



How to add

AI & ANALYTICS

to your existing surveillance system

05.11.22 | 11am

Speakers



Don Helms | Vertical Market Manager

My mission is to provide intelligent analytic & AI based IP solutions, managed technology solutions, and other great products to the Remote Video Monitoring sector and the Parking sector.



Brian Denmeade | Field Engineer

I have a passion for helping secure the world through educating others about the latest physical and digital security systems.



Physical security has evolved from reactionary and defensive to proactive, with **AI Technology** being integrated into almost every platform.

Reactionary and Defensive: Post-Alarm Scrub

Post-alarm review confirms if an escalation is required

- Review of a few frames of alarm event video
- The review is performed by a monitoring agent(s)
- An officer may be dispatched before event confirmation

Alarm trigger by motion detection or standard analytics

- Can't discern false positive from positive trigger

Monitoring companies and customers

- Charge/Fees for each alarm-trigger response
- False Positives have a negative impact

Proactive: AI Technology

Post-alarm review: Confirm if escalation is required

- Performed by AI at the time of event
- Improved identification of positive-event triggers
- Reduced false identification of event triggers

Alarm triggered by AI escalation

- Positive event trigger caused by human, vehicle

Monitoring companies and customers

- Reduction of false-positive event triggers
- Cost-effective



AI Technology Questions

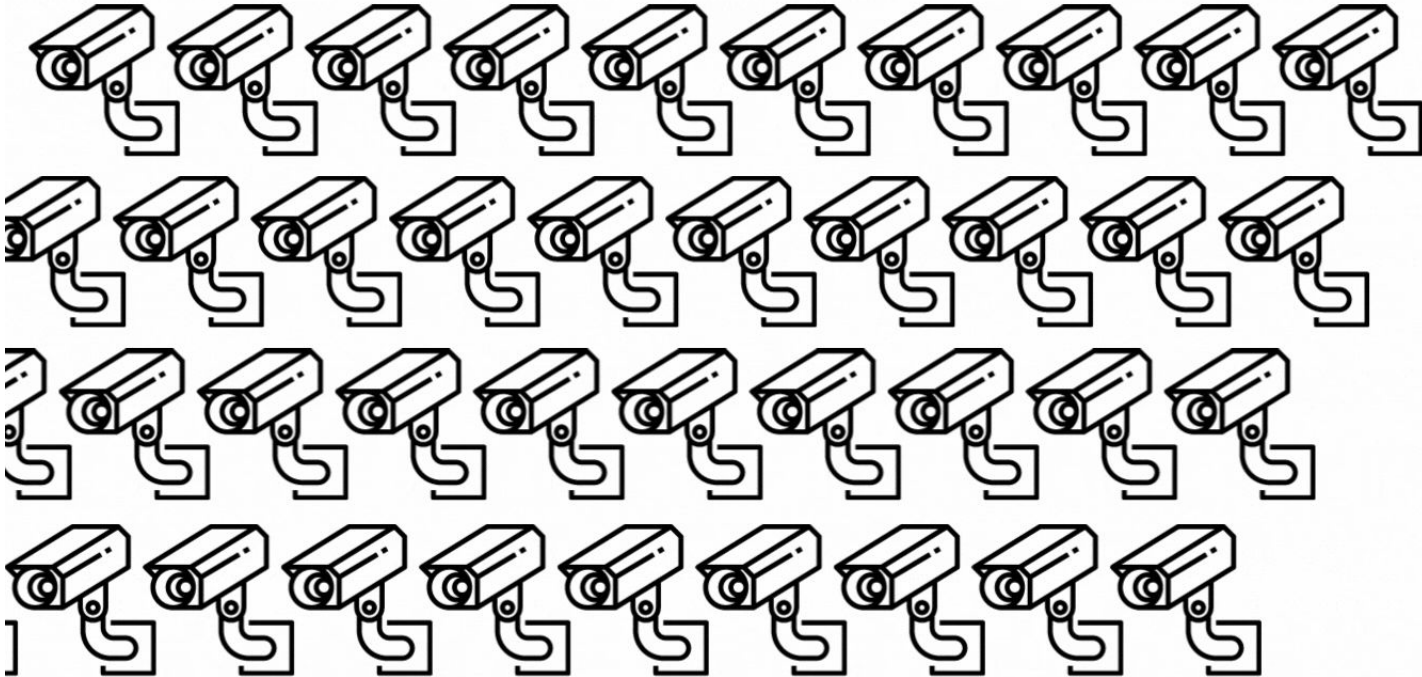
- Does AI require a degree to install and deploy?
- Does AI involve installing all-new hardware?
- Can AI be adapted to existing security systems?



AI Technology Options

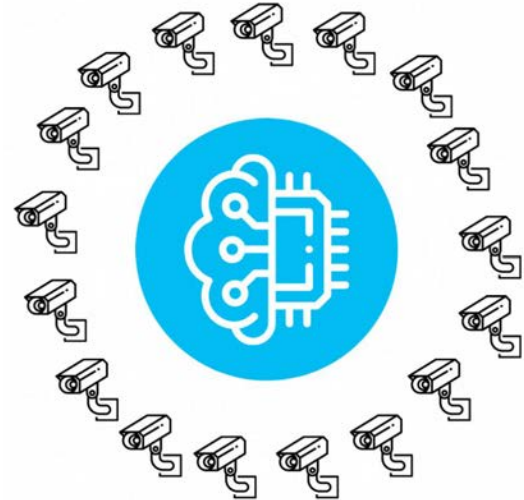
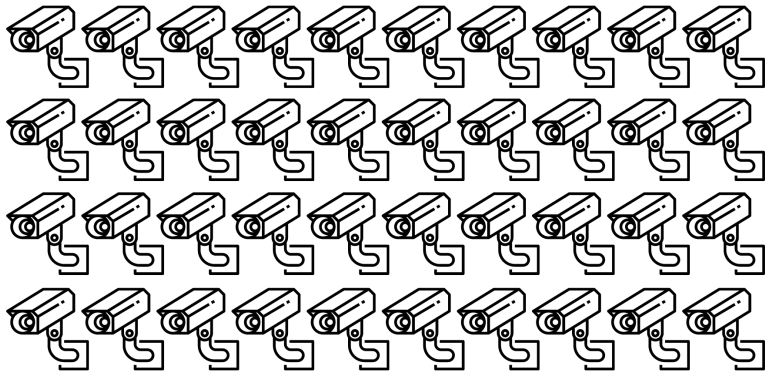
1. Smart Cameras have various levels of AI
2. Smart IoT devices have upgradable levels of AI
3. VMS Platforms with AI support in scale

Smart Cameras - Upgrading Existing Cameras



Smart Camera Benefits

- An edge device offers embedded AI
- Smart motion detection based on classification
- Designed to replace cameras at existing sites



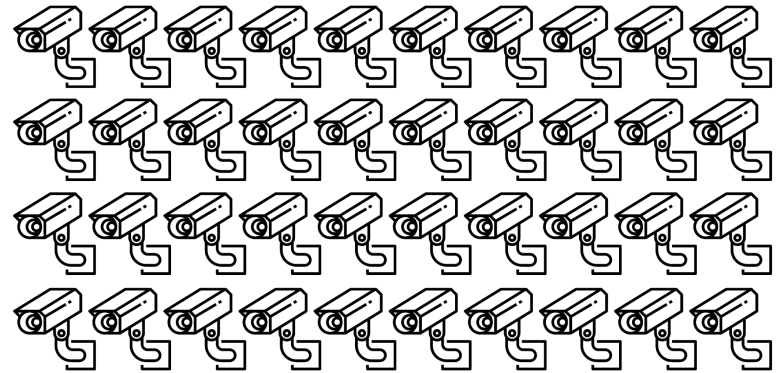


Smart Camera Limitations

- Costly to retrofit existing camera sites
- New installs are preferred over legacy installations
- Mounting and angle of view; impacts AI accuracy

Smart VMS: Server-side AI for Existing Video Streams

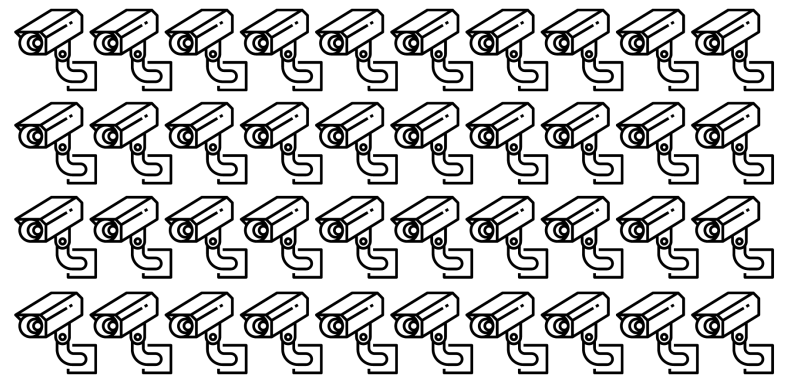
VMS +



Smart VMS: Server-side AI Benefits

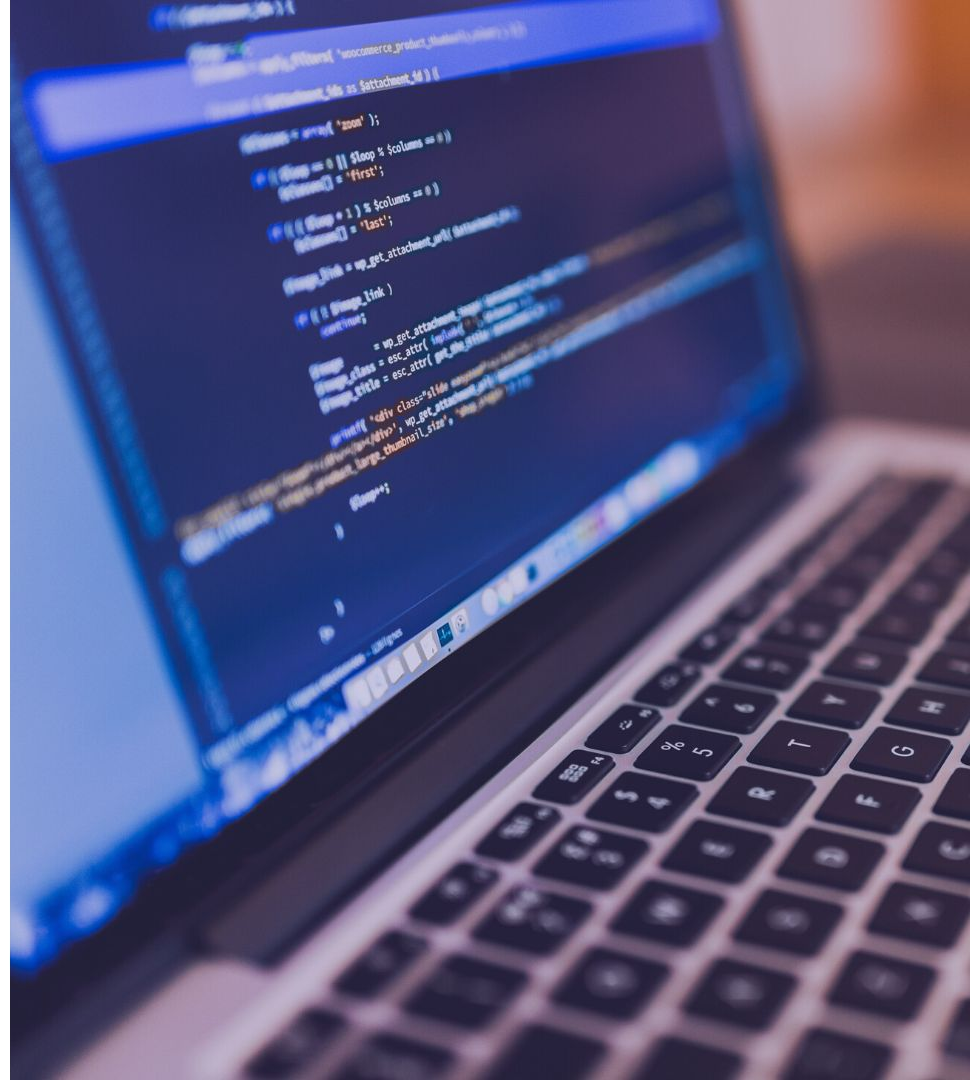
- Higher-level AI engine compared to edge devices
- Software-upgradable AI and analytics engine
- Applicable to existing and future video streams

VMS +



Smart VMS: Server-side AI Limitations

- High-level AI engine with high resource demand
- Higher server technology investment potential
- Software AI often requires an RMR commitment

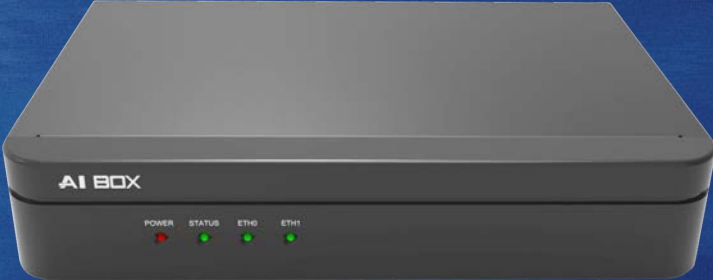


Smart VMS

- Traditional VMS platforms that offer AI/Deep-Learning require investments in higher-end server technology
- Newer VMS platforms like Ganz CORTROL help reduce server technology investments by offloading AI algorithms to powerful graphics cards, not powerful expensive CPUs



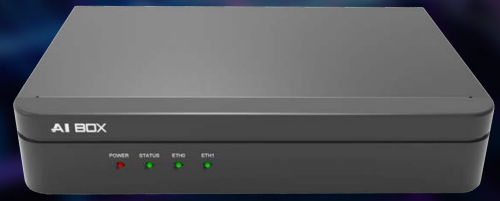
Smart IoT: Embedded AI Intelligence



Smart IoT – Embedded AI Benefits

- Higher level, module-based AI rule engines
- Module-based, software-upgradable AI rule engines
- Applicable to existing and future video streams

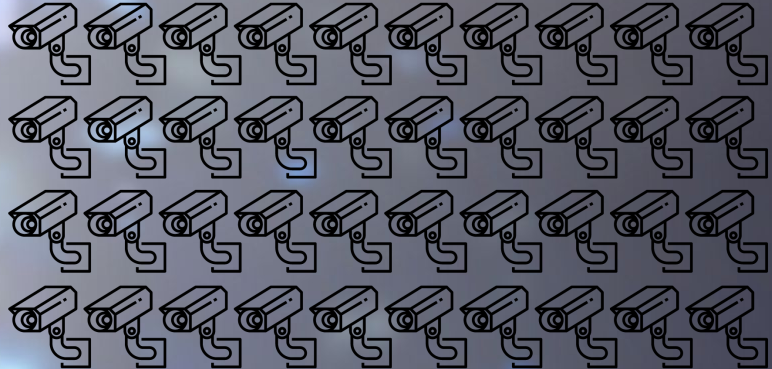
FR Safety Helmet
Privacy LPR Fall Custom AI
Thermal Fisheye Abandon



Smart IoT – Embedded AI Limitations

- Targeted design intent—deployment specific
- Restricted, non-expandable hardware resources
- Design calculation based on available resources

FR Safety Helmet
Privacy LPR Fall Custom AI
Thermal Fisheye Abandon

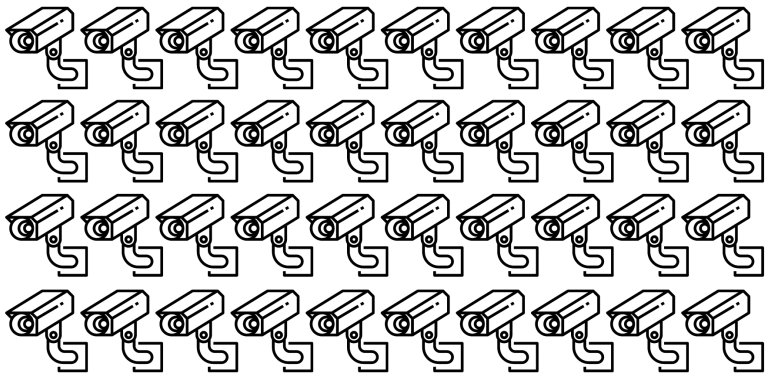


“

How do I find a cost-efficient way to integrate AI / Deep Learning into my existing surveillance system?

”

Solutions

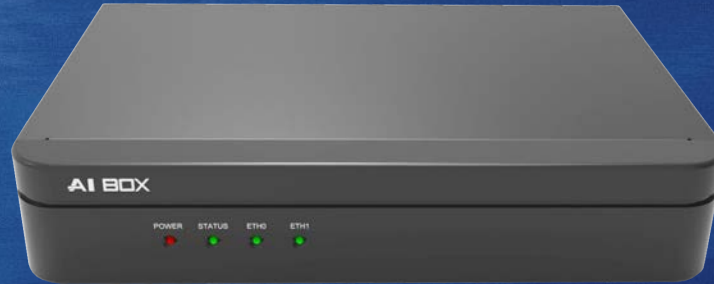


- Upgrade existing cameras with AI-based cameras- \$\$\$
- Deploy VMS platforms that offer AI-based analytics - \$\$
- **Leverage smart IoT Devices with AI-based analytics - \$**

Solution

AI BOX

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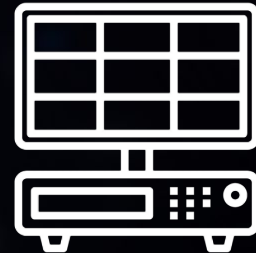


Smart IoT: Embedded AI Intelligence

The logo for GANZ, featuring the word 'GANZ' in a bold, stylized font with a circular graphic element to the left.

The AI BOX can add Video Analytics and Deep Learning to:

- VMS
- Cameras
- NVRs or DVRs



The AI BOX enables the pre-existing monitoring system to perform accurate image analytics *without replacing cameras or the recording system.*



CAMERAS

AI BOX adds Deep Learning to existing IP cameras via RTSP video streaming

▶ NVR / DVR

Compatible with existing Onvif-based NVR and DVR systems or can be used in RTSP mode.

 VMS

The AI BOX is compatible with existing Onvif-based VMS systems or can be used in RTSP mode.

AI BOX

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ALARM SYSTEMS

Communications via Alarm-in, Relay, RS485, & API





ACCESS CONTROL

Communications via Alarm-in, Relay, RS485, & API

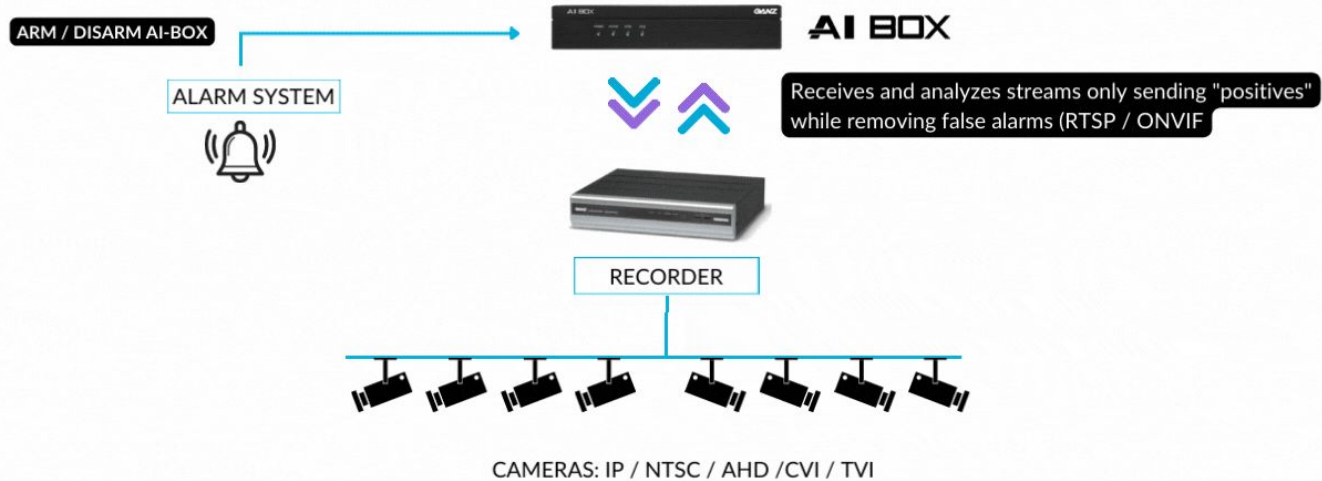


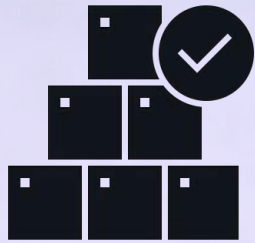
INTEGRATION

- Easy integration with various APIs and Protocols (Onvif, REST, E-mail, TCP, RS485)
- HTML5 web-based configuration (no plugin)

AIBOX SETUP

EXAMPLE OF SYSTEM OVERVIEW





BENEFITS





AI IS EASILY ADDED TO ANY EXISTING SYSTEM

Using the existing video surveillance system does not require any security system changes.



COST-EFFECTIVE

- The AI BOX delivers maximum reliability with low implementation costs
- No RMR fees
- Does not require the complexities of replacing an entire system

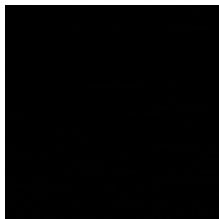


MULTIPLE INTEGRATIONS

- The intuitive interface and simple programming of algorithms allow rapid integration
- Integrated in CORTROL, Immix, Sentinel, Safestar, Kronos, and more



BUILT-IN FEATURES



Object Detection



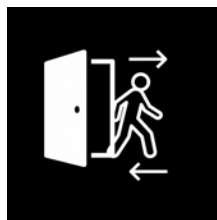
Object Tracking



Line Crossing



Loitering



Enter/Exit



Stopped

✓ CLASSIFICATIONS



Human



Vehicle



Bike



OPTION READY



Object Abandon



LPR



FR



Object Removed



Privacy Masking

Fisheye Object Detector

Customizations

```
StatusBar barStyle="Light-Content"
<View style={styles.header}>
  <TouchableOpacity style={styles.touchableOpacity}>
    <Text>Leave</Text>
  </TouchableOpacity>
  <Text style={styles.leaveText}>Leave</Text>
</View>
<FlatList
  ref={(list) => this.msgFlatList = list}
  data={messages.sort((a,b) => b.timestamp - a.timestamp)}
  renderItem={(item) => item.id === 1 ? <MessageItem /> : <MessageItem />
  keyExtractor={item => item.id}
  style={styles.messagesList}
/>
```

✓ CUSTOM OPTIONS



Safety
Helmet



Vehicle -
Truck



Animal



Human



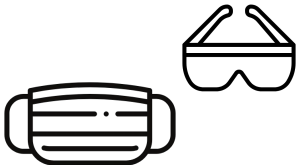
Vehicle -
Bus



Vehicle -
Car

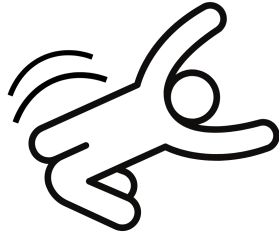


Safety
Jacket



Mask /
Sunglass

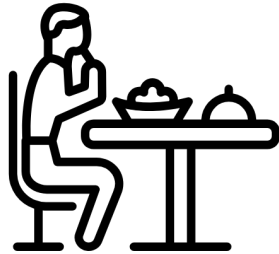
✓ CUSTOMIZED BEHAVIOR OPTIONS



Fallen Person, Persons Detector



Violence Detector



Eating



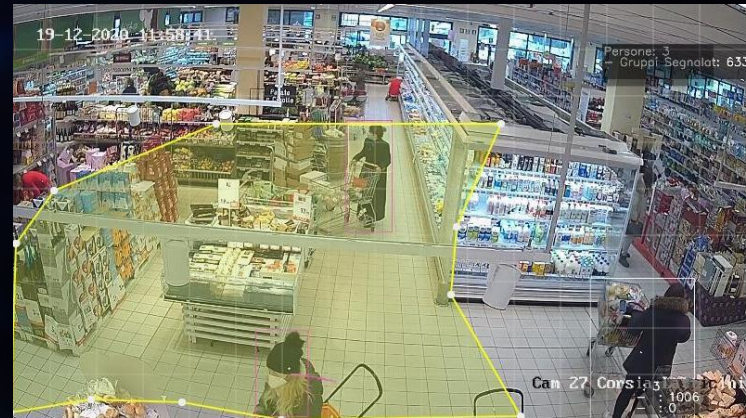
Drinking

Case Study

APPLICATION: Retail Occupancy Control

Following the occupancy restrictions that came into force at the beginning of the pandemic, it became necessary to reorganize retail spaces to allow occupancy management and guarantee customers a pleasant and safe shopping experience.

The client, a supermarket chain, needed an economical, intelligent solution to monitor the number of people present in multiple departments without replacing the existing video surveillance system.



Case Study Capabilities

AI BOX

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SOLUTION: AI BOX

The simple configuration and the rapid commissioning of the system, without the need for calibration, allowed the store to continue operating while guaranteeing security and protection for customers and employees.

The AI BOX's intuitive interface and simple programming of AI algorithms led to rapid integration and the achievement of the required objectives. Using the existing video surveillance system did not require any security system changes. It was able to deliver maximum reliability with low implementation costs.



SUMMARY

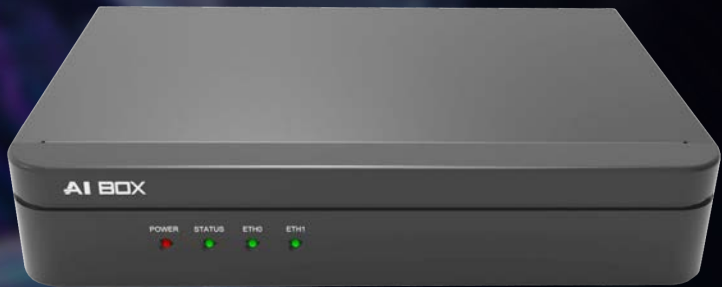
Artificial intelligence-based technology is becoming more mainstream, and its use is growing. AI provides end-users and security professionals with many advantages by increasing operational efficiencies, proactively identifying risks, and ensuring rapid responses to security incidents.

Of course, AI technology cannot replace human-to-human interaction, but AI combined with traditional security methods can provide a more robust and efficient security solution.

QUESTIONS?

AI BOX

Intelligent Deep-Learning AI Engine



ganzsecurity.com/aibox



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@ GanzSecurity



@GanzSecurity