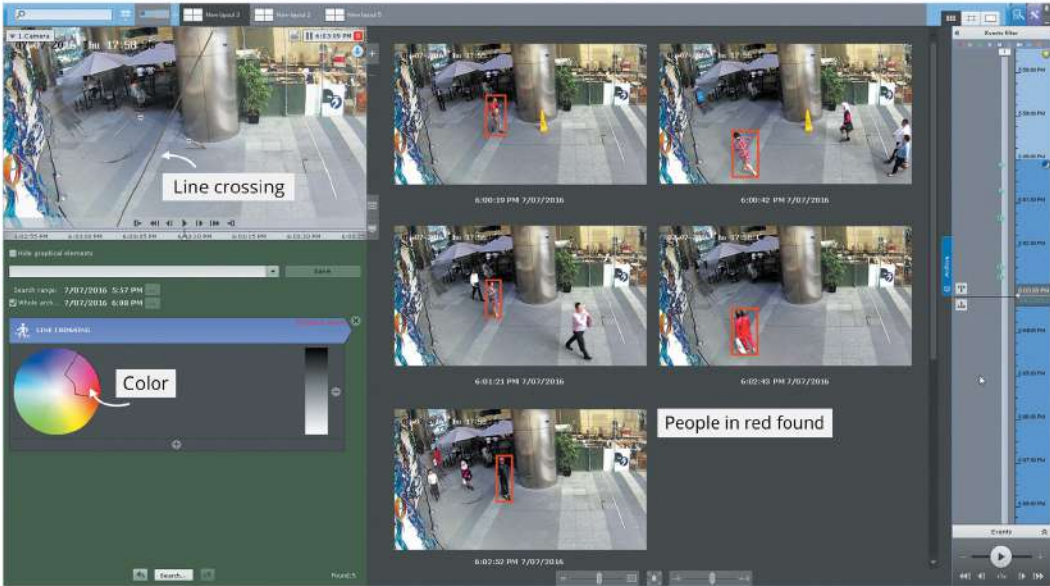- Mustang-V100-MX8
- Mustang-F100-A10

AxxonSoft benchmarked neural network inference performance using OpenVINO™ toolkit on an Intel® Xeon® E5-2630 v3. The score is 8.3 up!

SMART **FORENSIC SEARCH**

MomentQuest

MomentQuest analyzes live video and generates a stream of metadata — a lean description of moving objects within the scene — which is recorded along with video stream. To retrieve recorded footage of an event of interest, just enter specific criteria: motion in area(s), crossing of a line, object color or size, etc. Within seconds the system displays thumbnails of relevant video episodes. Save a search query for later use on any camera.

Near-instant forensic search for recorded video

WATCH ON YOUTUBE

Face and number plate search
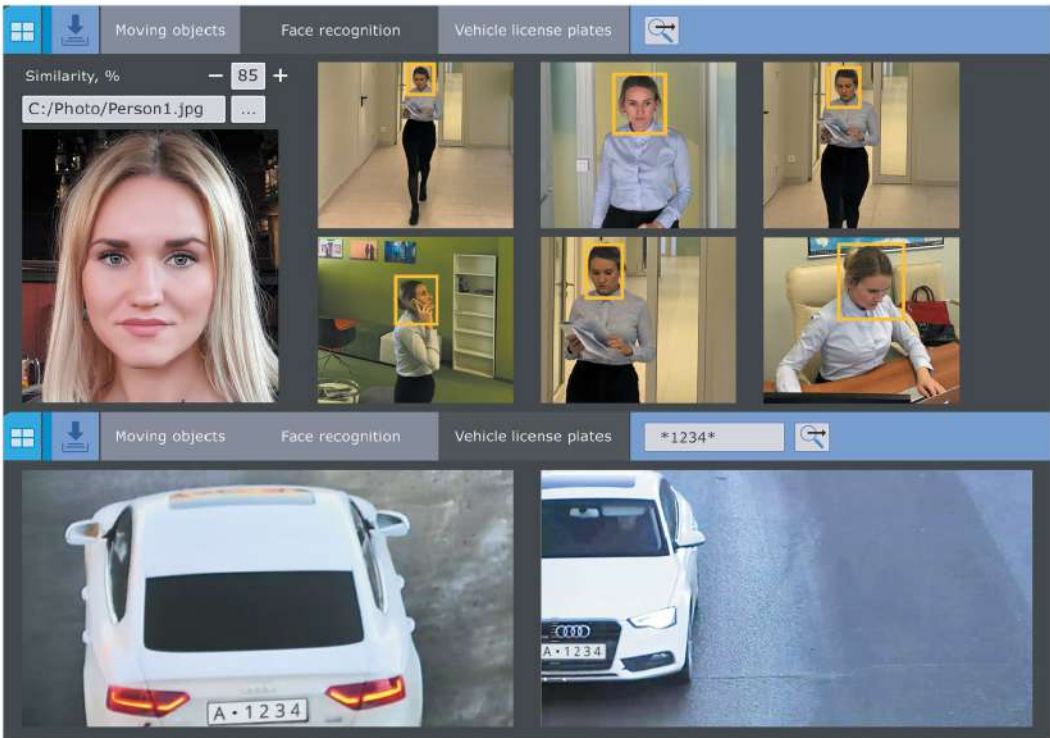
Quickly find people and vehicles of interest

WATCH ON YOUTUBE

Axxon Next captures and recognizes human faces and vehicle number plates. You can quickly check a person's photo or a vehicle number, full or partial, against the video footage. Multiple camera search is also possible.

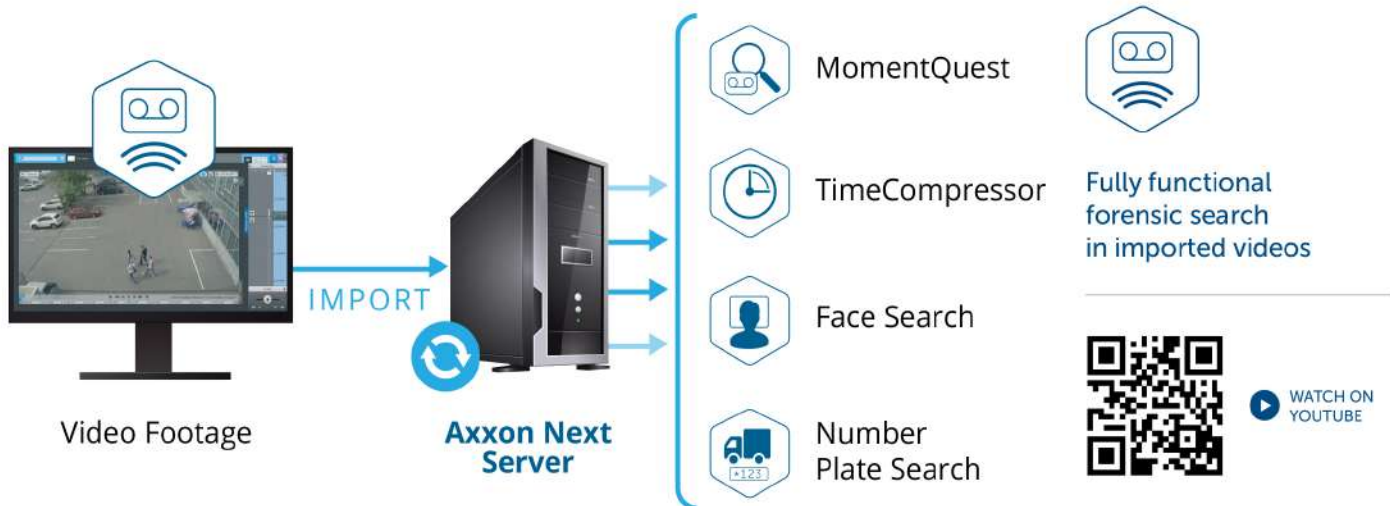# TimeCompressor

Review hours of recorded video in just minutes

WATCH ON YOUTUBE

TimeCompressor captures objects in motion at different times and displays them in a condensed visual synopsis. The tool is a viable alternative to the painstaking process of scrolling through hours of footage.

You can also view search results (MomentQuest, face and number plate search) in TimeCompressor mode. Thanks to a combination of video analysis technologies, searching for a specific video recording becomes even easier and faster.

Offline Analytics

Video Footage

IMPORT

Axxon Next Server

MomentQuest

TimeCompressor

Face Search

Number Plate Search

Fully functional forensic search in imported videos

WATCH ON YOUTUBE

Import any video footage and analyze it with forensic search. The following functions can be applied to imported videos:

- MomentQuest
- TimeCompressor
- Face search
- Number plate search

AXXON NEXT **RETAIL PACK**
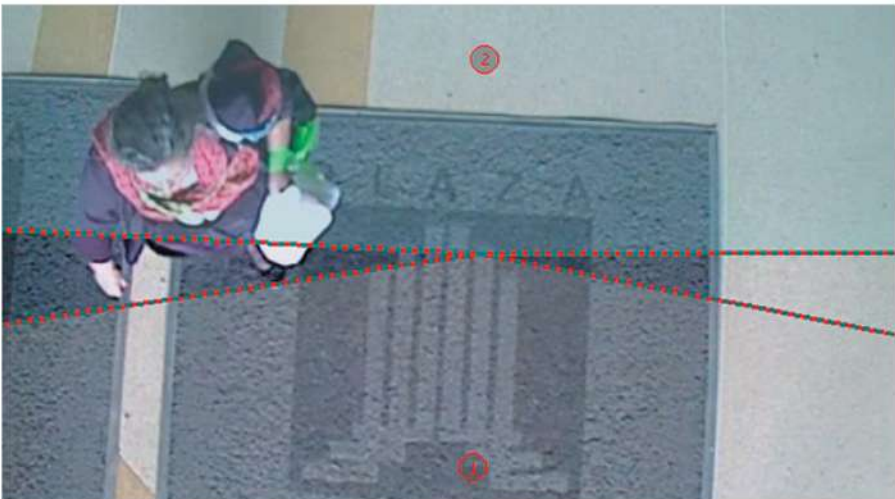
RETAIL PACK

POS supervision

Axxon Next receives data from cash registers and links it to video feeds. The receipt text is superimposed on the video or displayed in a separate pane. This offers a full picture of what's happening at the checkout. You can use receipt data to retrieve POS transaction videos from the recorded footage.

WATCH ON YOUTUBE

Queue management

The tool detects the number of people in queueing areas. Knowing actual customer numbers empowers you to manage human resources in both the short and long-term.

Visitor counter

This tool counts customers entering or exiting the store or a specific area. The information collected may be used, along with sales data, to estimate your sales conversion rate and/or for market research.
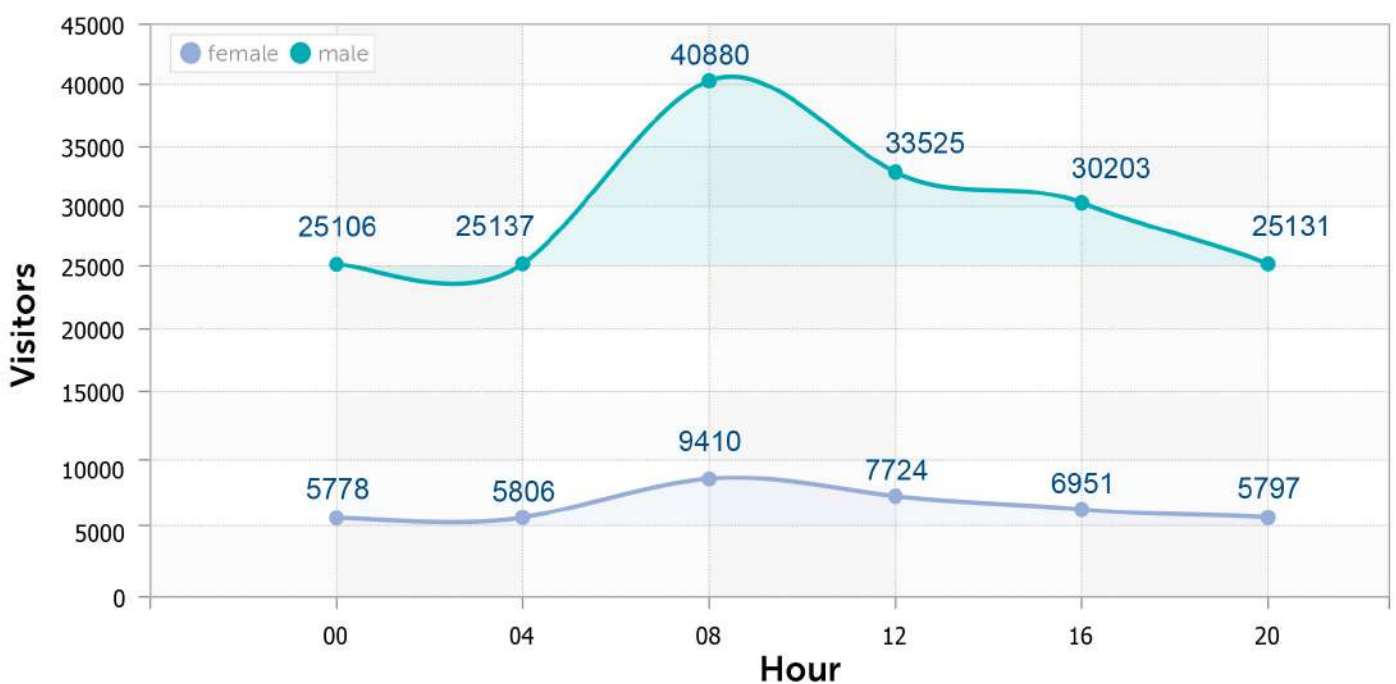
Facial recognition

Configure an automatic scenario, when a match is found. The positive list may notify store personnel of VIP customer arrivals, while the negative list may indicate shoplifters.

Heat map

A heat map is a graphic representation of visitor activity (visitor numbers/time spent) in different store areas. The heat map can be generated from tracking data for all objects or objects specified with forensic search criteria.
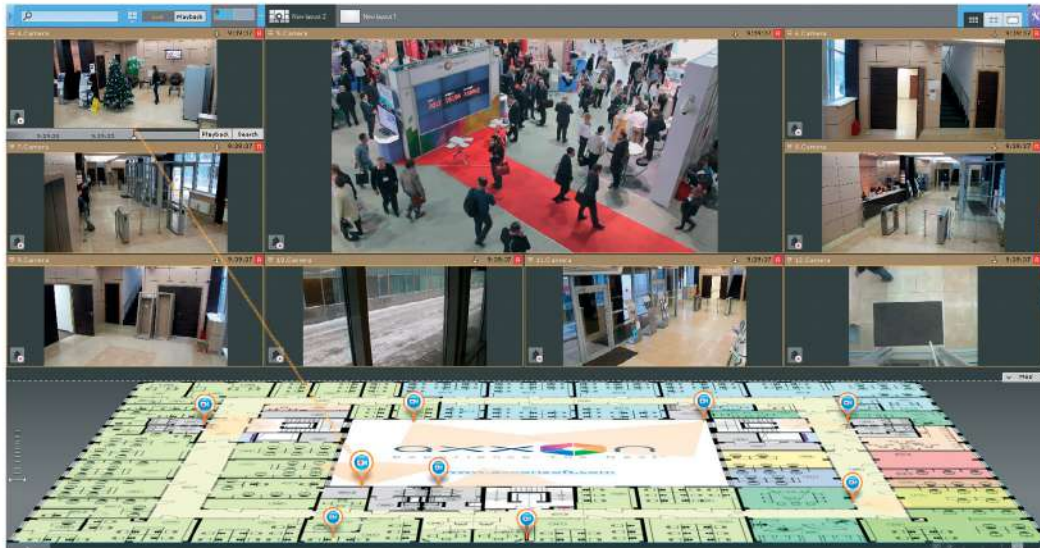

Age and gender guesstimation

The facial recognition tool guesstimates the age and gender of visitors. The saved data may be used for customer analysis, digital signage targeting, and other marketing purposes.

Online comprehensive reports

You can build custom reports based on POS transaction data, visitor count, queue length, age and gender guesstimation, and data generated by other Retail Pack tools. The web interface enables you to obtain reports from any store within your retail chain via the Internet.

LIVE VIDEO MODE

Interactive 3D map

Interactive 3D map superimposes camera locations on a site map and displays camera views in the same window. You can instantly pinpoint where a selected camera is located. Cameras in the current layout are color-coded by their status.

In **Immersion mode,** a semi-transparent video is superimposed on the map. This makes it easy to see where an object is located and where it is going.

Show video
on a site map

WATCH ON
YOUTUBE

Tag&Track

Follow an object of
interest, zone by zone
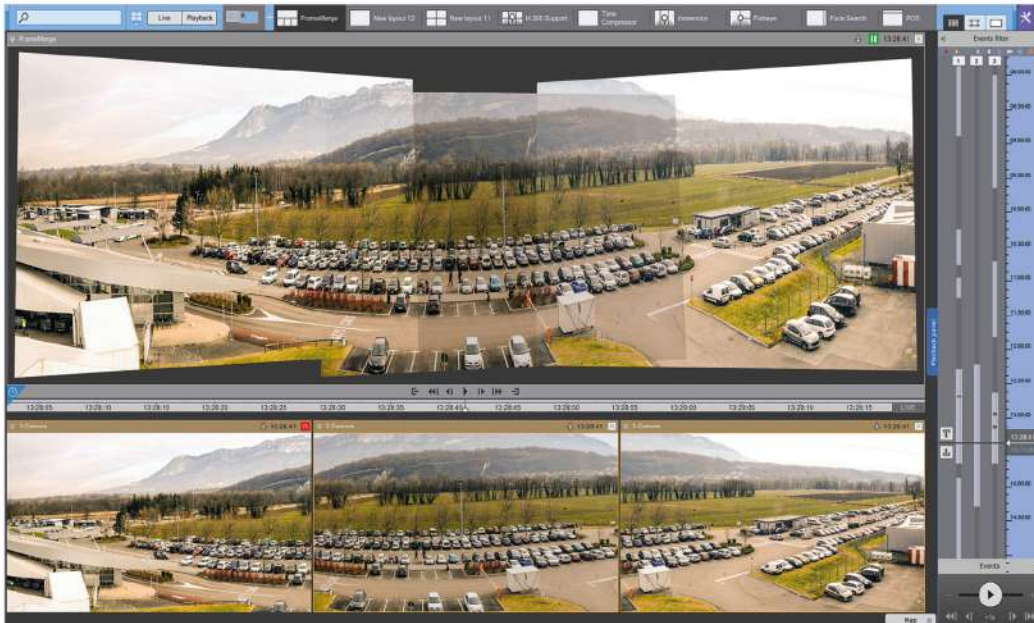

WATCH ON
YOUTUBE

Tag&Track Lite

- All cameras are linked to a site map.
- Operator selects a moving object to track.
- If the object leaves the field of view of one camera, Axxon Next predicts where it will appear next.
- The "destination" camera is highlighted in the current layout.
- Tag&Track Lite also works in Immersion and Archive mode.

Tag&Track Pro

- Get the "big picture" of everything happening at a site with fixed cameras.
- Obtain detailed imagery of the objects moving around it with PTZ cameras.
- A PTZ camera automatically tracks objects across multiple fixed cameras.
- Both sets of images can be recorded, which is important for event investigation.

FrameMerge

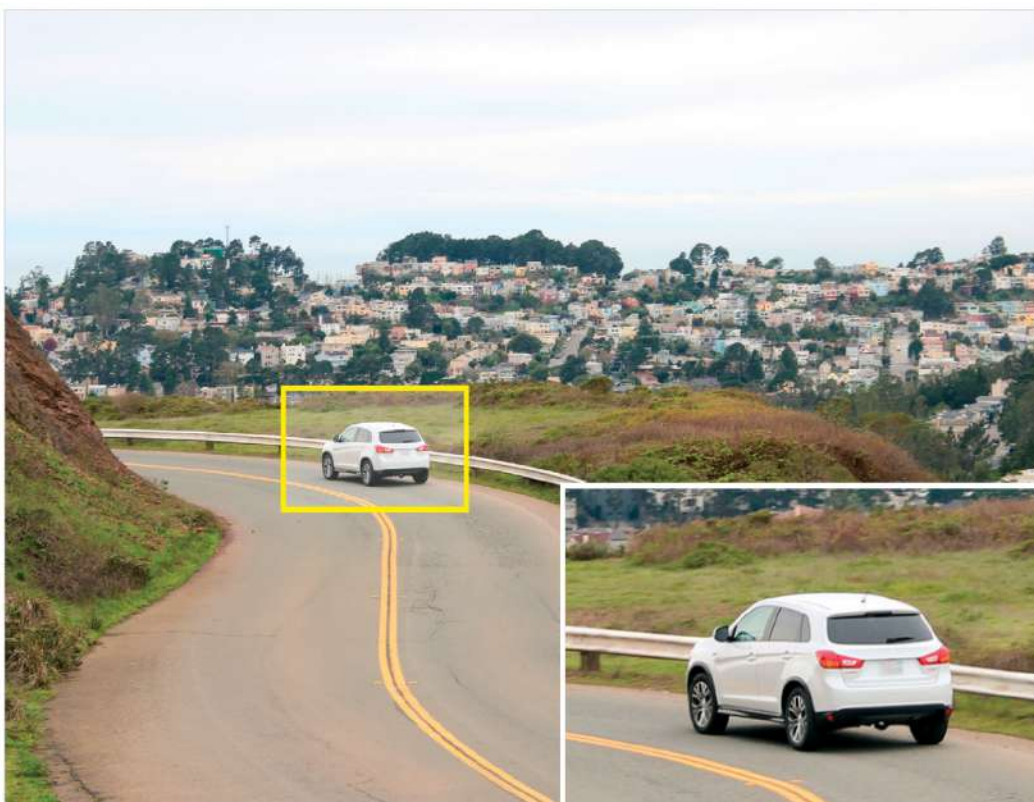**Effective control over extended areas**

WATCH ON YOUTUBE

With FrameMerge, you can:

- combine a panoramic view from up to 3 camera feeds
- view the resulting video in Live or Archive mode
- export panoramic videos to standard .avi or .mkv files
- select and zoom into any part of the panoramic image in a linked Dialog Board

Autozoom

Track and zoom in on moving objects

Autozoom automatically follows objects in the field of view. Enlarges the area of the scene in which moving objects are located and follows the objects as they move. Works both with fixed cameras (via digital zoom) and fisheye cameras.
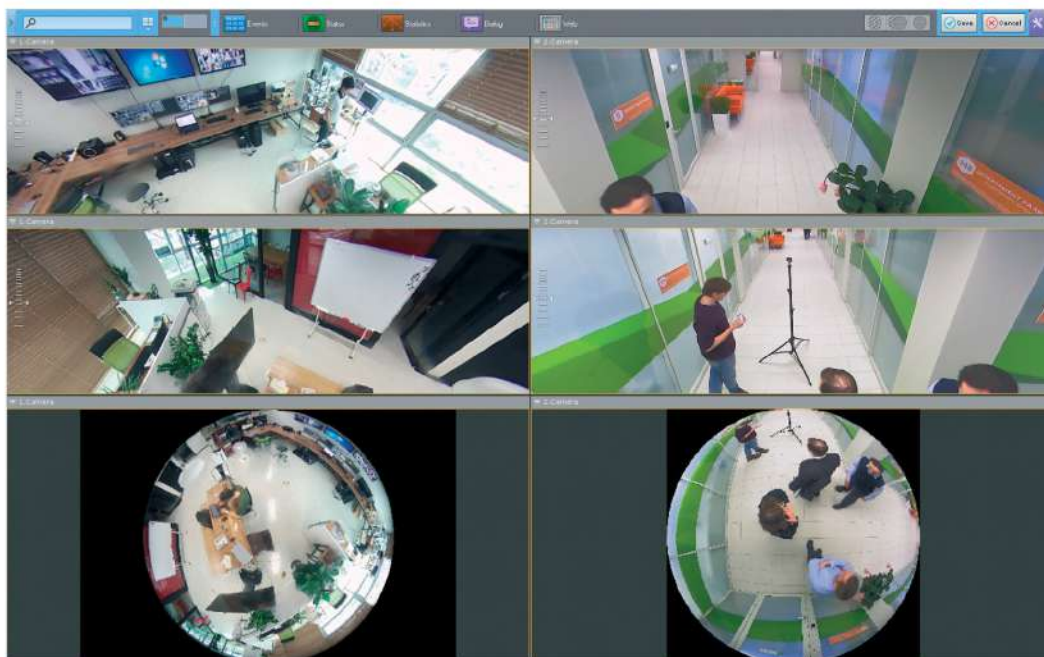
Image dewarping

Image correction (dewarping) is performed on the GPU of the client computer, without any additional burden on the CPU. Several normal, dewarped images with different aspect ratios are displayed on the client screen. Axxon Next supports standard fisheye-lens cameras as well as Immervision panomorph lenses.

Support for fisheye cameras

WATCH ON YOUTUBE

Video wall management

Incredibly useful for monitoring hubs

WATCH ON YOUTUBE

Effective management of video walls and layouts at large distributed sites

- Send any available layout to any client computer within the system.

- Draw operator's attention to an event captured by one of the cameras in the layout.

- Show an event to all operators by sending the relevant layout to a video wall.

- Designate any client computer with sufficient monitors as a video wall.

- Manage it from any remote client connected to any server within the Axxon domain.

VIDEO FOOTAGE
MANAGEMENT

Support for edge storage

View and sync video on SD cards

Axxon Next supports on-camera (edge) storage. On-camera storage is automatically detected by Axxon Next when the relevant camera is added to the system configuration. The viewing client can display video recorded to SD cards. You can set up continuous replication of video, audio, and metadata from edge storage.

WATCH ON
YOUTUBE

Archive replication via Interoperability Driver

Centralized storage for vehicle-based NVRs

Video footage can be synced between independent Axxon Next systems via the Interoperability Driver. Replication starts automatically when the source server is connected to the destination server. This can be used, for example, to centralize video storage of Axxon-based NVRs installed on vehicles.

Export functions

Enhanced export features for recorded video

- Instant export of still frames and videos from Live Video or Archive mode.
- Export to password-protected .zip file.
- Simultaneous export of recorded video from multiple cameras.
- Manage the size of exported video files: if the file size exceeds the value specified, the video is split into several files.
- Pruning (frame dropping) of exported video.
- Privacy masking: before exporting, select areas to block with solid color in the exported video sequence or image.
- Export of image zones (including dewarped fisheye frames).
- Export of user comments to recorded video.

WATCH ON
YOUTUBE

Privacy settings

Hide objects or faces from those in specified user roles

Privacy settings are essential for compliance with GDPR (The EU General Data Protection Regulation). You can mask any static or moving objects in recorded video from those in specified user roles. You can also hide faces using the face detection tool. The objects or faces will be blocked with solid color while viewing and searching the archive, as well as on exported video.

WATCH ON
YOUTUBE

REMOTE ACCESS

Cross-System Client

Manage independent systems in the same interface
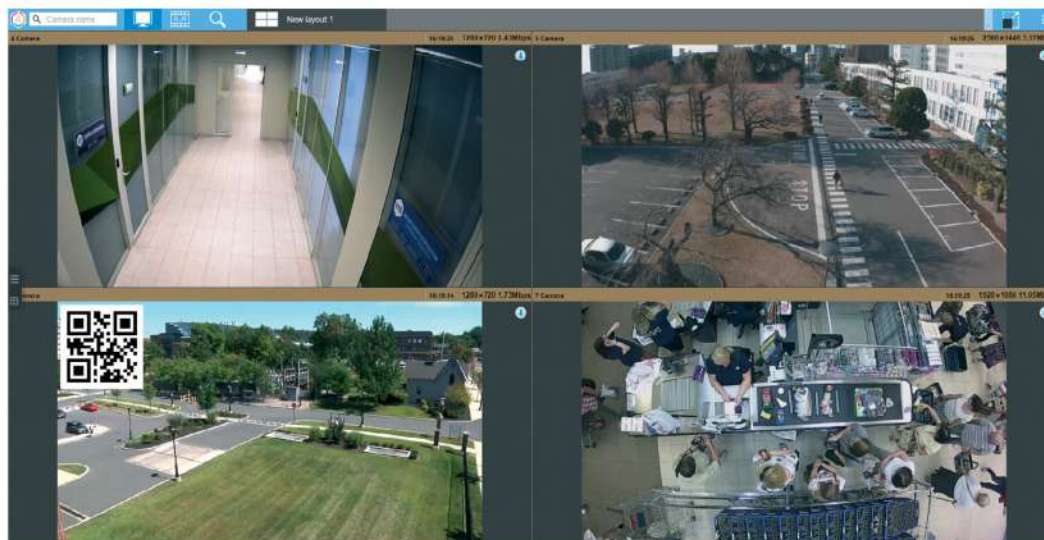

WATCH ON YOUTUBE

Cross-System Client is useful at geographically distributed sites or multiple-location chains, such as retail stores or gas stations. You can configure and operate remote surveillance systems on a single client workstation:

- Connect a single client workstation to multiple surveillance servers on different domains.

- All settings and cameras associated with these servers are consolidated in a single convenient view.

- Operators can access multiple independent surveillance systems simultaneously.

Web Client

Video monitoring in your browser

WATCH ON YOUTUBE

Connects securely over the HTTPS protocol.
Supports H.264, H.265, and MJPEG.
Supports desktop client's layouts and multi-streaming cameras.

You can:

- view live and recorded video with sound
- search recorded video by faces, plate numbers, events, criteria (MomentQuest), and time intervals (TimeSlice)
- view motion heat map

- view alarm events
- work with bookmarks
- control PTZ cameras
- apply digital zoom
- export still frames and videos
- view camera and video archive statistics

AxxonNet cloud service
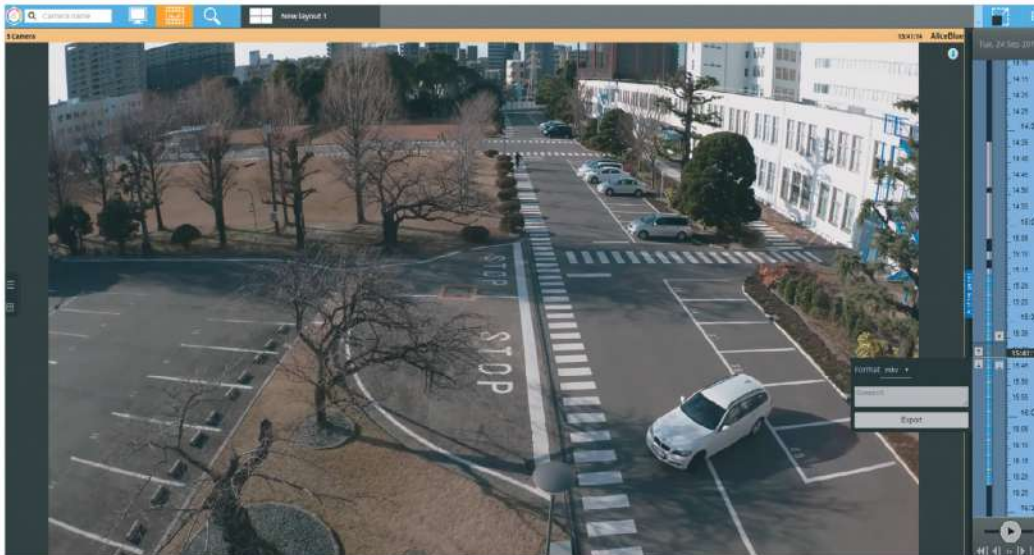
Remote video monitoring and event notification

WATCH ON YOUTUBE

AxxonNet is a free cloud service that connects to your Axxon Next surveillance servers via the Internet. SSL encryption ensures secure data transmission.

You can:

- Use all Web Client's features for live and recorded video.

- Create users and roles for your Axxon Next VMS.

- Receive email notifications on events of pre-defined types. Event videos/still frames are saved to the cloud and can be viewed by clicking the link in the notification message.

- Send push notifications on certain events to mobile clients.

- Store and activate Axxon Next license files.

Mobile clients

Free apps for iOS, Android, Apple TV, and Windows Mobile

WATCH ON YOUTUBE

With our apps, you can:

- view live and recorded video

- control PTZ cameras

- work with fisheye cameras

- use digital zoom

- receive push notifications

- run macros

- use maps

PERFORMANCE & RESOURCE OPTIMIZATION

GreenStream

GreenStream automatically selects a camera stream matching the current resolution of the video on the client screen. For instance:

- On a 1920 x 1080 screen with a 4 x 4 camera layout, each camera screen is only 480 x 270.

- GreenStream eliminates the need to transmit full resolution streams from all cameras.

Save network bandwidth and client CPU resources with adaptive video streaming

WATCH ON YOUTUBE

Metadata from IP devices

Metadata is a lean description of moving objects within the scene. It is used for real-time video analysis or forensic search. Metadata is generated on cameras with embedded object trackers. — No need to decompress video on the server side. CPU burden on the video server is significantly reduced. — Server can handle more video streams.

Use Edge Analytics, save server computing power

GPU acceleration

WATCH ON YOUTUBE

- Reduced footprint on server CPU performance, especially when decoding H.265 video feeds.

- Dramatically improved decoding times.

- Servers can handle more concurrent video streams at HD resolution and even higher.

- More cameras can be connected to a single server, reducing hardware expenses and support issues.

- You can show more video channels on the client computer or use client computers with lower performance specs.

Intel® Quick Sync Video hardware decompression

UDP and multicasting

Axxon Next features a whole range of tools for reducing bandwidth consumption and making security systems more efficient. Live video can be streamed from a server to remote computers via UDP, multicasting is supported as well. **Multicasting frees up network capacity and optimizes resource usage.**

Frees up network bandwidth

INTEGRATION & AUTOMATION

External event support

Quick and simple integration with third-party systems

Connect to external devices and systems: access control devices, security control panels, third-party software, and more. Axxon Next can:

- accept external events
- save them into its database
- cross-reference events with recorded video
- search events by a character string
- display event data in real time in a separate pane
- show events as captions on top of video
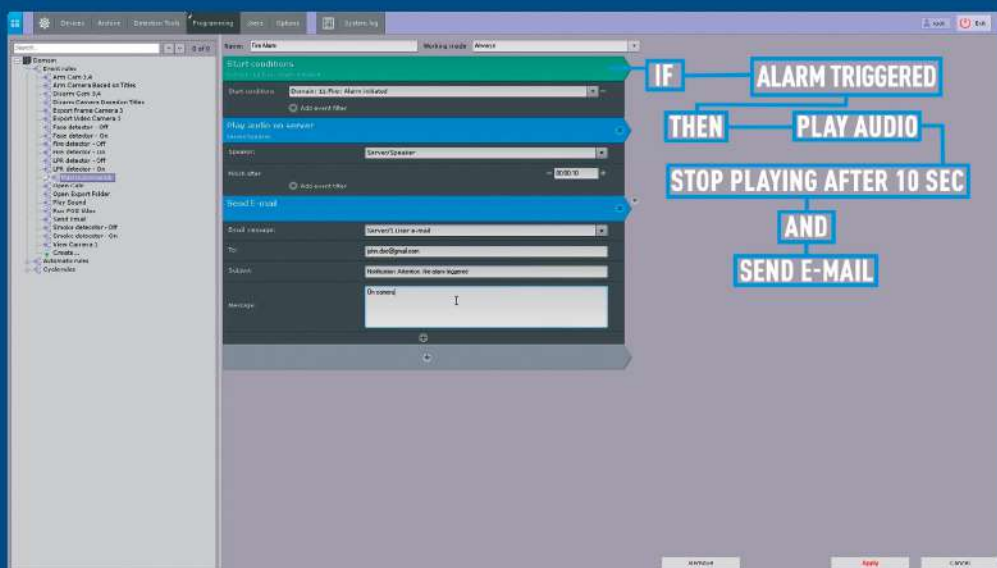

WATCH ON YOUTUBE

Macros

Event response wizard

Axxon Next supports flexible configuration of complex system response to any specified set of events. Use IF...THEN logic to create a macro that automatically performs an unlimited number of actions in the system. Macros allow programming reactions to particular events at system and device level.
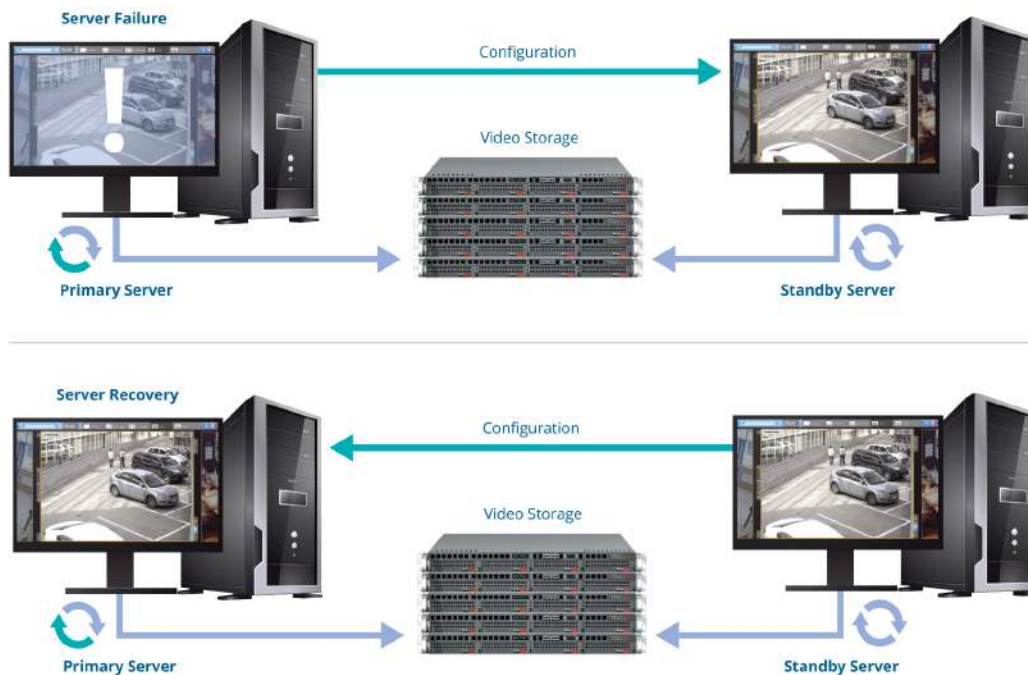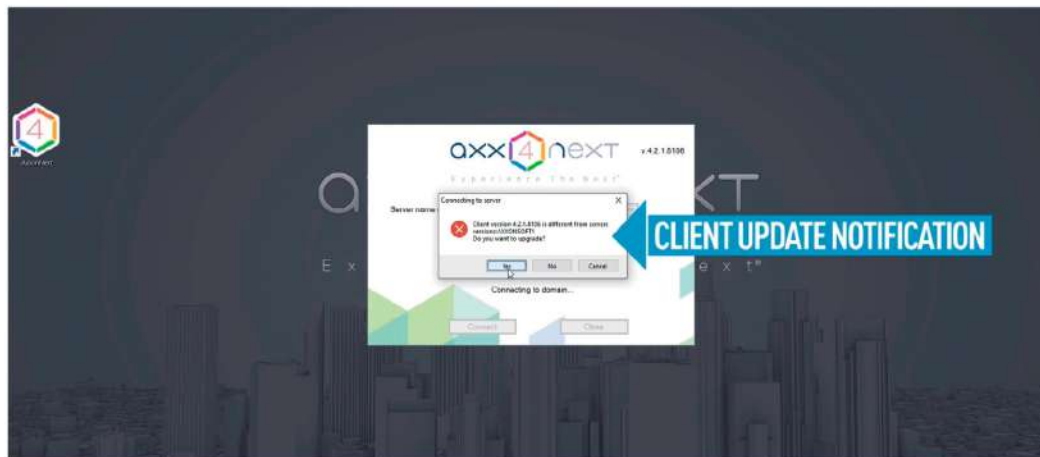

WATCH ON YOUTUBE

IF ALARM TRIGGERED
THEN PLAY AUDIO
STOP PLAYING AFTER 10 SEC
AND
SEND E-MAIL

FAULT TOLERANCE & ADMINISTRATION

Failover

Failover quickly switches to a standby server when communication with the primary server is lost. The standby server automatically takes over all functions from the offline or malfunctioning server. Live video streaming and recording resume immediately. You can suspend any server in the cluster with no system downtime, e.g. for maintenance.

System update

Silent servers update

You can update all servers within a cluster in silent mode. To do this, select the required distribution in the .zip archive or specify a web link. This approach makes system update a breeze.

Automatic client update

When your Axxon Next client connects to the server with a newer version of the Axxon Next VMS, you will be prompted to update your client software. After confirmation, the update process is performed automatically.

Security policy

Configure the user security policy:

- set the minimum password length
- store password history
- set password expiry date
- set required password strength
- prevent multiple simultaneous sessions
- block the user and specify the ban time/number of failed login attempts

Each user event includes the user's IP address. When accessing the server, the MAC address of the computer is registered in the system event log. The Export Start event includes the user name. You can white-list users for server access by setting a range of permissible IP addresses. Users can also access the server with administrator confirmation.

LDAP authentication

This feature makes it possible to **deduplicate user administration tasks** for sysadmins at large companies. Operators can log in to a surveillance system by entering their domain credentials. The sysadmin connects LDAP directory to Axxon Next and selects which users to add. He can also associate VMS access rights with corporate directory groups. When a user profile is deleted on the LDAP server, it can be automatically deleted in Axxon Next.

Protect your VMS from unauthorized access

Integrate with existing enterprise network services

WATCH ON YOUTUBE

20 YEARS
HANDY'S
SECURITY SYSTEMS

We inspire you
to feel **safe**

handysecurity.com