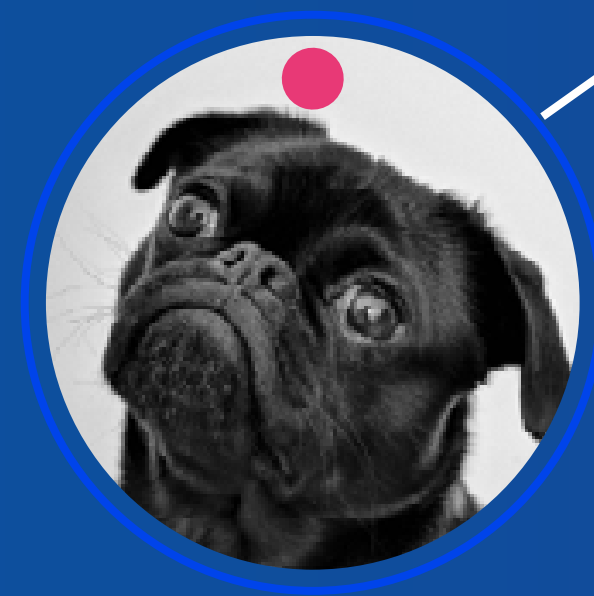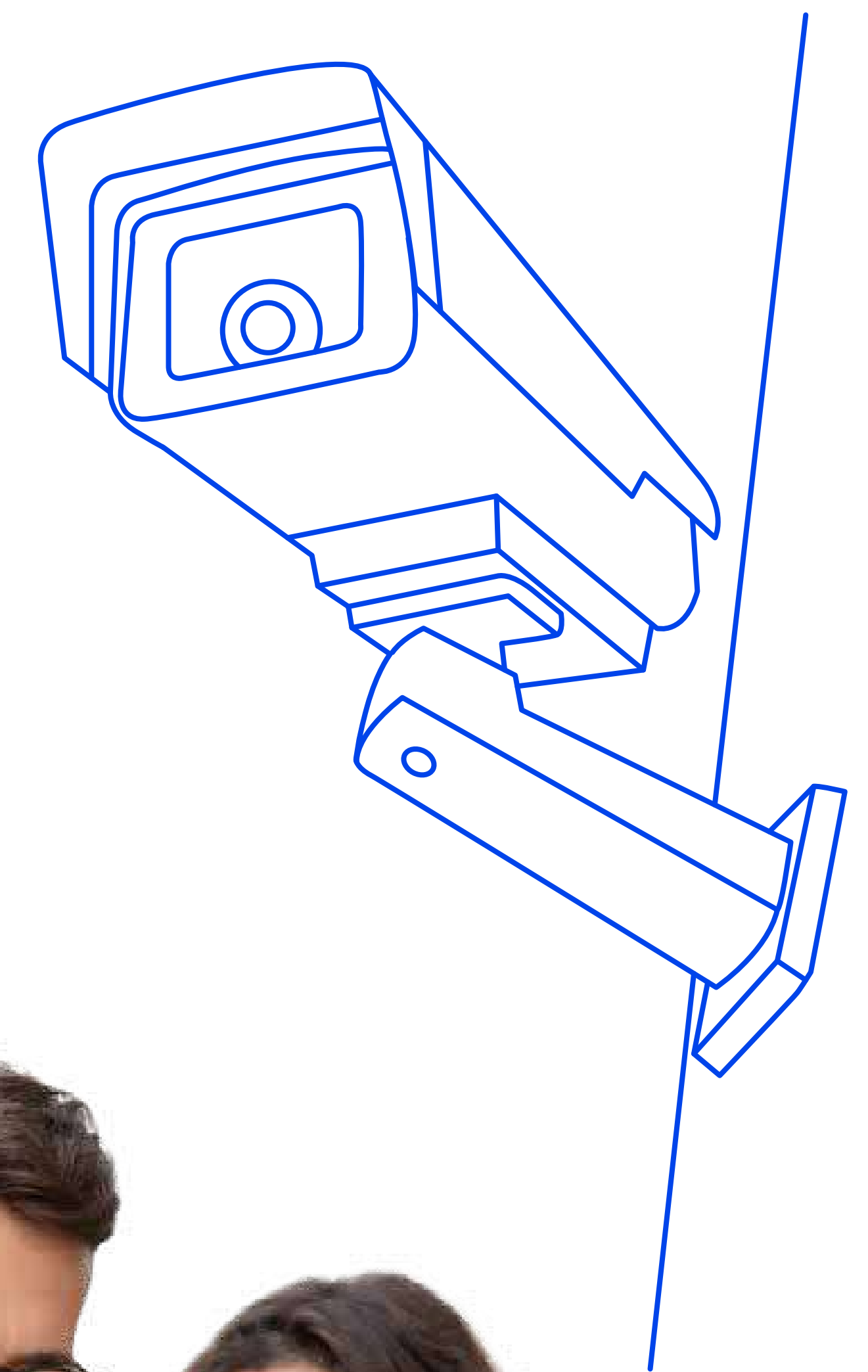flussonic
WATCHER

PRESENTATION
# OF TECHNICAL SOLUTIONS

FLUSSONIC WATCHER

● **A modern video surveillance system** that addresses the classical and specific tasks in the areas of security, video broadcasting, video recording, and providing remote access to recording archives and distributed IP cameras.

A ready-to-use, scalable, and easy-to-implement network-oriented solution for a wide range of tasks on video surveillance – from the organization of classical systems on closed, local, and geographically distributed objects to intelligent video recognition on the basis of neural networks. The main applications:

● The launch of video surveillance services for subscribers, based on the **VSaaS model.**

● **The establishment of monitoring centres** for monitoring, control and management of a large number of cameras.

● Control by using intelligent video analytics based on **neural networks.**

● A convenient and fast integration of video surveillance system into complex **IT projects.**
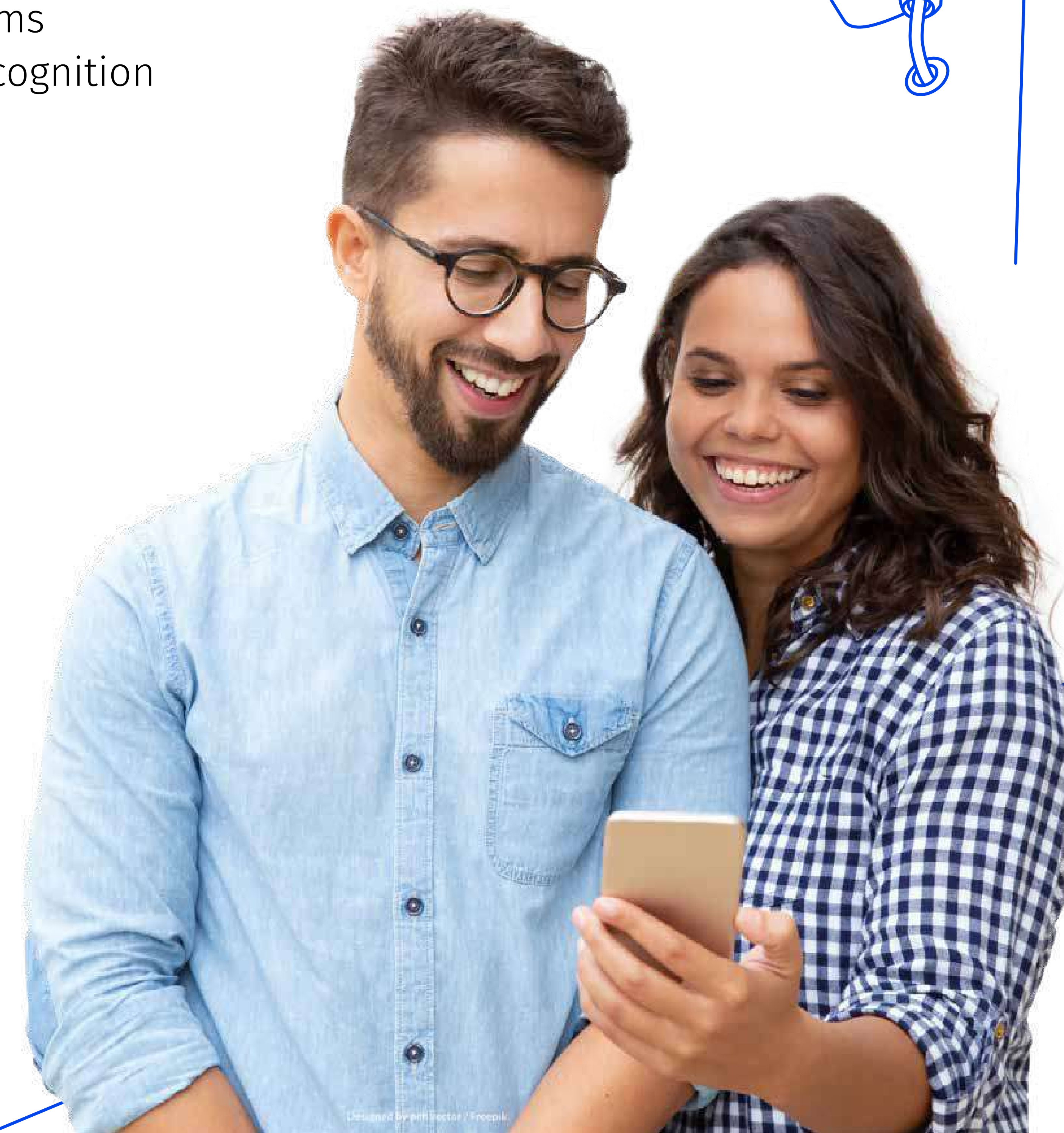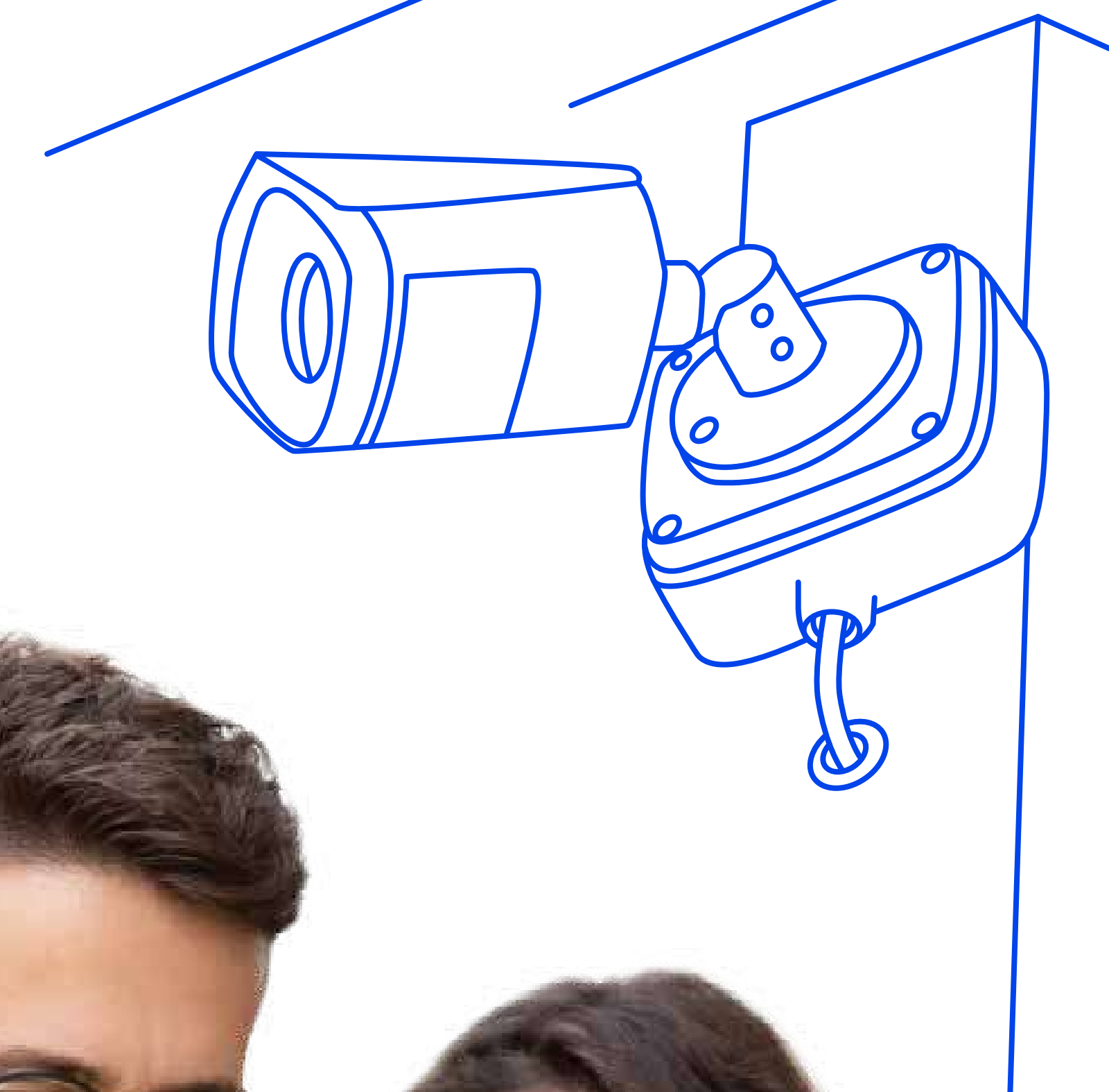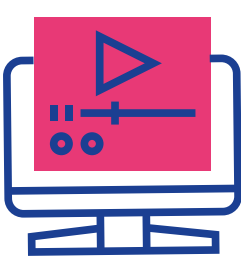
FLUSSONIC WATCHER

EMBEDDED SOFTWARE

flussonic AGENT

Module
The modification of the original firmware of IP cameras for direct and secure connection to the server, without NAT settings.
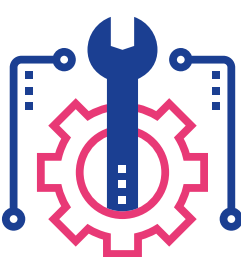
flussonic IRIS

Firmware
Firmware for IP cameras that improves performance, security, functionality and quality of video delivery.

SERVER SOFTWARE

Web server
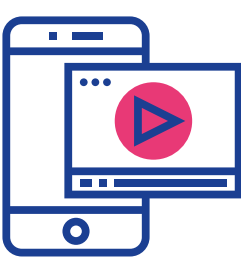Reliable and convenient software for video surveillance systems.

SDK
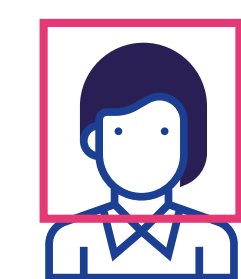Developers kit for integration with complex software solutions.

Mobile apps
Applications for real time access to video surveillance systems.

VIDEO ANALYTICS

Cars
A trainable set of features for monitoring of car location changes.

People
Face recognition by the analysis of individual characteristics of a person.
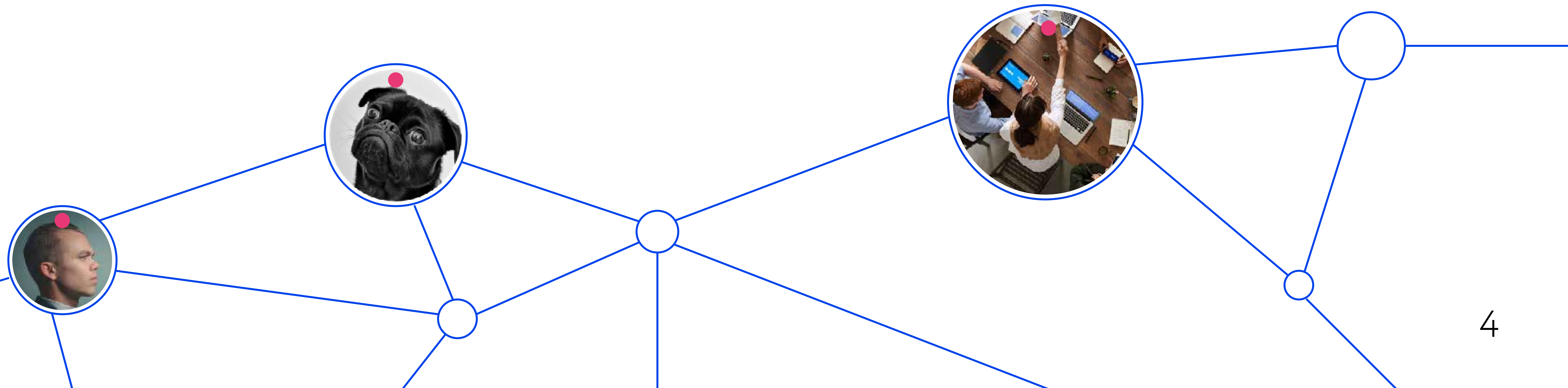
SERVER SOFTWARE

● **Web server**

Watcher server software consists of a server part and an HTML5-based web interface as a client part, which allows you to quickly access the system through any modern browser without the need to install additional components.

● **It offers the following features:**

- Watching live video from cameras with the **minimum of delay.**
- Viewing and downloading of video archive with **no limitation of depth.**
- Support for **web maps.**
- **Remote control** of IP cameras.
- **Recording and viewing events** received from cameras.

- **Detailed control** of user access rights.
- Working with intelligent **video analytics reports.**
- System management via **a separate web interface** for the administrator.
- **Secure API calls** for system management from the outside.
- **GUI branding** and customizing.

SERVER SOFTWARE

Mobile app

The Watcher mobile app is a client software for real time access to the video surveillance system. It has access control and notification features.

It provides:

- Watching live video from IP cameras with **the minimum of delay.**
- Viewing the archive with **no limits on its depth.**
- Access control based on **a fingerprint* or a PIN code.**
- **TLS encryption** of video streams.
- **Push notifications** about events.
- **Downloading** video screenshots.

* for devices with TouchID
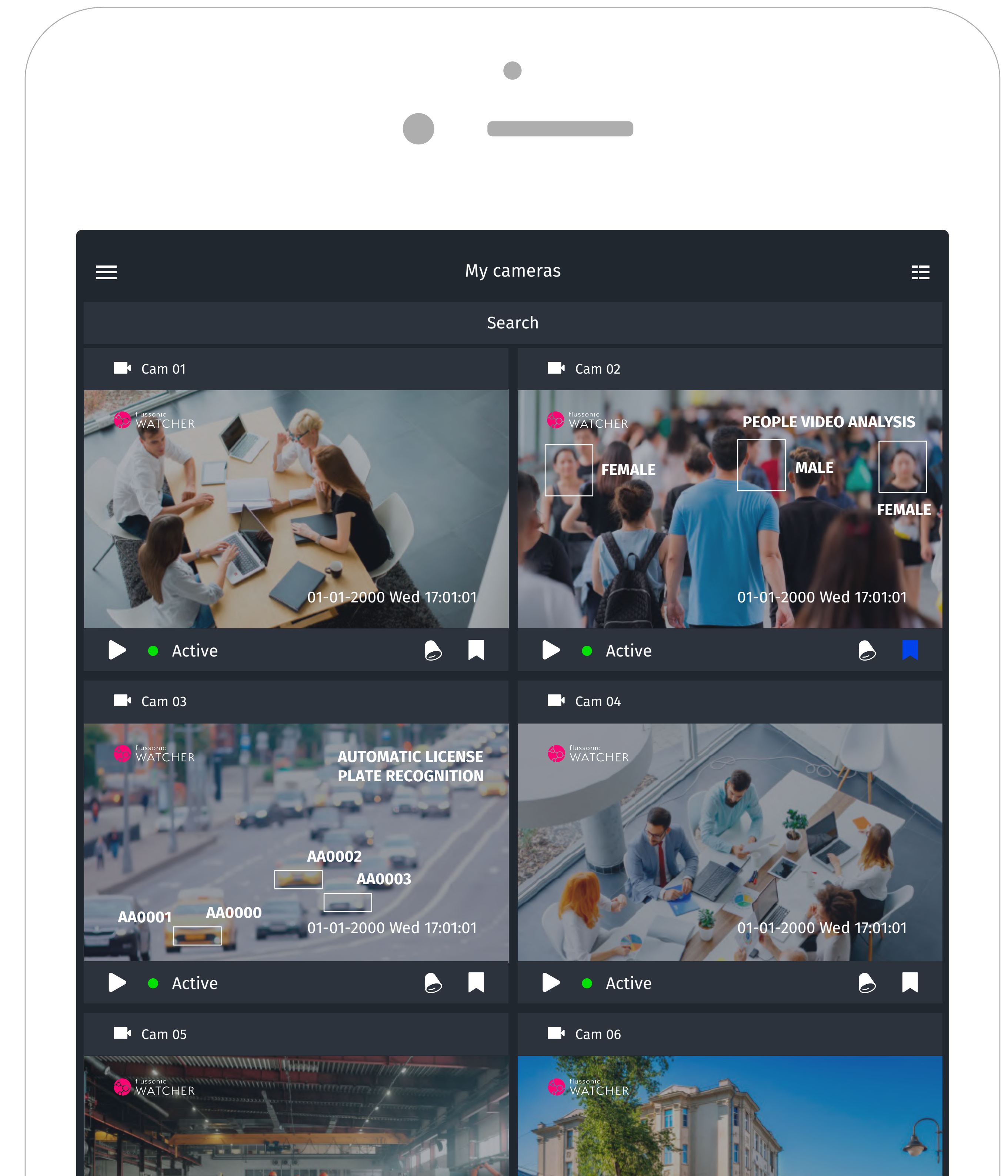
FLUSSONIC WATCHER SCREENSHOTS
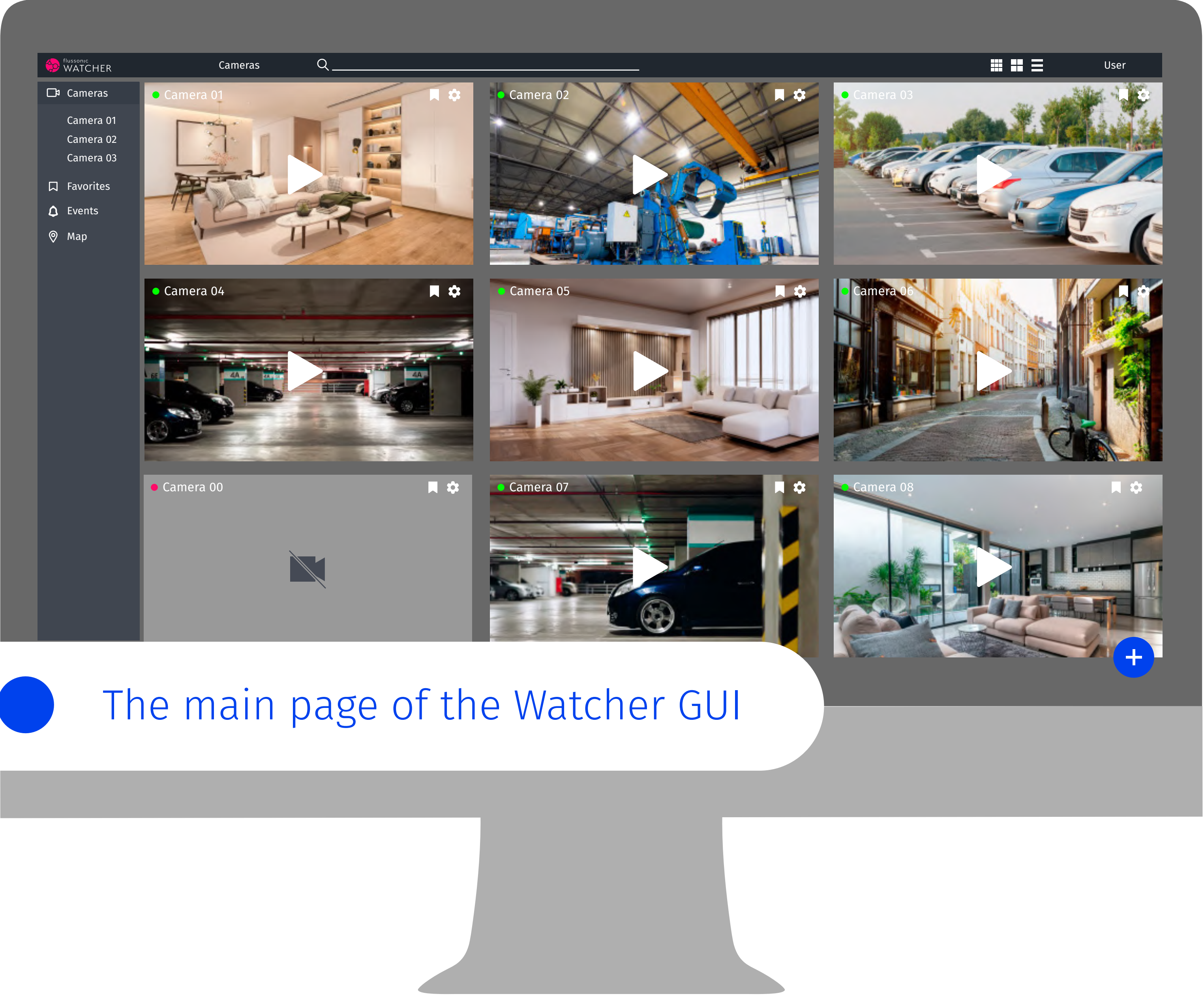
The main page of the Watcher GUI

Web maps support in Watcher

FLUSSONIC WATCHER SCREENSHOTS

Mosaic view
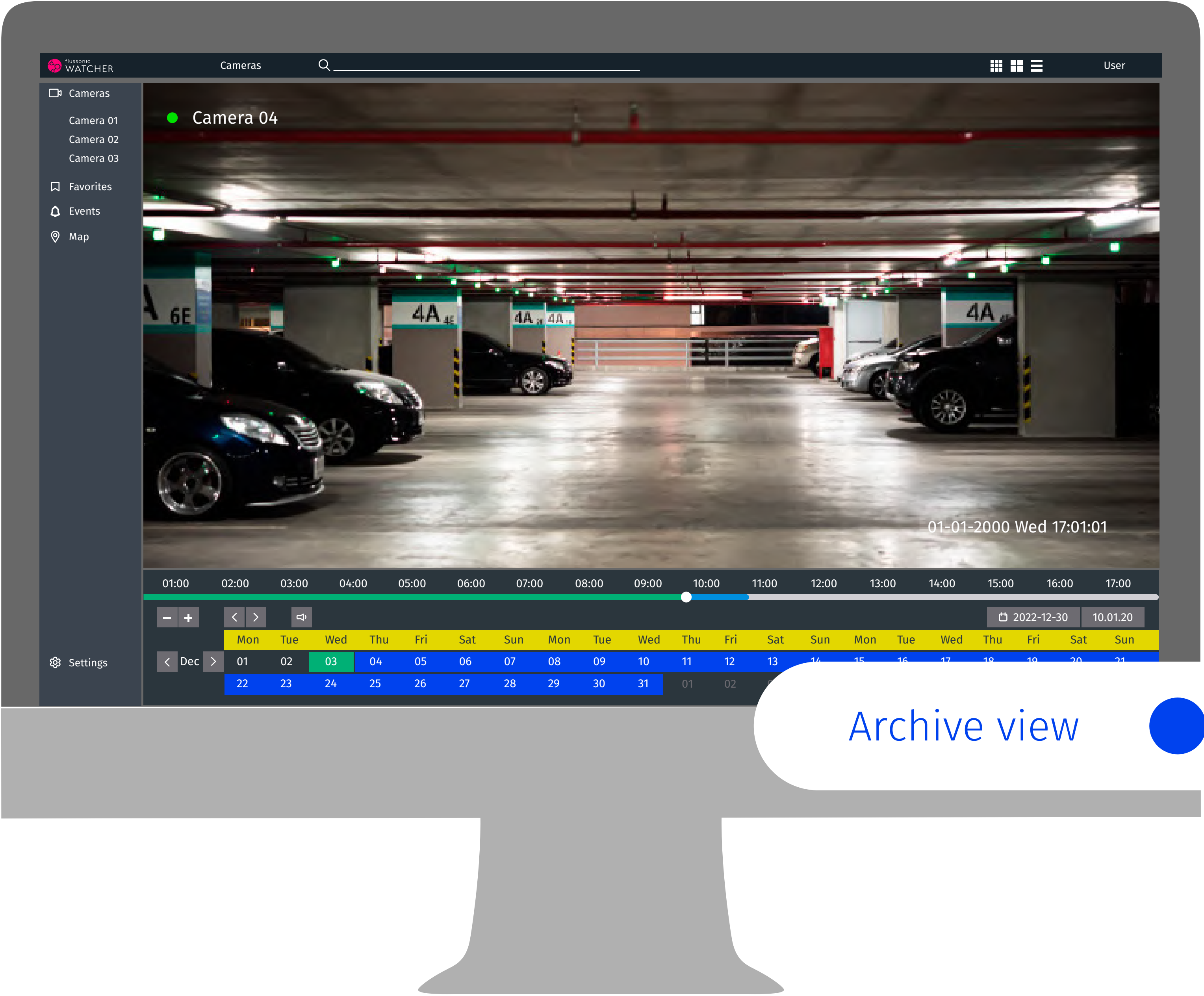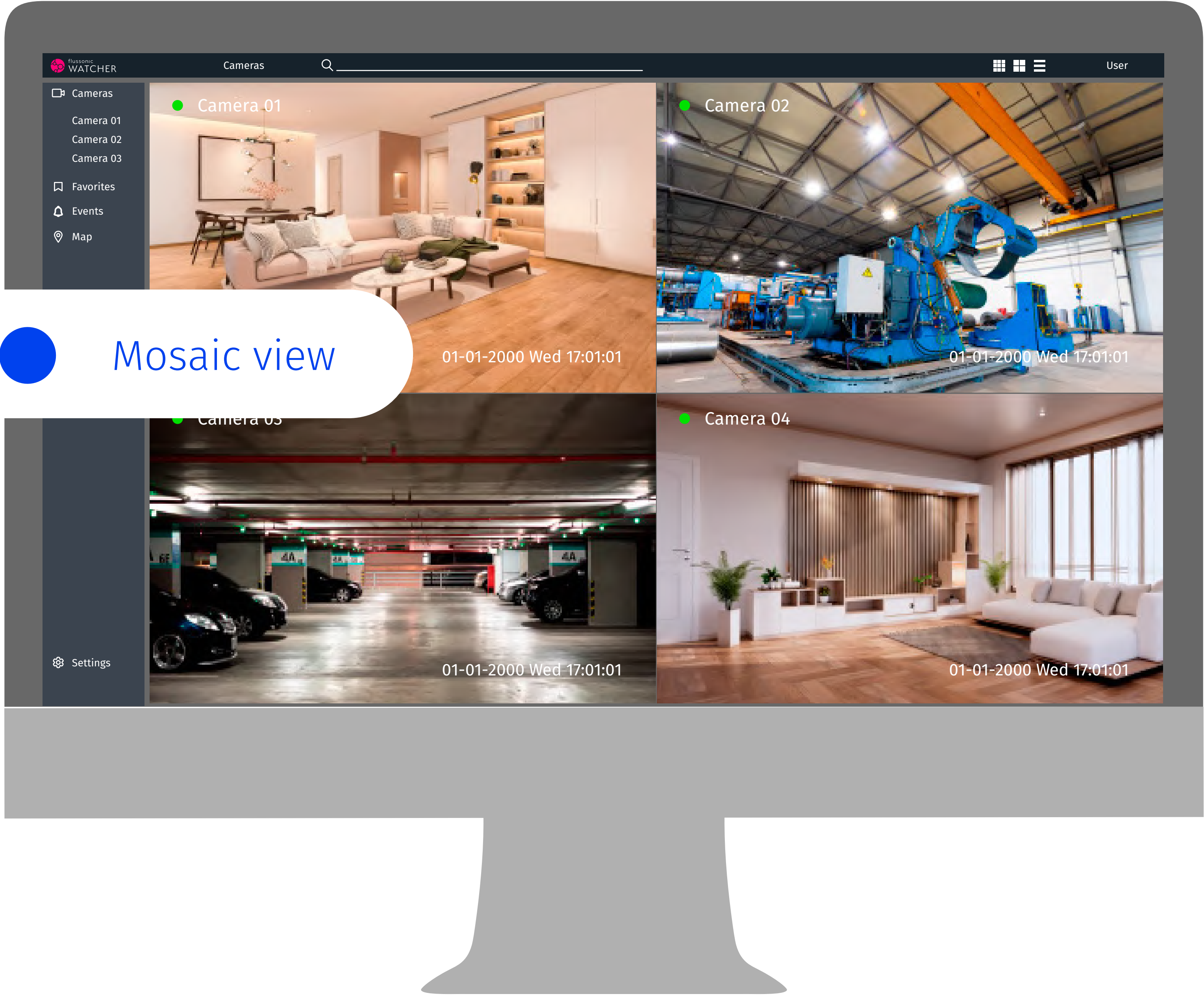
Archive view

FLUSSONIC WATCHER SCREENSHOTS
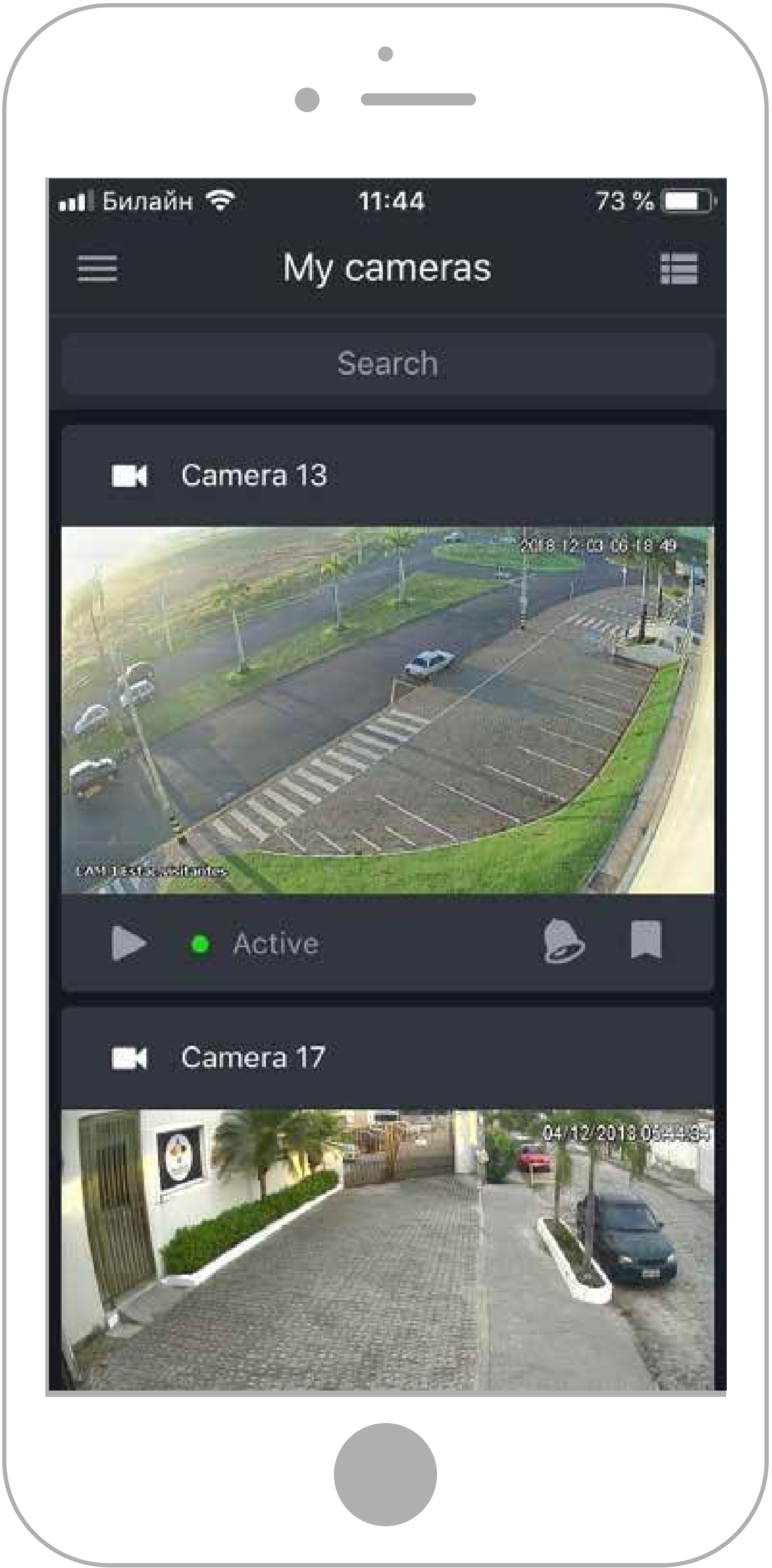
Main screen
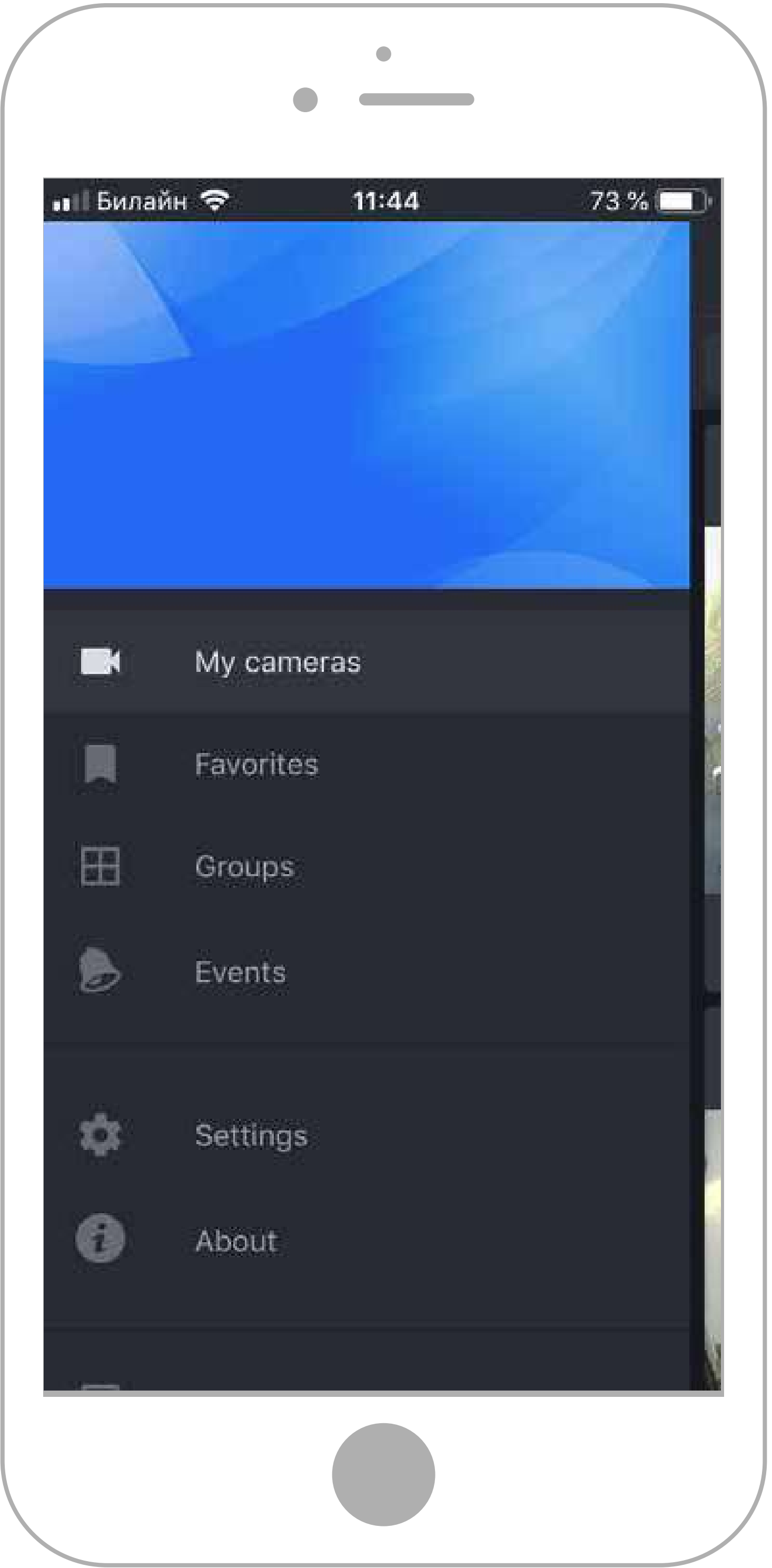
Menu
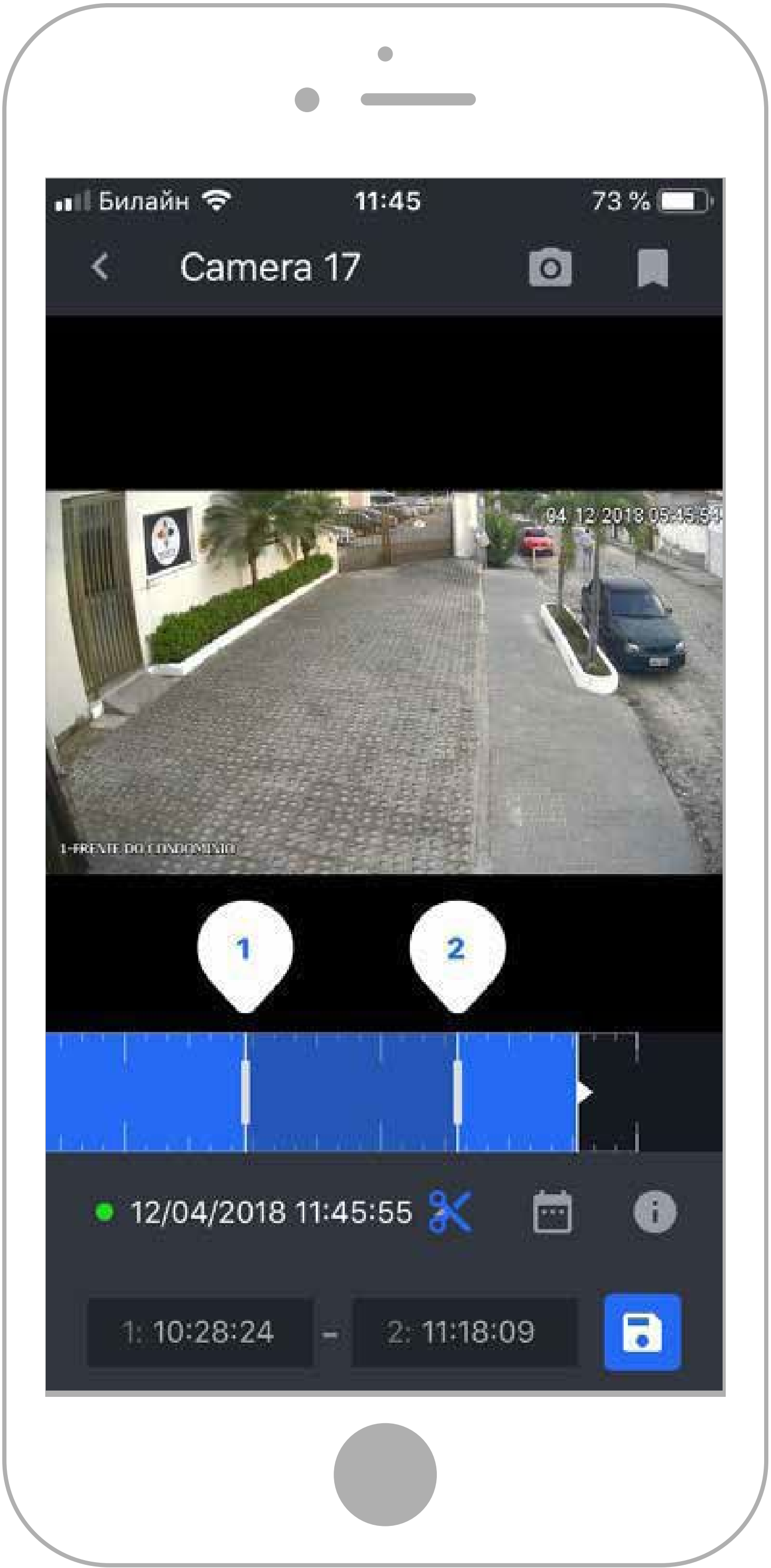
Archive view

Group view

8
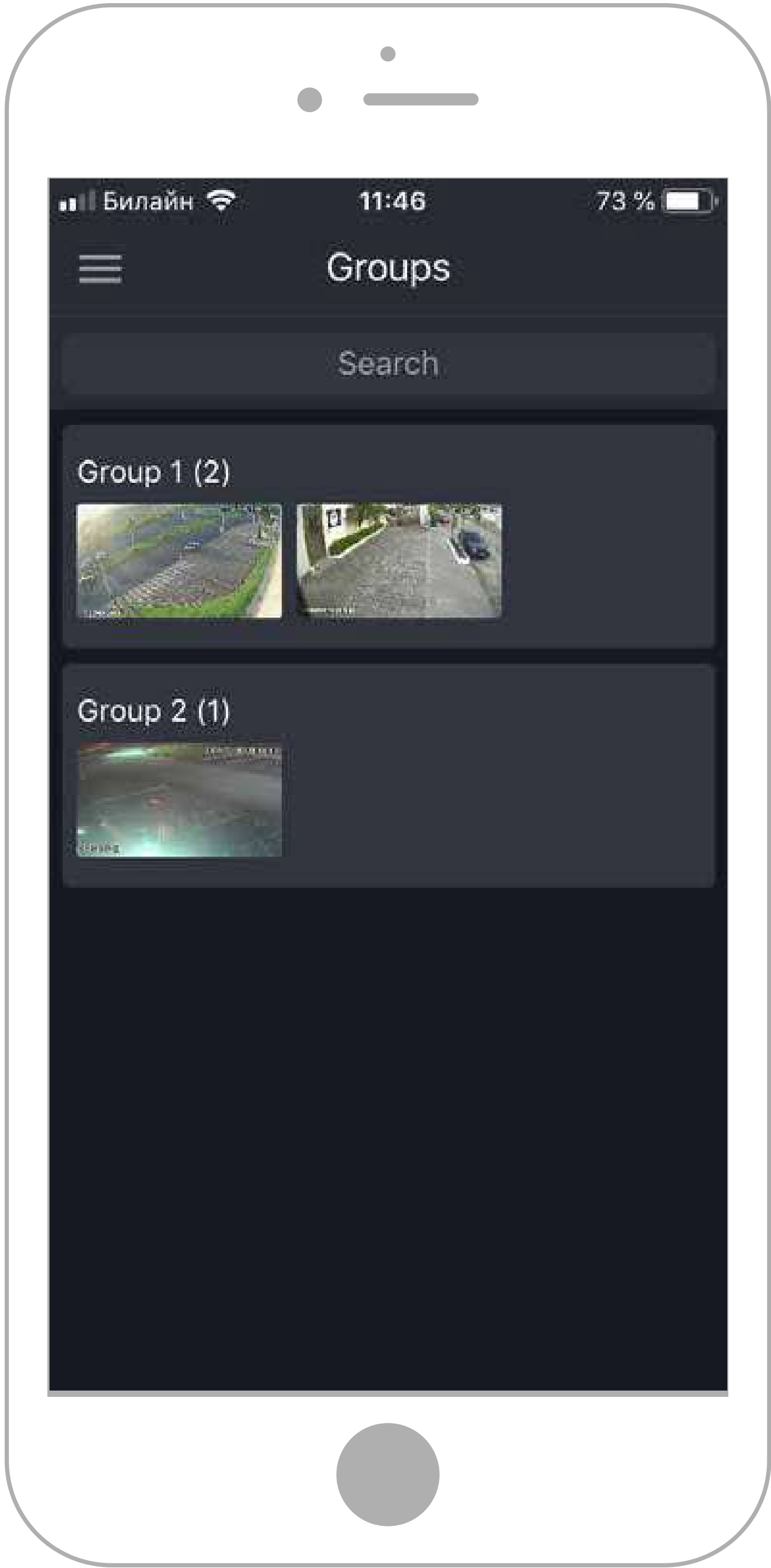
EMBEDDED SOFTWARE

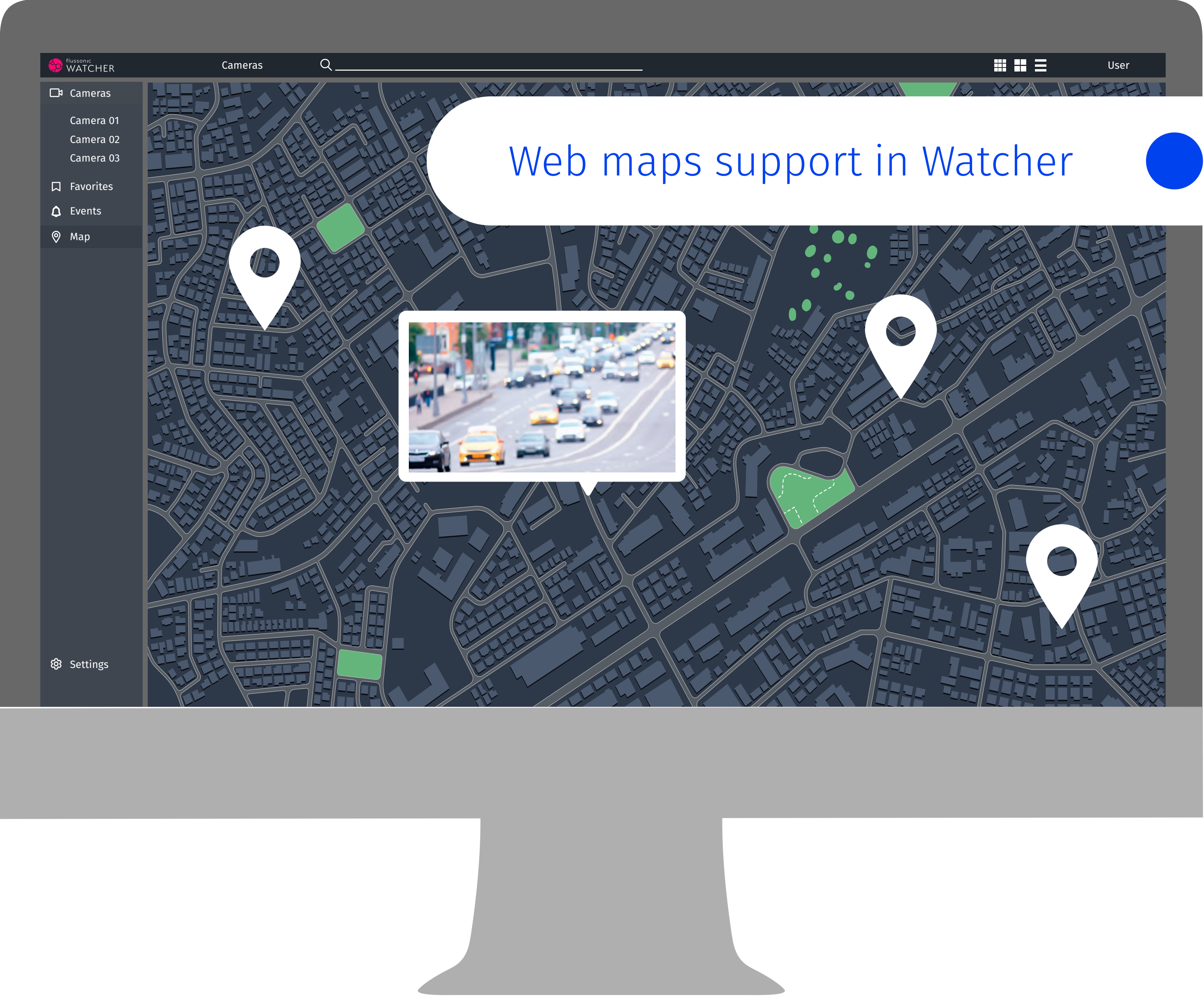**Agent** is a modification of the original cameras' firmware for direct and secure connection of an IP camera to a Flussonic server.

- **Automated direct connection** to the server without the need to configure NAT, VPN, or port forwarding rules.

- **Reliable** TLS encryption of a video stream between a camera and a server.

- Connects automatically to the Fussonic server in **plug'n'play** mode

- Compatible with **the majority** of IP cameras on the market.

flussonic
AGENT

EMBEDDED SOFTWARE

IRIS is firmware developed by Flussonic for IP cameras.
It is installed instead of the original firmware in order to expand
camera capabilities:

- Camera control **via an HTML5 web interface from any modern browser** without the need to install additional components.

- **Reliable and secure TLS encryption** of a video stream between a camera and a server.

- Information reliability and high resistance to unauthorized **access.**

- Increased performance allowing for a large number of simultaneous **direct connections to a camera.**

flussonic
AGENT

FLUSSONIC IRIS SCREENSHOTS
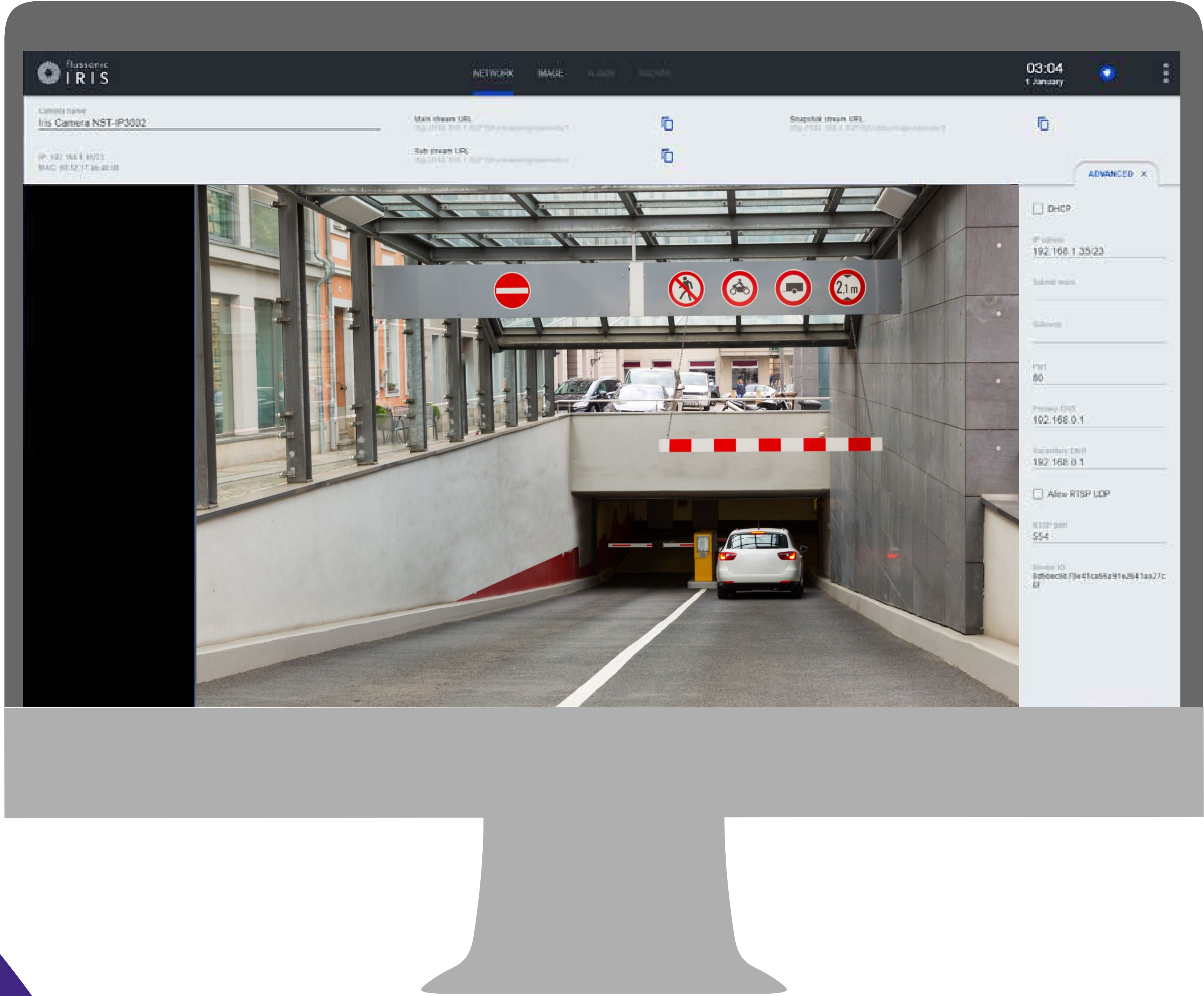
VIDEO ANALYTICS

Flussonic Watcher has a built-in video analytics subsystem based on neural networks, with the constantly growing set of features. At the moment, Flussonic Watcher **can solve problems related to identification and recognition of objects** in a camera's frame and provision the results to external systems through a protected API.

People:

- Face **detection.**
- Face **recognition.**
- **Counting faces** in the frame.
- **Human** detection.
- Analytical **reports.**
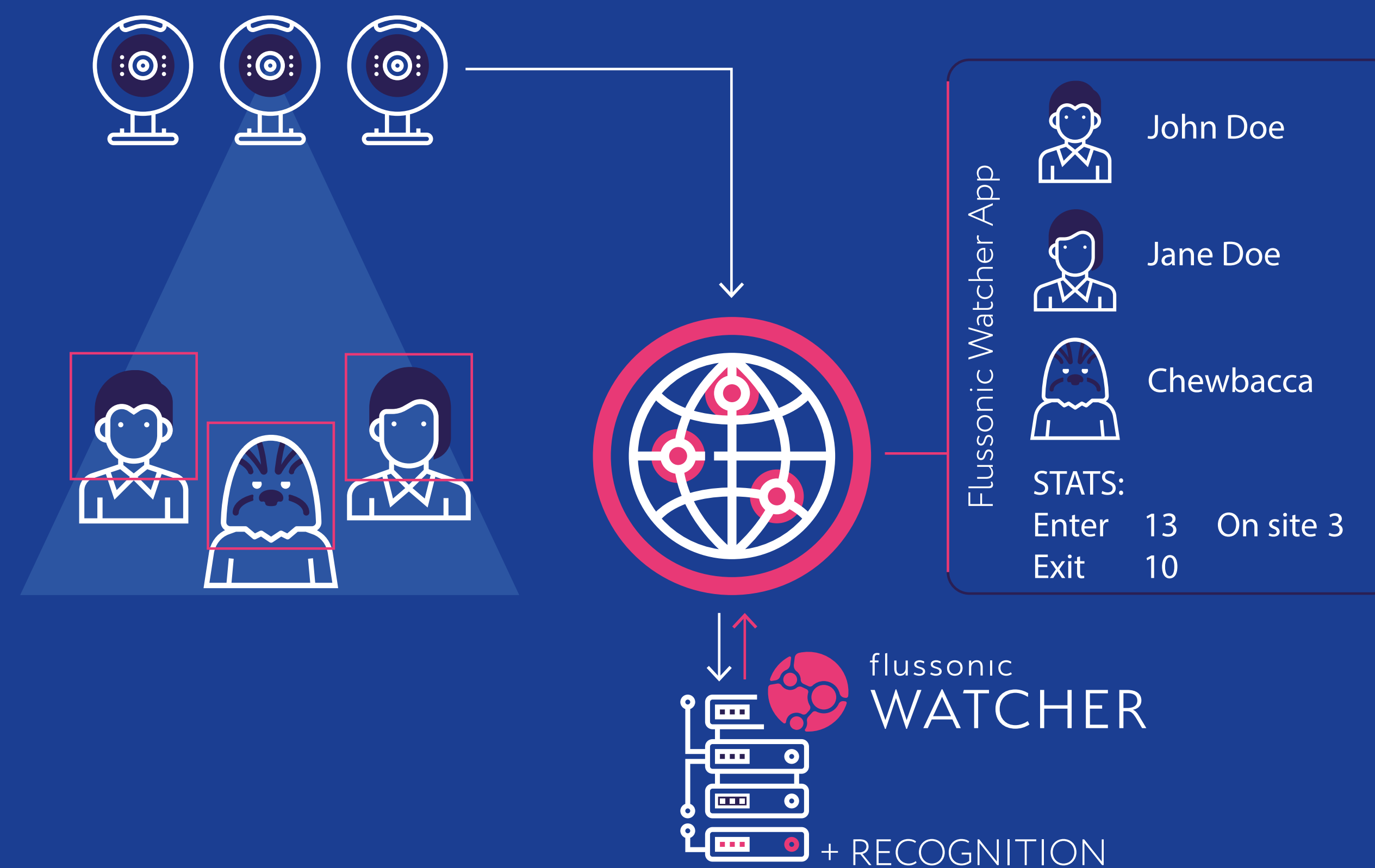
Cars:

- **License plate detection** and car license recognition.
- **Counting cars** in a camera's frame.
- Detection of **special vehicles.**
- **Automatic correction** of the angle of rotation of a car's license plate.
- Advanced analytical **reports.**

Flussonic Watcher App

John Doe
Jane Doe
Chewbacca

STATS:
Enter   13   On site 3
Exit   10

flussonic
WATCHER
+ RECOGNITION

XY 123 Z
ZX 456 Y
YZ 789 X

Flussonic Watcher App

STATS:
Enter   13   On site 3
Exit   10
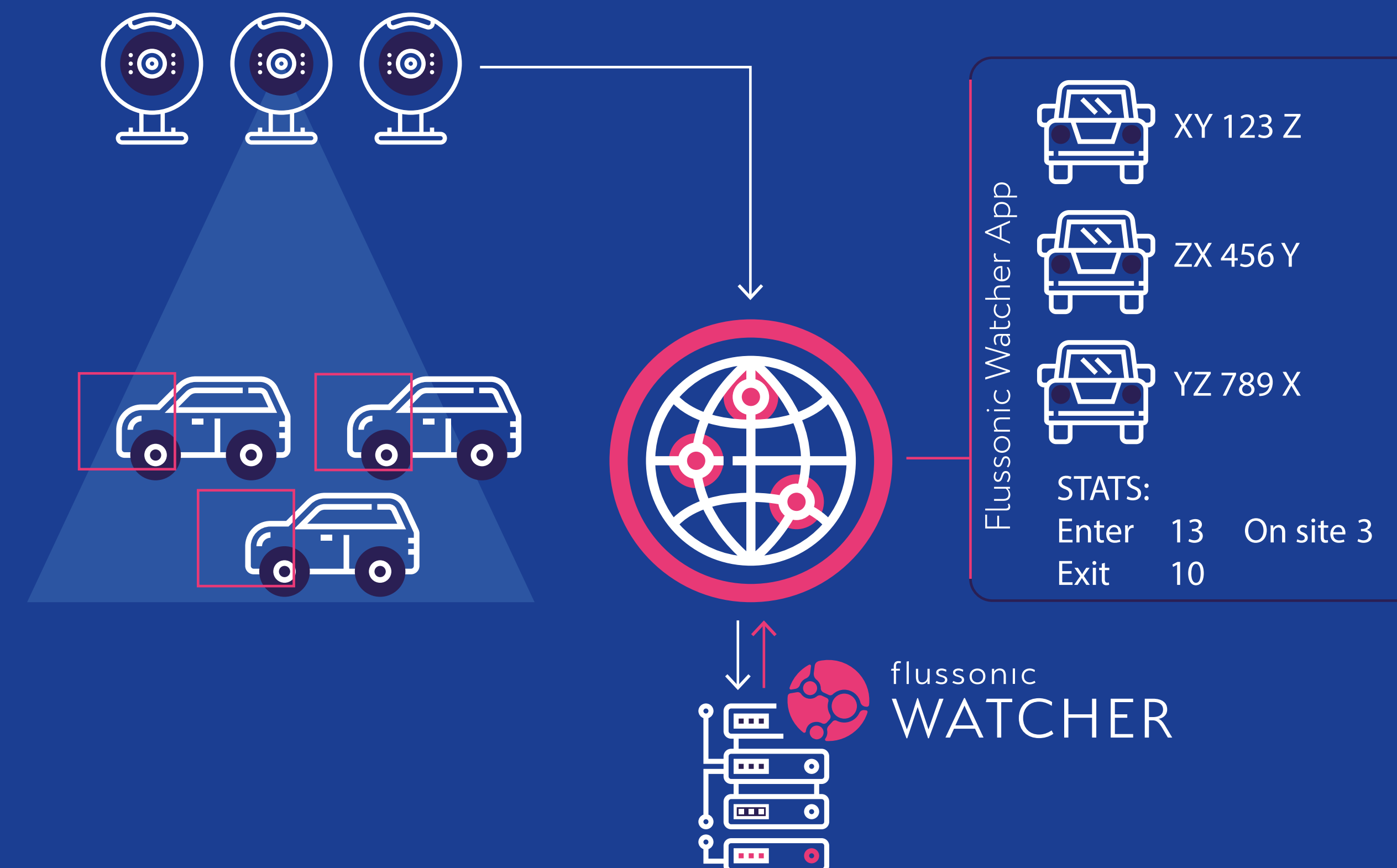
flussonic
WATCHER

FACE RECOGNITION

AUTOMATIC LICENSE PLATE RECOGNITION

FLUSSONIC WATCHER for Internet Service Providers

A solution for Internet and telecom providers, companies providing complex services for end users: **Internet, TV, telephony, video surveillance, and access control.**

FEATURES:

- **Increased profit** margin from your customer base.

- **Adding new services** to the package.

- **Integration** into an existing IT infrastructure.

- **Full management** and access via the API.

ADVANTAGES:

- **A ready-to-use** embeddable solution.

- All you need to organize your own **service out-of-the-box.**

- **Increased profitability** of existing customers.

Monday, Sept. 18

flussonic

Flussonic Watcher

Watcher is an out-of-the-box comprehensive software solution comprising Flussonic Media Server, a web-client, mobile applications for iOS/Android, camera software, and an API for online access provision and mass recording from IP-cameras.

Presentation   Free Trial

Stylish, handy, easy

Desktop clients, local installations, patches, loaders or
[...]s lock-in. What you get is a camera, a stylish and
[...]ful website, and easy-to-use mobile apps. All server
[...]are is Linux-based.

Direct access to cameras

Watcher ensures full plug-and-play functionality, registering all cameras in the network from behind a NAT with no extra configuration required.

Online chat

15

FLUSSONIC WATCHER for Internet Service Providers

- **Infrastructure optimization** – a single server with Flussonic Watcher guarantees stable operation with a large number of cameras (up to 1000).

- **Profit from the first month** – thanks to the use of a subscription model (for licenses with per-camera charging), the maintenance costs are covered by the subscription fee.

- **Reduced installation costs** – plug`n`play connection of cameras to a video surveillance service, without the need to have a "white" IP address, configure NAT, VPN, or port forwarding rules.

- **High security TLS encryption** of all connections between a camera and a server.

- **Excellent reliability** – failover mode for emergency situations.

- **Full branding** – Flussonic Watcher with the possibility of using your own logos and interface style elements in web and mobile applications.

16
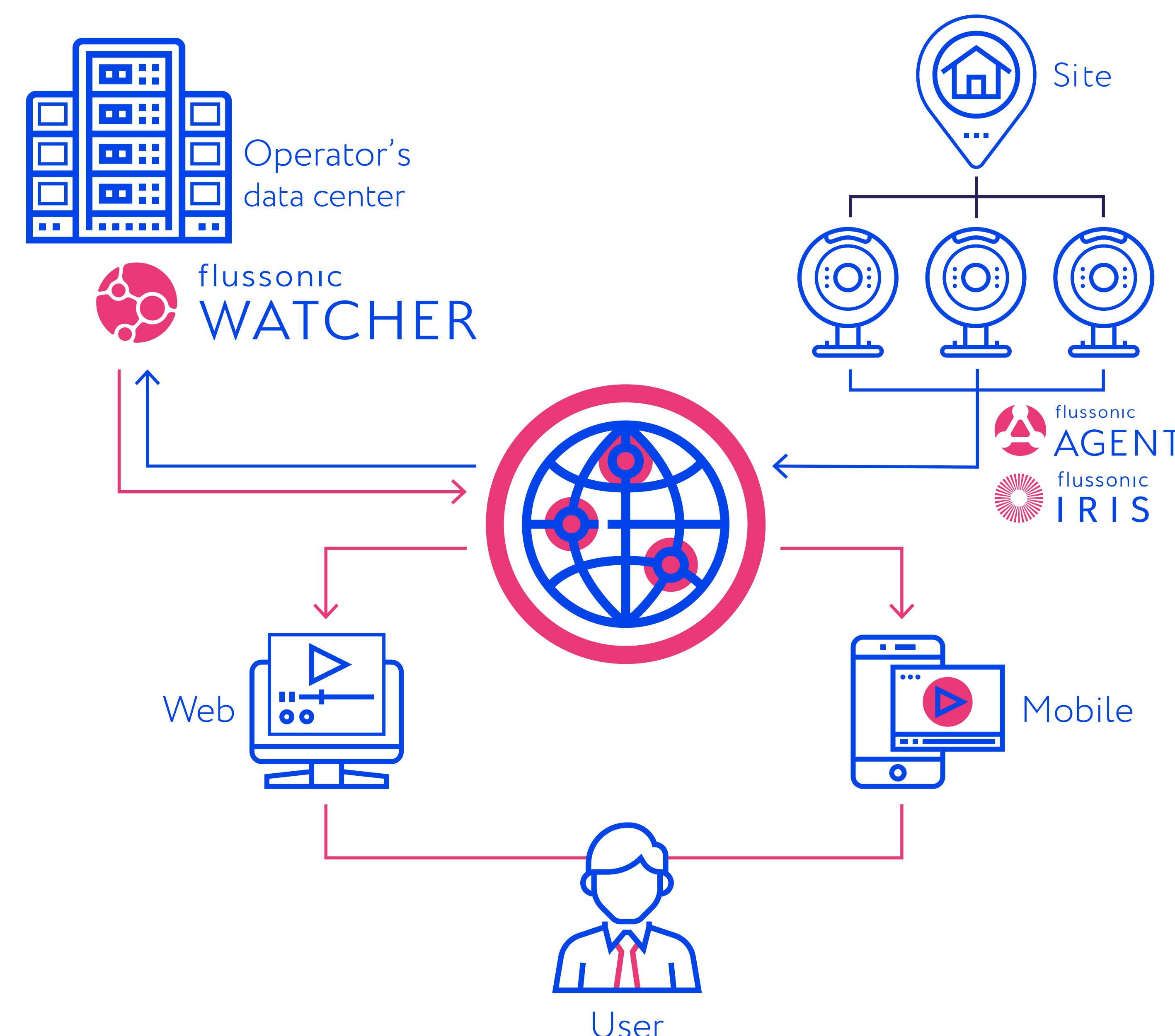
FLUSSONIC WATCHER for Installation Companies

- **A solution for design and installation companies** that design, supply, install, configure, and maintain low current systems.

- FEATURES:

  - Installation of **video surveillance** on the customer site.
  - Setup of **a video analytics** system.
  - Building **a scalable infrastructure** for video surveillance on geographically distributed objects.

- ADVANTAGES:

  - **Fast and convenient configuring** of the system.
  - **High reliability** and safe TLS encrypted connections.
  - Reliability and resistance to unauthorized access due to the built-in failover mechanism.

17

FLUSSONIC WATCHER for Installation Companies

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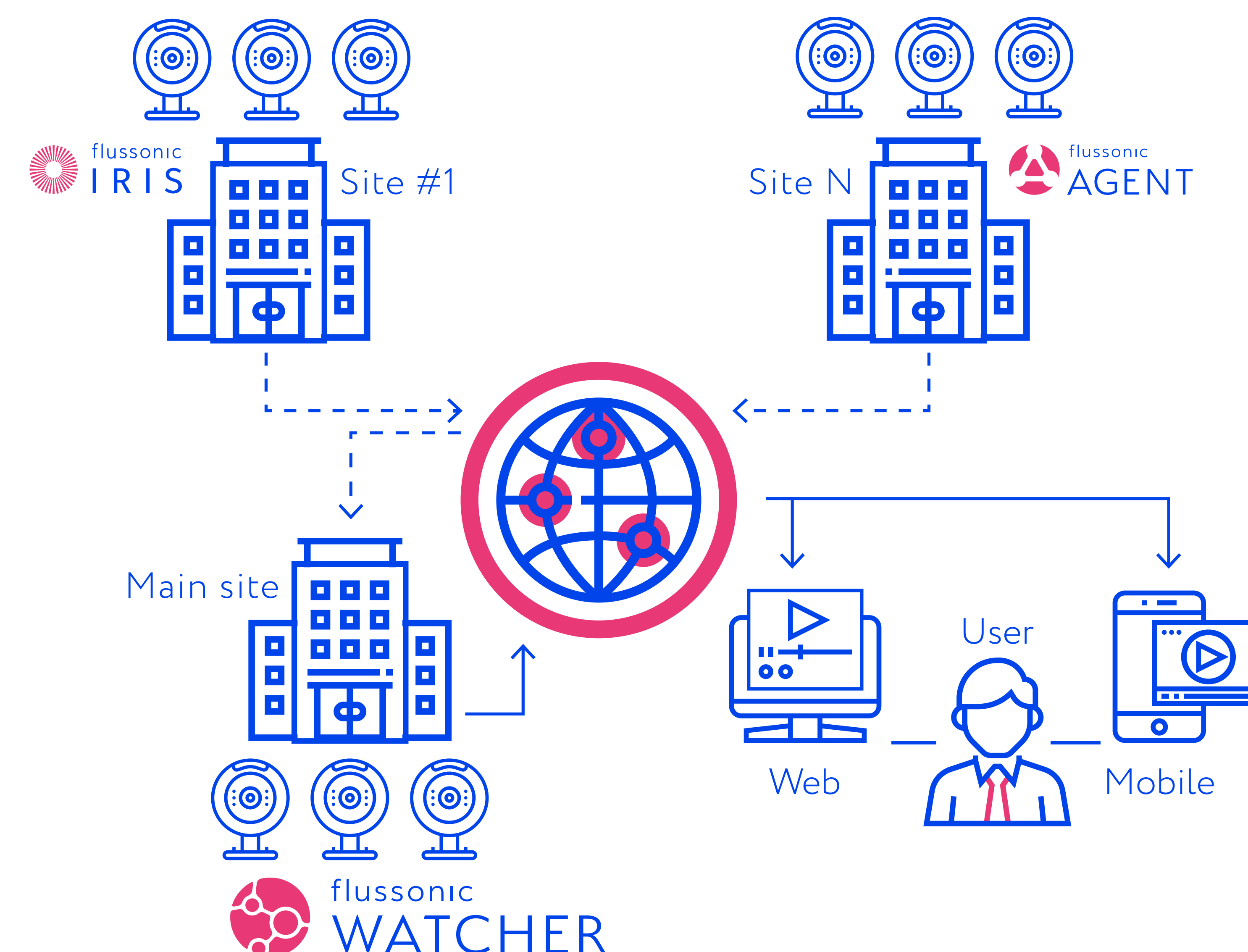
FLUSSONIC WATCHER for Software Developers

A solution for companies involved in **the development of complex software products** that use video surveillance as one of their components.

FEATURES:

- **Convenient built-in software** for ingest, storage, processing, and distribution of video
- **A full-featured API** for accessing the video and using the functions of video surveillance.

ADVANTAGES:

- **Faster development** of your systems.
- **Your solution** is reliable because it uses a professionally created video processing system.

FLUSSONIC WATCHER for Software Developers

BENEFITS:

- Availability of a convenient **full-featured** API for integrating Watcher into a complex project.

- Prompt and competent support through our **help desk.**

- You can use only those Flussonic Watcher components that your project requires (such as the **backend, widgets, mobile SDK**, and so on).

- Work with users, cameras, billing, authorization backend, and mobile application **via the API.**

- Reduced development time thanks to using **ready components.**

3rd party application

API

flussonic WATCHER

Report   Control

GUI

Video   Reports   Controls   User
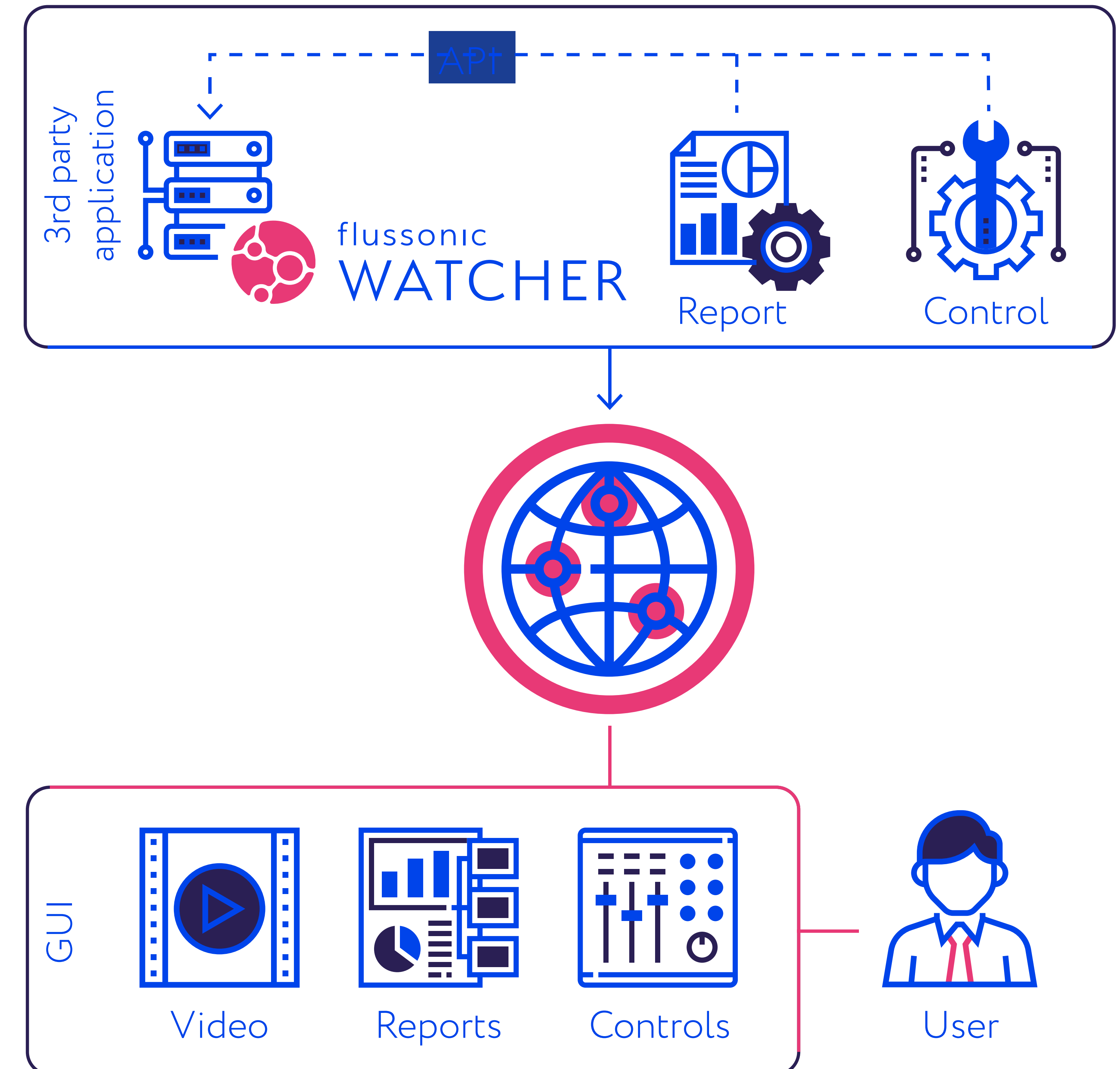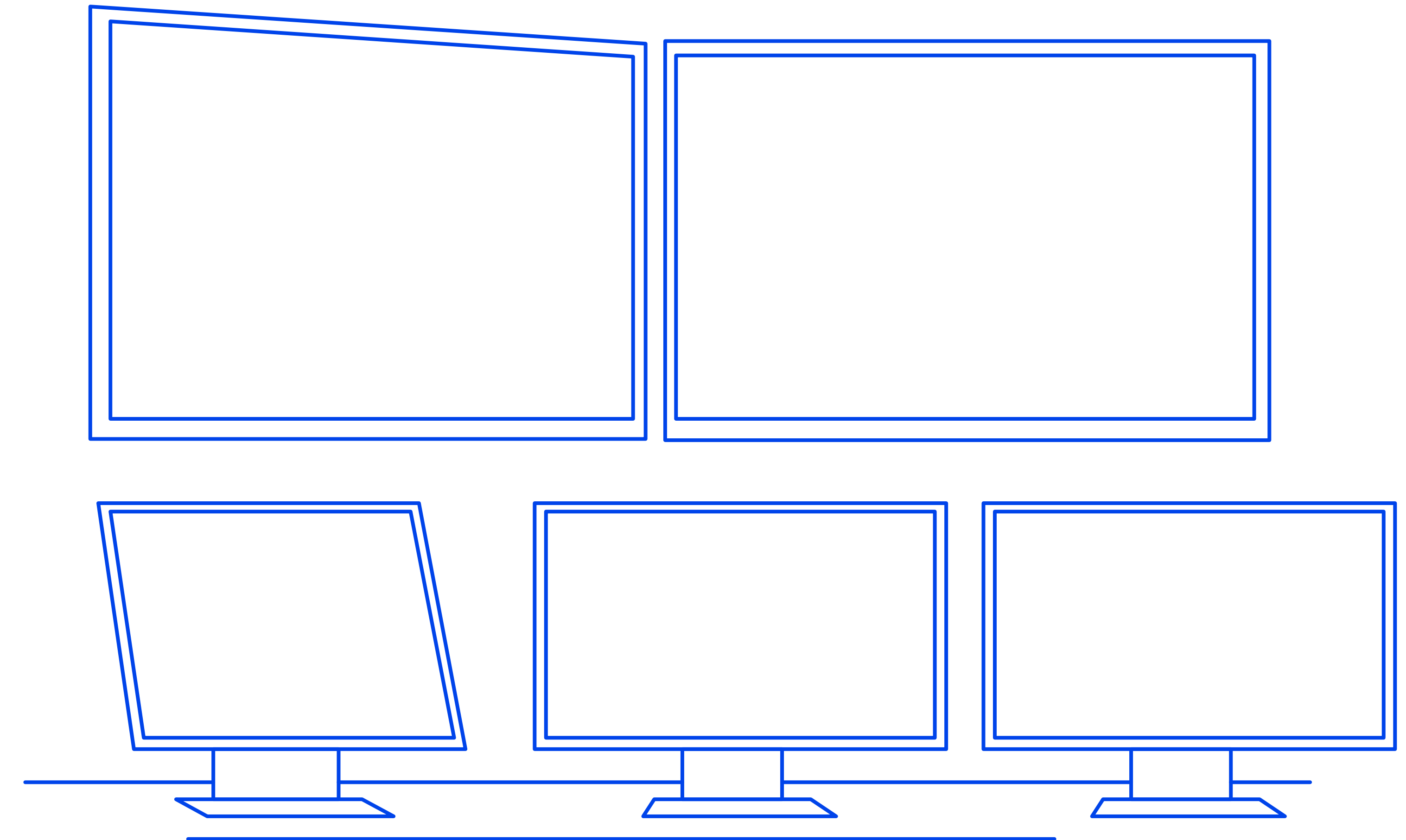
FLUSSONIC WATCHER for Monitoring Centers

● A solution for services that focus on remote monitoring of a large number of distributed objects, the collection of performance indicators, situation analytics, and monitoring of industrial production processes.

● FEATURES:

- Collecting **a large number of surveillance** cameras and other sources of video in a single system.

- **Real-time** notifications of events coming from various sources.

- **Real-time control** and tuning the server and the system (health check).

● ADVANTAGES:

- **Integration of a large number of information** systems with access via a single user interface.

- **A single monitoring center for managing** remote objects and processes.

21

FLUSSONIC WATCHER for Monitoring Centers

BENEFITS:

- **Quick data exchange** with other systems via an open API.

- **Convenient built-in mechanisms** for collecting system usage statistics and detailed analysis of its performance, including information on CPU and HDD, as well as SMART monitoring

- The support for **an unlimited number** of data sources (such as video cameras, external systems, or analytics systems).

- **Reliable built-in failover mechanisms** – database replication, the use of backup servers, connection monitoring, and the support for RAID configurations.

- **High-tech and easy** scalability of the system.

Site 1

3d party systems

Site N

flussonic WATCHER
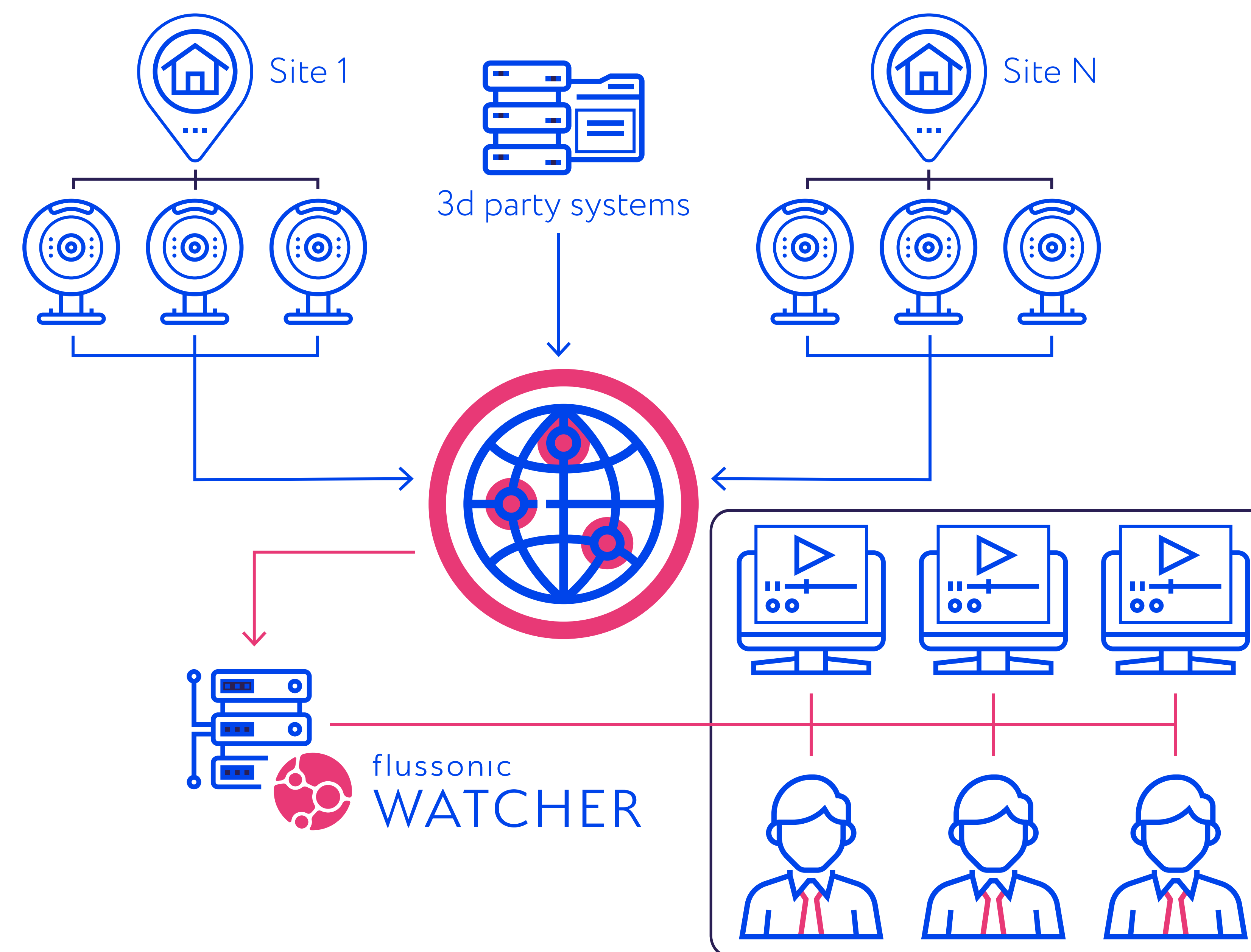
SYSTEM REQUIREMENTS FOR WATCHER

**Managing server (Endpoint). Runs Watcher and the database:**

- **Operating system:** Ubuntu 14.04 or later, Debian 7 or later;
- **CPU:** 2-core CPU;
- **Memory:** 8Gb RAM;
- **Virtual server support:** Yes;

- **Database:** PostgreSQL;
- **Hard drive type:** SSD;
- **Hard drive size:** 64GB of free disk space;
- **Dedicated server:** Yes.

Video streaming server (Streamer)*. Transmits video and stores archives:

- **Operating system:** Ubuntu 14.04 or later, Debian 7 or later;
- **CPU:** Xeon E-3 1230v5 3.4 GHz and higher;
- **Memory:** 32GB RAM;

- **Dedicated server:** Yes.
- **Hard drive type:** HDD / SSD;
- **Hard drive size:** depends on the video archive storage requirements and camera's bandwidth.

This configuration of the streaming server is suitable for 500 cameras with 1 MB/s stream, 500 users, with inactive ingest failover and no mosaics. At increase of the bitrate to 2 MB/s, the number of cameras per server should be reduced twofold (up to 250).

* These recommendations are relevant only if the server does not run any applications other than Flussonic.
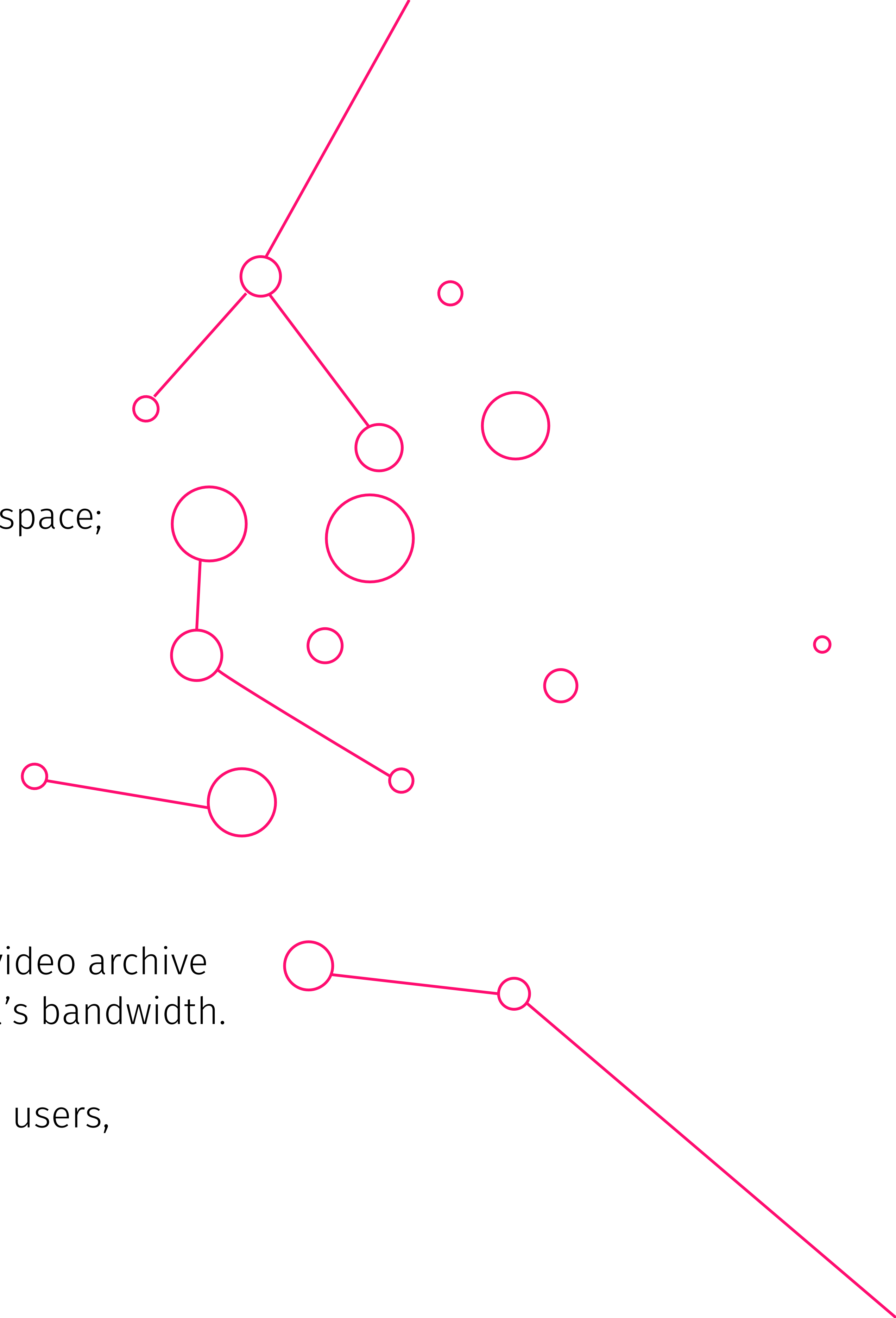
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