

Fire + Smoke detection

Let your cameras see fire and smoke.

ALAZ Vision watches the IP cameras at your site. When it sees fire or smoke it confirms the detection over several frames, records the incident with a photo, and notifies your team right away through Telegram, Web Push (ALAZ Alerts), MQTT or voice calls. Detection runs on-premises, on a single Windows computer.

Important: ALAZ Vision is an additional visual early-detection layer. It does not replace a legally required or certified fire detection and alarm system.

Why ALAZ Vision?

Conventional detectors wait for smoke or heat to reach them; a camera sees the whole area. ALAZ Vision turns the cameras you already have into an additional pair of eyes that continuously look for fire and smoke.

No new cameras needed

Works with your existing IP cameras that support RTSP. Fire and smoke detection can be switched on or off per camera.

Video stays on site

Video is analysed on your own computer and is not uploaded. Only notifications leave the site, through the channels you configure; Web Push travels through the ALAZ Relay service.

No alarm from a single frame

By default an incident opens when a detection is seen in 2 of the last 3 sampled frames (1 frame per second), and it closes after 30 seconds without a detection. Fire and smoke are separate incidents.

Alerts with a photo

When an incident opens, the frame of that moment is saved and sent with the alert to every channel the incident is routed to.

Alerts are not lost

If a provider cannot be reached, the message is held and retried with growing intervals. The same incident is not delivered twice to the same channel.

Watches itself

A separate health service raises a "system not running" alert if detection stops, and tells you when it is running again.

Runs with the screen off

Detection and notification run as Windows services in the background. The desktop app is only the operator console.

Secrets are encrypted

Camera passwords and provider tokens are stored encrypted on this computer (Windows DPAPI) and are never shown again after saving.

Where does it help?

In areas that cameras cover but where nobody is present at all times: warehouses, production areas, workshops, archives and technical rooms, car parks.

How it works

1	The camera image is read. The worker process reads the camera over RTSP and samples one frame per second. The sampling rate is set by the detection profile.
2	The model inspects the frame. Each sampled frame is run through a fire/smoke model on ONNX Runtime, on the CPU or with DirectML.
3	The Engine confirms the detection. An incident opens when the detection is seen in 2 of the last 3 frames and closes after 30 seconds without one. Fire and smoke are tracked separately.
4	The incident is recorded with a photo. Each incident gets a number; the camera, area, highest confidence and the frame of the detection are stored.
5	Notifications go out. Every channel with a routing rule receives the alert. When the incident ends, an "incident ended" message follows.

Notifications

Channel	What it does
Telegram	A photo alert to your team's Telegram group, and an "incident ended" message afterwards.
Push (ALAZ Alerts)	Web Push to phones that have paired with the ALAZ Alerts web app, delivered through the ALAZ Relay service. A page shows the recent alerts and the incident image.
Voice calls	Automatic phone calls to the numbers you choose, with a per-number cooldown and a summary call when several incidents arrive close together.
MQTT	Incident events published to your own MQTT broker, for building-management or automation systems.

You decide what goes where: routing rules send an area, a camera or a camera tag to the channels you choose. The delivery status of every message can be seen in the delivery history.

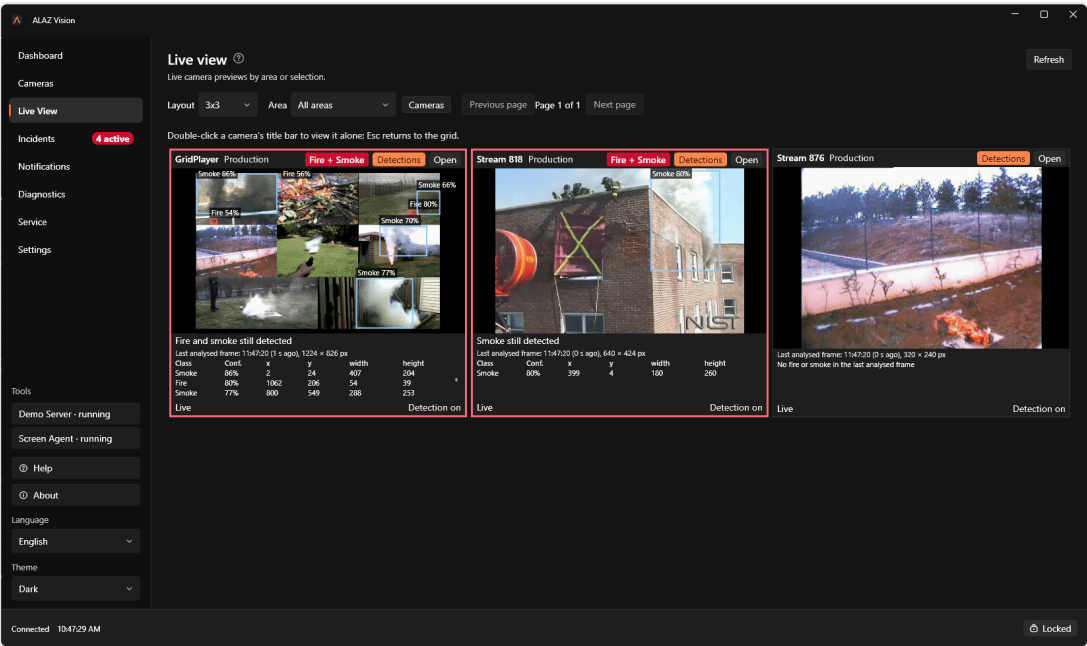
Operator console

The Windows desktop app is available in English and Turkish.

Page	What it is for
Dashboard	Engine status, online cameras, worker health, notification status and recent incidents on one screen.
Cameras	RTSP address, area assignment and per-camera fire and smoke detection; areas are managed on the same page. "Test connection" tries a camera immediately.
Live View	A grid of 1, 4, 9 or 16 cameras. A camera with a detection is highlighted with a red frame and a "Fire", "Smoke" or "Fire + Smoke" label.

Incidents	Active and past incidents with confidence and acknowledgement state, filterable by area, camera, date and type.
Notifications	Provider accounts, channels, routing rules, delivery history and system alerts.
Diagnostics	Versions, database, worker counters (CPU, memory, inference time), capacity test, model installation and the log folder.
Service	Status of the Engine and health services; confirmed stop, start and restart; operator action log.
Settings	Worker count, inference device (CPU or DirectML), language and theme, access control and user roles.

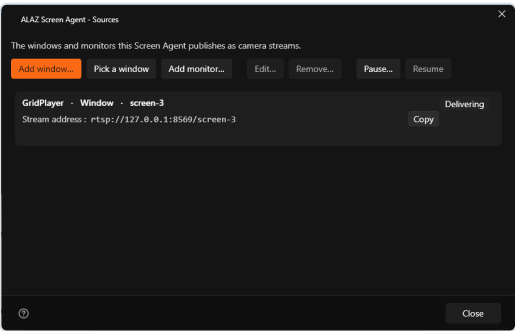
Critical operations, such as stopping detection, ask for confirmation and are recorded with time, user and computer. Cameras, areas and notification channels can be deleted while their history is kept.



Live View: cameras with a detection get a red frame; boxes show what the model found and with what confidence.

Screen Agent

ALAZ Vision Screen Agent is a small tray application that publishes a window or a monitor of a Windows computer as an RTSP stream. A screen, for example that of a camera-viewer application, can then be watched by ALAZ Vision like any other camera. It is an optional feature of the installer.



Screen Agent: a window of a viewer application published as an RTSP stream.

Technical information

System	Windows 10/11 x64
Cameras	IP cameras with RTSP
Inference	ONNX Runtime; CPU or DirectML
Scaling	Multiple worker processes (configurable)
Services	AlazVisionEngine and AlazVisionHealth, started automatically
Data	Local: C:\ProgramData\ALAZ Vision\
Languages	English, Turkish

Getting started in three steps

1. **Run the installer.** AlazVision.Setup.exe is run as administrator; the Engine and health services start automatically.
2. **Install a model.** Place the .onnx file and its .model.json descriptor in the models\ folder, or install a model package from Diagnostics.
3. **Define areas, cameras and notifications.** Enter the RTSP address and test the connection; add a Telegram bot, an ALAZ Alerts pairing, a voice number or an MQTT broker, and a routing rule.

Current status and known limits

- The current version is 1.0.0-rc.9, a release candidate; validation on Windows is ongoing.
- No detection model is bundled with the installer. Detection quality depends on the model you install and must be qualified with that model on the target hardware.
- The installer is not yet code-signed, so Windows SmartScreen may show an "unknown publisher" warning.
- Performance depends on the number of cameras, the model and the hardware; qualify it on the target machine.

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