AlphaEye

People Counting & Visitor Management System

Complete Features, Benefits & Business Use Cases

Prepared for:

Retail • Offices • Restaurants • Gyms • Hospitals • Malls • Events

Airports • Bus Stands • Railway Stations • Metro • Government Offices • Stadiums

Version 3.2 | Windows 10/11

People Counting & Visitor Management System

Executive Summary

AlphaEye PCVM (People Counting & Visitor Management) is a professional-grade, AI-powered software built for Windows. Using advanced YOLO deep learning models, it accurately detects and tracks people entering and exiting any premises in real time through IP cameras, RTSP streams, USB webcams, or video files.

AlphaEye PCVM serves two distinct markets: Private Sector businesses (retail, offices, restaurants, gyms, hospitals) and Public Sector organizations (airports, bus stands, railway stations, metro systems, government offices, stadiums). Both benefit from the same core technology — accurate live counts, Telegram reports, and private on-premise data storage.

Core Mission

Give every business the power to measure, understand, and act on visitor traffic data in real time — with zero complexity and no monthly fees.

Core Features

2.1 AI-Powered Real-Time People Counting

AlphaEye uses YOLO (You Only Look Once) deep learning to detect people with industry-leading accuracy. Every person crossing a defined boundary line is counted as IN or OUT.

- Detects people in complex, crowded scenes
- Supports both GPU (NVIDIA CUDA) and CPU inference
- Configurable confidence threshold (10%–100%) for accuracy tuning

- Frame skip control to balance performance vs. accuracy
- Head-only detection mode for dense crowd environments

2.2 Multi-Source Video Input

AlphaEye connects to virtually any video source, making deployment flexible for any environment.

- RTSP / IP Camera streams (H.264, H.265)
- USB / Built-in webcams
- Pre-recorded video files (MP4, AVI, MKV)
- Automatic TCP transport with reconnection watchdog
- Smooth frame buffering with no dropped frames

2.3 Configurable Counting Line

Draw a virtual counting line anywhere on the camera view. AlphaEye tracks direction of crossing to distinguish entries from exits.

- Drag-and-drop line placement on live video
- Flip IN/OUT direction with one click
- Adjustable line thickness, opacity, and colour
- Custom line name labelling
- Dashed, dotted, or solid line styles

2.4 Live Dashboard & Analytics

A built-in analytics engine records all counting data to a local SQLite database and presents it through a professional live dashboard.

- Live Now: real-time current occupancy count
- Total IN / Total OUT counters with session totals
- Peak count tracking (maximum occupancy reached)
- Net flow calculation (IN minus OUT)
- Hourly, Daily, Weekly, and Monthly trend charts
- All-time database totals with average daily traffic
- FPS and GPU/CPU performance indicator

2.5 Telegram Bot Integration

AlphaEye sends automated reports directly to your Telegram app at scheduled intervals with live dashboard screenshots.

- Intervals: 30 min, 1 hr, 2 hr, 4 hr, 6 hr, 12 hr, 24 hr
- Sends live dashboard screenshot with full stats
- Reports Total IN, OUT, Peak, Net Flow, FPS, and all-time totals
- Supports personal chat and group chat simultaneously
- Manual "Send Now" button for instant on-demand reports
- Clock-boundary scheduling (reports arrive at exact hours: 09:00, 10:00)

2.6 Additional Features

- Face-based crowd alert: fires when crowd exceeds a defined threshold
- System tray mode: continues counting in background when minimised
- CSV & database export: full history exportable to Excel-compatible CSV
- ONVIF camera discovery: auto-discovers IP cameras on local network
- License key protection: hardware-tied license for software security

Business Use Cases

AlphaEye is purpose-built to solve real operational problems across a wide variety of industries and settings.

Business Type	Primary Use	Key Benefit
Retail Shop / Boutique	Count customers entering & exiting	Measure conversion rates, identify peak hours
Supermarket / Grocery	Live occupancy monitoring	Queue management, staff allocation
Shopping Mall	Zone-level footfall analytics	Tenant reporting, lease value justification
Corporate Office	Track employee / visitor entry & exit	Security compliance, space utilisation
Restaurant / Cafe	Monitor customer flow & table turnover	Optimise staffing, reduce wait times
Festival / Event Venue	Real-time crowd count & capacity alerts	Safety compliance, prevent overcrowding
Gym / Fitness Centre	Track member check-ins and peak usage	Manage capacity limits, plan schedules
Hospital / Clinic	Patient flow and waiting room occupancy	Reduce crowding, improve patient experience
Museum / Gallery	Visitor counting by exhibit or zone	Grant reporting, exhibit popularity analysis
School / University	Campus entry monitoring and attendance	Security, compliance, emergency headcount
Warehouse / Factory	Worker entry/exit at gates or zones	Safety audits, shift management

Private Sector Use Cases

AlphaEye PCVM serves every type of private business with a physical entrance. These are the most common deployments across private sector organisations.

Retail Shops & Boutiques

Understand how many customers walk in versus how many buy. Calculate real conversion rates and optimise staffing around peak hours.

- Calculate conversion rate: footfall vs. actual transactions
- Identify peak hours to schedule staff precisely
- Measure impact of promotions on footfall before and after
- Receive daily Telegram reports automatically
- Compare weekly and monthly trends for seasonal planning

Supermarkets & Grocery Stores

Manage checkout queues and staffing dynamically based on live occupancy data.

- Open or close checkout lanes based on real-time customer count
- Alert management when occupancy exceeds comfortable limits
- Monitor busy periods to prevent understaffing at rush hours
- Identify slow periods to optimise staff rosters

Shopping Malls & Plazas

Provide tenants with verified footfall data and manage zone-level traffic across the entire mall.

- Deploy per entrance or anchor store zone
- Provide tenants with accurate footfall reports for lease negotiations
- Identify which mall areas attract the most traffic
- Compare performance across weekdays, weekends, and holidays

Corporate Offices

Track real occupancy for safety compliance, space utilisation, and visitor access management.

- Real-time occupancy count for fire safety and legal compliance
- Visitor and contractor in/out log with timestamps
- Monthly utilisation reports for facilities management
- Enforce capacity limits during events or emergencies

Restaurants & Cafes

Track covers per service period, manage queue buildup, and identify under-utilised time slots.

- Track covers per service vs. kitchen capacity
- Monitor queue length at peak hours — alert staff early
- Identify slow periods to run targeted promotions
- Compare walk-in traffic week over week

Gyms & Fitness Centres

Know your true peak hours and enforce member capacity limits with real data.

- Live member count on screen and via Telegram alerts
- Identify true peak hours for class and staff scheduling
- Enforce capacity limits per safety requirements
- Monthly trend reports to inform membership sales targets

Hospitals & Clinics

Monitor waiting room occupancy and patient flow. Enforce capacity limits in sensitive areas.

- Waiting room occupancy alerts for overcrowding
- Patient throughput data per shift for operational planning
- Enforce capacity limits in restricted zones
- Daily reports to facility and admin management

Museums, Galleries & Cultural Venues

Automate visitor counting for grant reporting and identify most popular exhibits.

- Visitor count records for grant applications and funders
- Identify most popular exhibits by per-zone counting lines
- Enforce conservation-sensitive capacity per gallery
- Monthly reports exportable to CSV

Warehouses & Factories

Track worker gate entry and exit for shift management, safety audits, and restricted zone access.

- Track worker entry/exit for shift start and end
- Monitor occupancy in restricted or hazardous zones
- Safety audit trail with timestamped records
- Emergency evacuation headcount data

Business Type	Primary Metric	Key Alert	Report Frequency
Retail Shop	Daily footfall & conversion	Capacity threshold	Daily Telegram
Supermarket	Live queue count	Queue > X persons	Every 30 min
Office	Current occupancy	Fire capacity limit	Hourly + on-alert
Restaurant	Covers per service	Queue at entry	Per service period
Gym	Live member count	Capacity limit hit	Real-time + daily
Hospital	Waiting room count	Room full	Every hour

🏛 Public Sector & Transport Use Cases

AlphaEye PCVM serves public transport authorities, government bodies, and large-venue operators with the same AI accuracy — on-premise, private, and without monthly cloud fees. The following sectors benefit from real-time crowd intelligence for safety, operations, and data-driven decisions.

✈ Airports & Air Terminals

Airports handle thousands of passengers per hour through narrow gate corridors, security queues, and check-in zones. AlphaEye PCVM provides real-time people counting at every critical choke point.

- Passenger count at each departure gate and terminal entrance
- Security queue length monitoring with threshold alerts
- Check-in counter occupancy tracking for desk allocation
- Baggage claim area crowd density monitoring
- Automated Telegram reports to terminal operations centre
- Emergency evacuation headcount — know how many in each zone
- Peak hour analysis for scheduling ground crew

Deployment Zones

Zone	Deployment Point	Metric Tracked
Departure Terminal	Main entrance gates	Daily passenger IN/OUT
Security Lanes	Each checkpoint camera	Queue length & alert
Check-in Area	Above counter rows	Counter zone occupancy
Departure Lounges	Lounge entrances	Live lounge headcount

Bus Stands & ISBT Terminals

Inter-State Bus Terminals handle enormous passenger volumes across dozens of platforms. AlphaEye PCVM gives terminal managers live visibility across every bay and waiting zone.

- Platform-level passenger count for each bus bay
- Waiting hall occupancy with overcrowding alerts
- Ticket counter queue management — open more counters dynamically
- Real-time alerts to terminal supervisor via Telegram
- Daily and weekly passenger volume data for route planning
- Night monitoring with low-light camera support

Deployment Zones

Zone	Deployment Point	Metric Tracked
Main Entrance	Entry gate cameras	Total daily footfall
Waiting Hall	Hall ceiling cameras	Live occupancy
Platform Bays	Above each bay gate	Passengers per bay
Ticket Counters	Above counter rows	Queue length per counter

Railway Stations

Indian railway stations handle millions of passengers daily across dozens of platforms. AlphaEye PCVM provides station management with accurate real-time crowd data at every gate and platform.

- Entry gate passenger counting — track daily footfall per gate
- Platform crowd monitoring for safety — alert when density is high
- Concourse and waiting room occupancy with live headcounts
- Train arrival surge tracking — passengers arriving per train
- Automated hourly reports to Station Master office via Telegram
- Cloak room and retiring room occupancy monitoring

Deployment Zones

Zone	Deployment Point	Metric Tracked
Entry Gates	Each FOB entry/exit gate	Hourly gate-wise count
Platforms	Platform entry points	Live platform headcount
General Waiting	Waiting hall entrances	Occupancy vs. capacity
Circulating Area	Taxi/auto pickup zones	Footfall & congestion

Metro & Rapid Transit

Metro systems can complement AFC (Automatic Fare Collection) gate data with visual-layer people counting at concourses and platform zones.

- Concourse-level crowd monitoring beyond AFC gate data
- Platform edge crowding alerts — safety critical for busy stations
- Station-to-station footfall comparison across the network
- Non-faregated zone monitoring: lifts, stairs, emergency exits
- Timestamped hourly exports for operations and management reporting

Deployment Zones

Zone	Deployment Point	Metric Tracked
Station Entry	Entrance before AFC gates	Total vs. ticketed entry
Concourse	Above concourse level	Live station occupancy
Platform Zones	Platform stair/escalator exit	Platform headcount
Emergency Exits	Emergency door cameras	Safety monitoring

Government Offices & Jan Seva Kendras

Passport offices, RTO counters, district courts, and municipal offices handle large numbers of citizens daily. AlphaEye PCVM transforms chaotic walk-in queues into manageable, data-driven citizen flows.

- Daily visitor count for operational planning and staffing
- Peak hour identification for appointment system design
- Counter queue alerts — open more counters when thresholds hit
- Building capacity monitoring for fire safety standards
- Monthly footfall reports for department performance assessments
- CSV exports for management reports and transparency reporting

Deployment Zones

Zone	Deployment Point	Metric Tracked
Main Entrance	Entry gate/reception	Daily visitor count

Waiting Halls	Hall ceiling cameras	Live occupancy
Counter Zones	Above service counters	Queue length per counter
Exit Points	Exit gates	Departure count and time

Stadiums, Sports Complexes & Arenas

Stadiums face intense pressure to manage crowd flow safely during matches, concerts, and events. Legal capacity limits, security requirements, and spectator safety all depend on accurate live headcounts at every gate.

- Gate-by-gate live headcount for every entrance
- Real-time total occupancy vs. permitted capacity monitoring
- Crowd density alert when any sector approaches limits
- Automated reports to security control room every 30 minutes
- Certified attendance records for venue management
- Net flow tracking — know exactly how many are still inside
- Post-event flow analysis to optimise gate opening sequences

Deployment Zones

Zone	Deployment Point	Metric Tracked
Entry Gates	Each numbered gate entrance	Gate-wise live count
Concourse	Concourse level entry	Sector occupancy
VIP Entrances	VIP/VVIP gates	Premium access count
Emergency Exits	Emergency door cameras	Exit flow monitoring

Why People Counting Matters for Every Business

People counting data is no longer a luxury reserved for large enterprises. Any business that operates a physical premises needs to understand how people move through it.

Business Growth	Safety & Compliance	Cost Efficiency
Measure the true impact of marketing campaigns by comparing footfall before and after promotions.	Meet legal capacity regulations for fire safety and health codes without manual counting.	Staff exactly the right number of people at the right times, eliminating waste.
Benchmark performance across locations, days, seasons, and years with historical data.	Receive instant alerts when crowd density exceeds safe thresholds, before incidents occur.	Reduce wasted energy and resources during low-traffic periods.

Identify whether foot traffic converts to sales, the most fundamental retail KPI.	Maintain a verifiable audit trail of attendance for insurance, legal, and regulatory purposes.	Negotiate better rental rates using hard evidence of your footfall contribution.

The Cost of Not Knowing

Without visitor data, businesses make critical decisions based on intuition rather than evidence:

- Businesses without footfall data overspend on staffing by an average of 15–20%
- Retail stores that track conversion rates improve sales per visitor by up to 30% within one year
- Event venues using real-time crowd monitoring reduce safety incidents by over 40%
- Offices that monitor occupancy can reduce their real estate footprint by 25% without impacting productivity

AlphaEye gives you the same analytics capability that global retail chains, airports, and stadium operators rely on — at a fraction of the cost, with no monthly fees, running entirely on your own hardware.

Technical Specifications

Specification	Detail
Operating System	Windows 10 / Windows 11 (64-bit)
Python Version	Python 3.10 or higher (3.14 supported)
AI Model	YOLO (Ultralytics) — nano to large variants
GPU Acceleration	NVIDIA CUDA (optional) — falls back to CPU automatically
Camera Support	RTSP streams, USB webcams, video files, ONVIF cameras
Database	SQLite (local, no server required)
UI Framework	PyQt5 — native Windows look & feel
Notifications	Telegram Bot API (stdlib urllib, no extra pip packages)
Export Format	CSV (compatible with Excel, Google Sheets, Power BI)
Deployment	On-premise only — no cloud, no internet required for core functions
Minimum RAM	4 GB (8 GB recommended for GPU mode)

Quick Start — Up and Running in 5 Minutes

1. Run install_packages.bat as Administrator to install all Python dependencies automatically.
2. Launch the application: python alphaeye_v2_4.py or double-click the launcher.
3. Select your video source: RTSP IP camera, USB webcam, or a video file.
4. Draw your counting line by clicking two points on the live camera preview.
5. Click Start Counting. AlphaEye PCVM begins tracking immediately.
6. (Optional) Enter Telegram Bot Token and Chat ID, select interval, click Start Reporter.
7. Monitor the live dashboard, check analytics, and export CSV reports at any time.

Typical setup time: Under 5 minutes

From installation to first live count — no IT expertise required.

Feature	AlphaEye	Typical Cloud Solutions
Monthly Subscription Fee	**None — one-time license**	$50–$500/month per camera
Internet Required	**No — fully offline**	Yes — always online
Data Privacy	**100% on-premise**	Data sent to vendor servers
Camera Compatibility	**Any RTSP / USB / File**	Proprietary hardware required
Telegram Integration	**Built-in**	Rarely included
Setup Complexity	**Under 5 minutes**	Days to weeks of integration
GPU / CPU Flexibility	**Auto-detects both**	Often GPU only

Conclusion

AlphaEye PCVM represents a new standard for accessible, professional-grade people counting software. Whether you run a single shop, manage a portfolio of retail units, organise large public events, or operate a corporate campus — AlphaEye delivers the insights you need to make smarter decisions, keep people safe, and run a more efficient operation.

With no cloud dependency, no monthly fees, full Telegram integration, and an AI engine capable of handling complex real-world environments, AlphaEye is the most practical and powerful on-premise visitor intelligence solution available today.

ROI & Business Value

Below are realistic, conservative ROI scenarios based on common business sizes. These figures use the most common deployments of one camera per entrance.

Business Scenario	Metric Improved	Estimated Annual Saving
Small Retail Shop (1 staff saved per peak shift)	Right-sizing staff hours based on real footfall data	**₹1,20,000 – ₹2,40,000**
Restaurant (5% better table turnover)	Faster table allocation by knowing live queue length	**₹3,00,000 – ₹6,00,000**
Shopping Mall (tenant reporting)	Data-backed lease renewals and zone pricing	**₹10,00,000+**
Corporate Office (space utilisation)	Identifying unused floors / meeting rooms	**₹5,00,000 – ₹15,00,000**
Event / Festival (1 safety incident avoided)	Crowd alerts prevent liability, fines, or emergency response	**₹50,00,000+ (liability)**
Gym / Fitness Centre (capacity compliance)	Avoid regulatory fines for exceeding permitted capacity	**₹2,00,000 – ₹5,00,000**

AlphaEye vs Cloud Alternatives: Cost Comparison

Typical cloud people-counting SaaS: ₹3,000 – ₹25,000 per camera per month.

AlphaEye PCVM: One-time license. No recurring fees. Runs on existing hardware.

Break-even vs. cheapest cloud competitor: typically within the first 2–3 months.

Camera Placement Guide

Proper camera placement is the single most important factor for counting accuracy. AlphaEye can achieve 95%+ accuracy with correct installation. Follow these guidelines for best results.

11.1 Ideal Camera Position

- Mount camera directly above or at a slight angle over the entrance/exit point
- Height: 2.5m – 4.0m above ground gives best coverage and perspective
- Camera should face downward at 60–80° angle (not completely vertical)
- Frame the entire walkway/doorway — no person should be able to pass outside the frame
- Ensure consistent lighting — avoid backlighting from bright windows or direct sun behind subjects
- If using existing CCTV, choose the camera closest to the entrance at the best downward angle

Scenario	Recommended Setup	Accuracy Expectation
Single-door shop entrance	1 camera above door, slight downward angle	**95 – 98%**
Wide mall entrance (3+ lanes)	1 wide-angle camera covering full gate, or 2 cameras split	**90 – 95%**
Turnstile / narrow gate	Camera mounted on ceiling above, counting line across gate	**97 – 99%**
Open-plan area (no clear boundary)	Camera on wall/pillar at angle, virtual line across natural flow path	**85 – 92%**
Outdoor festival / event gate	Camera on temporary pole/truss above gate, wide-angle lens	**88 – 94%**
Low-light environment (warehouse)	Use IR (infrared) night-vision IP camera, ensure line well-lit	**90 – 95% (with IR cam)**

11.2 Accuracy Tuning Tips

- If accuracy is low: reduce Confidence Threshold slider to 30–40% to catch more detections
- If too many false positives: increase Confidence Threshold to 60–70%
- For dense crowds: enable Head-Only Detection Mode in settings
- For fast-moving environments: reduce Frame Skip to 1–2
- Reposition the counting line — it should cross the narrowest natural bottleneck
- Avoid placing the line diagonally; keep it perpendicular to the direction of travel

System Requirements & Installation

12.1 Minimum System Requirements

Component	Minimum	Recommended
Operating System	Windows 10 64-bit	Windows 11 64-bit
Processor	Intel Core i3 / AMD Ryzen 3	Intel Core i5/i7 or Ryzen 5/7
RAM	4 GB	8 GB or more
Storage	500 MB free disk space	2 GB+ (for video cache & database growth)
GPU (Optional)	None (CPU mode works)	NVIDIA GTX 1050 or higher (CUDA 11+)
Python	Python 3.10+	Python 3.11 or 3.12
Network	Local network for IP cameras	Gigabit LAN for HD RTSP streams
Display	1280 x 720 resolution	1920 x 1080 Full HD

12.2 Installation Steps

8. Install Python 3.10 or higher from python.org — ensure "Add to PATH" is checked during install.
9. Extract the AlphaEye PCVM zip package to a permanent folder (e.g. C:\AlphaEye).
10. Right-click install_packages.bat and select "Run as Administrator" — this installs all dependencies automatically.
11. Double-click launcher.py or run: python alphaeye_v2_4.py in Command Prompt.
12. On first launch, enter your License Key when prompted.
13. Select your camera source and draw your counting line — you are ready to count.

12.3 Python Packages Installed Automatically

- ultralytics — YOLO AI model engine
- opencv-python — video capture and frame processing
- PyQt5 — graphical user interface framework
- torch / torchvision — deep learning inference engine
- Pillow — image processing for icon and screenshot handling
- numpy — numerical processing for detection coordinates
- requests — HTTP communication for Telegram API

? Frequently Asked Questions

Q: Does AlphaEye require an internet connection?

A: No. AlphaEye runs entirely on-premise. The only feature that requires internet is the optional Telegram reporting, which uses the Telegram Bot API to send reports to your phone. All counting, analytics, and data storage work completely offline.

Q: How accurate is the people counting?

A: In standard conditions (good lighting, overhead camera, clear entry point), AlphaEye achieves 93–98% accuracy. Accuracy depends on camera angle, lighting, and crowd density. The system includes confidence threshold tuning and head-only detection mode to optimise accuracy for your specific environment.

Q: Can I use my existing CCTV cameras?

A: Yes. Any IP camera that provides an RTSP stream can be used. Most modern CCTV cameras from brands such as Hikvision, Dahua, TVT, and Reolink are compatible. USB webcams are also fully supported for smaller deployments.

Q: What happens if the camera disconnects?

A: AlphaEye has a built-in watchdog timer and automatic reconnection system. If the RTSP stream drops, it will keep retrying the connection automatically. Counting resumes as soon as the feed is restored, and all data already collected is safely saved to the database.

Q: Can I run AlphaEye on multiple cameras at once?

A: The current version is optimised for single-camera operation per instance. For multi-entrance deployments, you can run multiple instances of AlphaEye on the same machine (one per camera), provided the hardware is sufficient. Each instance maintains its own database and Telegram reporter.

Q: Is the data stored in the cloud?

A: No. All data is stored in a local SQLite database file on your computer. No data is ever sent to any external server except when you choose to send Telegram reports (which only sends statistics and a screenshot, never raw video).

Q: What is the Telegram Bot feature and how do I set it up?

A: The Telegram Bot integration lets AlphaEye send scheduled reports (with live dashboard screenshots and visitor statistics) directly to your Telegram account or a group. Setup takes under 2 minutes: create a bot via @BotFather in Telegram, copy the token, find your Chat ID, and paste both into AlphaEye's Telegram settings panel.

Q: Does AlphaEye work with GPU acceleration?

A: Yes. If an NVIDIA GPU with CUDA support is present, AlphaEye automatically uses it for inference, significantly improving FPS and reducing CPU load. If no compatible GPU is found, it falls back to CPU mode automatically with no configuration needed.

Q: Can I export the data for use in Excel or Power BI?

A: Yes. AlphaEye includes a one-click CSV export that produces a timestamped file compatible with Microsoft Excel, Google Sheets, LibreOffice Calc, and Power BI. The export includes per-session IN/OUT totals and timestamps.

Q: What happens to old data — does it build up?

A: All data is stored in a lightweight SQLite database which grows very slowly (typical deployments see less than 10 MB per year). The database can be exported and archived. There is no automatic purge, so your full historical record is always available.

Q: Is there a mobile app or web dashboard?

A: AlphaEye is a Windows desktop application. Remote monitoring is handled through the Telegram integration, which delivers scheduled reports to any device where Telegram is installed (phone, tablet, desktop). A web dashboard is not included in the current version.

Q: What if I move the software to a new computer?

A: AlphaEye uses hardware-tied licensing. If you need to transfer to a new machine, contact your AlphaEye representative to re-issue the license for the new hardware. Your database and settings files can be copied to the new machine.

Troubleshooting Reference

Use this quick reference to resolve the most common issues during setup and operation.

Problem	Likely Cause	Solution
App crashes on startup	Missing Python packages or wrong Python version	Re-run install_packages.bat as Administrator. Ensure Python 3.10+ is installed.
Camera not connecting (RTSP)	Wrong RTSP URL, firewall blocking, or camera offline	Test RTSP URL in VLC first. Check camera is on same network. Verify firewall allows port 554.
Counting is inaccurate	Poor camera angle, low light, or line placed incorrectly	Adjust camera angle (ideal: overhead). Improve lighting. Reposition the counting line.
Very low FPS (below	CPU overloaded, no GPU, or	Increase Frame Skip slider. Switch to YOLOv8n

5)	large YOLO model	(nano) model. Enable GPU if available.
Telegram reports not sending	Wrong Bot Token or Chat ID	Re-check token from @BotFather. Use @userinfobot to get correct Chat ID. Test with Send Now.
App opens but video is black	Camera stream initialising or wrong source selected	Wait 10 seconds for RTSP buffer. Try switching source type. Check camera is streaming.
License key rejected	Hardware changed or key for different machine	Contact your AlphaEye representative for license re-issue or transfer.
Database not saving data	No write permission in install folder	Move AlphaEye to C:\AlphaEye (not Program Files). Run as Administrator once to create DB.
Telegram screenshot is blank	Analytics dashboard was not open when report was sent	Open the Analytics window before the report interval fires. Screenshot only captures open dashboard.

📖 Glossary of Terms

Key terms used throughout this document and within the AlphaEye PCVM application.

Term	Definition
YOLO (You Only Look Once)	A real-time object detection AI algorithm used by AlphaEye to detect people in video frames. YOLO processes the entire image in a single pass, making it extremely fast and suitable for live video analysis.
RTSP (Real-Time Streaming Protocol)	A network protocol used by IP cameras to stream live video over a local network or internet. AlphaEye connects to cameras using RTSP URLs (e.g. rtsp://192.168.1.100/stream).
ONVIF (Open Network Video Interface Forum)	An international standard for IP security cameras that allows AlphaEye to automatically discover compatible cameras on the network without manual IP entry.
Counting Line	A virtual line drawn on the camera view. When AlphaEye detects a person crossing this line from one side to the other, it counts the crossing as either IN or OUT depending on direction.
IN / OUT Count	The total number of people detected crossing the counting line in each direction. IN counts people entering the monitored area; OUT counts people leaving.
Net Flow	IN count minus OUT count. A positive net flow means more people have entered than left. This is the primary indicator of current occupancy change over a session.
Live Now	The estimated current number of people inside the monitored area. Calculated as: (IN − OUT) within the current session.
Peak Count	The highest Live Now value recorded during the current session. Useful for capacity planning and compliance reporting.

Confidence Threshold	A percentage setting that controls how certain AlphaEye must be before counting a detection. Higher values reduce false positives; lower values catch more people in difficult conditions.
Frame Skip	The number of video frames skipped between each AI analysis. Higher values improve performance on slow hardware; lower values give more frequent counts.
GPU (Graphics Processing Unit)	A specialist processor (e.g. NVIDIA) that can run AI inference much faster than a standard CPU. AlphaEye uses GPU acceleration automatically when available.
CUDA	NVIDIA's parallel computing platform required for GPU acceleration. AlphaEye supports CUDA 11.0 and above.
SQLite	A lightweight, file-based database engine used by AlphaEye to store all counting history locally without requiring a database server.
Telegram Bot	An automated Telegram account created via @BotFather that AlphaEye uses to send scheduled reports to your personal chat or group.
AppUserModelID	A Windows identifier that ensures AlphaEye appears with its own icon in the taskbar, separate from the Python launcher icon.

Contact & Support

Channel	Details
Email	info@cctvpeoplecounting.com
WhatsApp	fastest response for sales and technical support
Website	cctvpeoplecounting.com — free trial, tutorials, pricing, and resources
Download	cctvpeoplecounting.com/download — free trial installer and setup guide
Support Hours	Monday–Saturday | 9:00 AM – 6:00 PM IST

AlphaEye PCVM — Built for the Real World

Professional-grade AI people counting for private businesses and public organisations.
No cloud. No monthly fees. On-premise. Accurate. Simple.

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