AICUDA TECHNOLOGY

Artificial Intelligence Intrusion Detection

Next generation artificial intelligence intrusion detection

Aicuda's Vaidio™ Series detects different object types automatically in real-time with artificial intelligence powered technology and triggers an alarm when a pre-defined object enters the Region Of Interest (ROI). A user can draw a virtual fence zone and be notified if a vehicle, person or object crosses a virtual tripwire. The system is able to categorize the object types and determine their position relative to the ROI independently of the camera position. For example, a person standing between the camera and the ROI will not trigger an alert until the person physically enters the ROI. The artificial intelligence intrusion detection system automates the monitoring task for high-risk sites to provide a high level of security.

The Vaidio intrusion detection solution relieves operators from continuous monitoring and let the technology do the surveillance for them. Detected events are shown on a map with camera location and time stamp.

High Performance

- Identify objects across multiple cameras in < 2 seconds to enable fast response time

- Accuracy > 95% for environments with appropriate camera settings

- Reduce false-positive rates caused by animals, shadows, weather conditions and lighting conditions

Cost Saving

- No need to purchase expensive built-in cameras for virtual fence recognition

- A regular IP camera is able to execute multiple AI tasks

- Multiple cameras can share the virtual fence recognition software running on the platform to save license costs

Easy Maintenance

- The virtual fence engine can be upgraded on the server side for ease of maintenance

- The Vaidio virtual fence engine is easy to integrate with ONVIF IP cameras

- Input channel and multiple regions of interest

No false alarms

Traditional intrusion detection systems do not recognize the object types. Vaidio intrusion detection is able to recognize over 100 object types with built-in AI algorithms. Vaidio intrusion detection works well under different lighting conditions (day - night) and even in the most challenging weather conditions.

ROI Configuration

- ROI can be any irregular shape
- Supports multiple ROIs in the same frame
- Different alert rules can be applied for different ROIs
- Multiple ROIs can overlap one another in the same area
- Supports exclusive ROI to avoid false alerts by any existing obstruction
- Supports 3D detection: a person who appears in the ROI but is actually between the camera and the ROI will not trigger an alert

No Vehicles
No Parking
No Animals

Examples of use cases

Perimeter Protection

Draw a virtual fence around a property and protect and avoid specific objects from entering. Not only identify security threats, but also track evolving threats.

Restricted Area Protection

Draw a virtual fence around a restricted area which only allows authorized personnel to enter. Setup alert rules to avoid unauthorized access.

Traffic Management

Some roads have certain lanes set aside for special vehicles such as a bus only lane. Intrusion detection monitors illegal access and alerts in real-time.

Illegal Parking Detection

Setup the Region of Interest (ROI) and the alert rule for the non-parking area. Detect vehicles that are illegal parked and send out the alert notification.

Vaidio 100 Series SMB

Intelligent appliance for small-and-medium sized video surveillance deployments. Reliable and easy to set up. It is the ideal solution for customers requiring a cost-effective solution. The Vaidio search engine is intuitive and based on easy-to-use natural language interface.

Vaidio-VSB 110 / 130

◎ Highlights

- Excellent value for an intelligent surveillance appliance
- Vaidio solutions are trained, not programmed
- Significant time and cost savings
- Out of the box solution
- 2 year warranty on hardware / 1 year software maintenance
- Supports all ONVIF devices

Ideal for:
- Small-sized installations: companies, hotels, parkings, schools

Simple Configuration

The open architecture technology of the Vaidio Series makes it easy to integrate with 3rd party hard- and software products. Connect to surveillance cameras for live streaming or to NVR or DVR for playback. Meta data is extracted from video files and stored on the Vaidio appliance for fast video search and review.

Vaidio VSB 510 / 530 / 550 / 570

Vaidio 500 Series Enterprise

Intelligent appliance ideal for mid-sized as well as large-sized video surveillance installations. Reliable, cost-effective and easy to deploy and maintain. Powerful solution for the most demanding artificial intelligence tasks.

There are 4 enterprise models available. VAIDIO VSB 510 is offered with a single NVIDIA 8GB High Performance GPU. VAIDIO VSB 530 and 550 are equipped with a dual NVIDIA 8GB High Performance GPU. VAIDIO VSB 570 is o ered with a dual NVIDIA 16GB High Performance GPU.

◎ Highlights

- High-performance intelligent appliance
- Up to 128 channels
- Vaidio solutions are trained, not programmed
- Out of the box solution
- 2 year warranty on hardware / 1 year software maintenance
- Supports all ONVIF devices

Ideal for:
- Mid-sized installations: construction sites, corporate facilities, hospitals
- Large-sized installations: airports, border security, campus grounds, city surveillance, oil & gas installations, military bases, warehouses, wildlife parks

Deep Learning Technology

Surveillance is a repetitive and mundane task. This may cause performance dips for human beings. Aicuda Technology is developing AI solutions based on deep learning to let the technology do the surveillance for us.

Customer pain points

- Inability to perform object and person search in recorded video files from multiple sources like surveillance camera, internet or smartphone.

- Option for fast, real-time search for hundreds of object types is not available.

- Accidental elimination or overlooking of key video events due to human errors.

- High false alarm rates due to the inability to distinguish different object types in legacy sensor-based systems.

- Unavailability of an all-in-one solution that is able to support video search, face search & recognition, intrusion detection, weapon detection and real time alerts with a high accuracy rate.

Aicuda Vaidio benefits for the customer

Aicuda Vaidio intrusion detection is the industry's first artificial intelligence solution with a simple and easy user interface. The intelligent software eliminates the need to manually inspect hours of video for objects or persons of interest. The Vaidio series seamlessly transforms video into actionable intelligence.

- **All-in-One Solution**
  Supports multiple functions like video search, face search and face recognition, fire detection, intrusion detection, license plate recognition, and weapon detection.

- **Ability to learn**
  Platform is able to learn from experience using a multi-layer neural network. It is trained to recognize humans, items and patterns, not programmed.

- **Intuitive, easy-to-use interface**
  Google-like search engine and intuitive result display based on easy-to-use natural language interface.

- **Plug-and-play**
  Out of the box ready to use artificial intelligence solution with pretrained self learning artificial intelligence models.

- **Partner Proven**
  Fully compatible with ONVIF IP cameras like Axis, Bosch, Hanwha, Mobotix and Sony. Compatible with leading VMS, including Axxonsoft, Digifort, Genetec, ISS, Milestone, Qognify and others.

- **Significant increase in productivity**
  Rapidly pinpoint persons and objects of interest. Review hours of video in minutes.

Product Specifications

Model	VAIDIO VSB-110	VAIDIO VSB-130	VAIDIO VSB-510	VAIDIO VSB-530	VAIDIO VSB-550	VAIDIO VSB-570
Product Image						
Model Series	VAIDIO 100 series	VAIDIO 100 series	VAIDIO 500 series	VAIDIO 500 series	VAIDIO 500 series	VAIDIO 500 series
Video Search	Max. 13 channels	Max. 26 channels	Max. 26 channels	Max. 52 channels	Max. 52 channels	Max. 96 channels
Intrusion Detection	Max. 8 channels	Max. 16 channels	Max. 16 channels	Max. 32 channels	Max. 52 channels	Max. 64 channels
FR / FS	Max. 4 channels	Max. 8 channels	Max. 8 channels	Max. 16 channels	Max. 32 channels	Max. 32 channels
FR Database	1000 persons (5 faces per person)	1000 persons (5 faces per person)	10,000 persons (5 faces per person)	10,000 persons (5 faces per person)	10,000 persons (5 faces per person)	10,000 persons (5 faces per person)
Object Left Behind	Max. 4 channels	Max. 8 channels	Max. 8 channels	Max. 16 channels	Max. 32 channels	Max. 32 channels
AI PPE	Max. 8 channels	Max. 16 channels	Max. 16 channels	Max. 32 channels	Max. 52 channels	Max. 64 channels
AI People Count	Max. 2 channels	Max. 4 channels	Max. 4 channels	Max. 8 channels	Max. 16 channels	Max. 16 channels
AI Vehicle Count	Max. 2 channels	Max. 4 channels	Max. 4 channels	Max. 8 channels	Max. 16 channels	Max. 16 channels
Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Form Factor	Tower-PC	Tower-PC	1U-Server	2U-Server	2U-Server	2U-Server
CPU	Intel Core i5	Intel Core i7	Intel Xeon	Dual Intel Xeon	Dual Intel Xeon	Dual Intel Xeon
AI GPU	NVIDA Performance GPU 4GB	NVIDA Performance GPU 8GB	NVIDA Performance GPU 8GB	NVIDA Performance Dual GPU 8GB	NVIDA Performance Dual GPU 8GB	NVIDA Performance Dual GPU 16GB
AI Storage	Include one 1TB HDD 1x 3.5" SATA III internal disk bay	Include one 2TB HDD 1x 3.5" SATA III internal disk bay	Include one 2TB HDD 2x 3.5" SATA III hot swap disk bay	HDD not included 6x 3.5" SATA III hot swap disk bay	HDD not included 6x 3.5" SATA III hot swap disk bay	HDD not included 6x 3.5" SATA III hot swap disk bay
Network	One Gigabit Ethernet	One Gigabit Ethernet	Dual Gigabit Ethernet	Dual Gigabit Ethernet	Dual Gigabit Ethernet	Dual Gigabit Ethernet
System HDD	240GB SSD	240GB SSD	480GB SSD	Dual 480GB SSD	Dual 480GB SSD	Dual 480GB SSD
Memory	8GB	16GB	16GB	32GB	64GB	64GB
RAID Support	No RAID Support	No RAID Support	RAID 0,1 Support	RAID 0,1,5,6 Support	RAID 0,1,5,6 Support	RAID 0,1,5,6 Support
HDD Support	1, 2, 4, 6, 8, 10, 12TB	1, 2, 4, 6, 8, 10, 12TB	1, 2, 4, 6, 8, 10, 12TB	1, 2, 4, 6, 8, 10, 12TB	1, 2, 4, 6, 8, 10, 12TB	1, 2, 4, 6, 8, 10, 12TB
Stackable	Yes	Yes	Yes	Yes	Yes	Yes
Rack Mount	No	No	Yes	Yes	Yes	Yes
Video File Format	MP4,WMV,AVI, MOV,MPG	MP4,WMV,AVI, MOV,MPG	MP4,WMV,AVI, MOV,MPG	MP4,WMV,AVI, MOV,MPG	MP4,WMV,AVI, MOV,MPG	MP4,WMV,AVI, MOV,MPG
Supported codecs	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9	H.264, H.265, MJPEG, MPEG1, MPEG2, MPEG4, VC1, VP8, VP9
File-Based Ingestion	Multi File Videos or Single File Videos	Multi File Videos or Single File Videos	Multi File Videos or Single File Videos	Multi File Videos or Single File Videos	Multi File Videos or Single File Videos	Multi File Videos or Single File Videos
Warranty	2 years warranty HW 1 year SW maintenance	2 years warranty HW 1 year SW maintenance	2 years warranty HW 1 year SW maintenance	2 years warranty HW 1 year SW maintenance	2 years warranty HW 1 year SW maintenance	2 years warranty HW 1 year SW maintenance

* For every camera channel with Aicuda Technology Video Analytics, Video Search is automatically included.
* People Counting includes people counting, person reverse direction movement, person fall / crouch and loitering detection.
* Vehicle Counting includes vehicle counting, vehicle reverse direction movement and illegal parking detection.
* Design and specifications are subject to change without notice.