IDEMIA
PUBLIC SECURITY
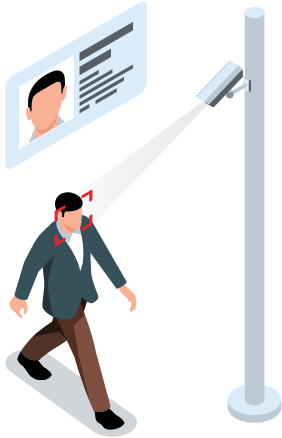
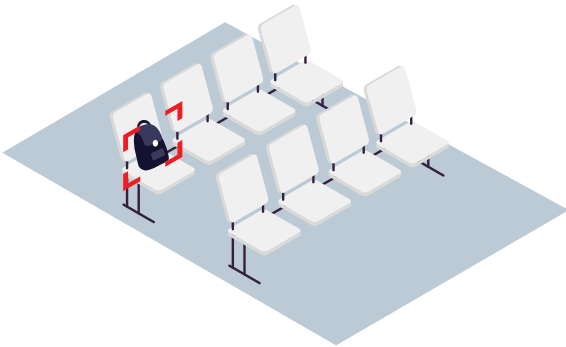# Augmented Vision

Video analytics to ensure a safer environment.

Example of uses case covered by Augmented Vision

✓ Detect and identify a person of interest

✓ Secure access for authorized personnel

✓ Detect suspicious objects and alert

✓ Detect and recognize a person and identify clothes using a color filter

✓ Detect and warn of an intrusion

✓ Speed up post-event investigations

Augmented Vision boosts results, saves time and increases security

Today there is an immense volume of videos and images due to the prevalence of CCTV streams, smartphones and more. Augmented Vision can protect areas of interest live. **It can be used to prevent security incidents in highly frequented secured areas, bases, and governmental spaces but also to ensure frictionless access to restricted areas for authorized personnel, while protecting citizens' privacy with the highest level of data protection.**

Augmented Vision analyzes hours and days of video streams and thousands of photos to help find subjects and objects of interest in post-event investigations. Augmented Vision is designed to make sense of all available video and image data, allowing operators to quickly create leads to solve crimes.

OUR CUSTOMERS

Government/Public sector

Airports and public transporation

Corporate and Commercial

Stadiums and arenas

Gaming and entertainment

AUGMENTED VISION

✓ **Post-event video analytics**

IDEMIA's video analytics tools and algorithms help investigators find and qualify information from video sources faster using automated technology.

✓ **Instant facial recognition for frictionless access control**

The solution identifies end-users via a standard IP camera. The identification result is pushed to the access control software to authorize access.

✓ **Live video analytics**

This solution monitors CCTV cameras and alerts security staff if necessary. The identification of persons of interest is based on biometric and non-biometric attributes (face, silhouettes, vehicles and objects of interest).

✓ **Video analysis at the point of capture**

This video processing solution is built on the world's leading embedded Artificial Intelligence Edge computing platform.

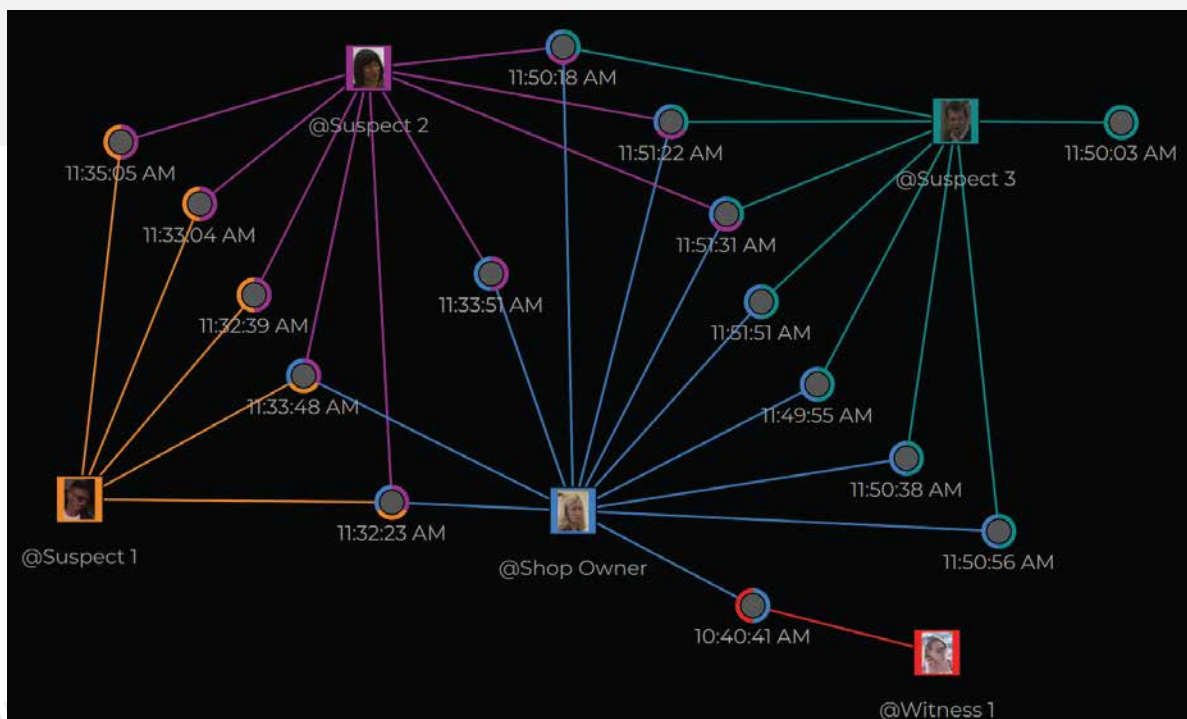# Boosting the efficiency of operators using video analytics

When investigating a suspect you need to leverage all sources, including processing and analyzing a large variety and quantity of video and image formats.

Once Augmented Vision has been fed the video and image data, it recognizes, records, and classifies persons and objects of interest such as **silhouettes, faces, vehicles and license plates.** This automatically **improves suspect traceability and enhances associations** that were previously unknown.

Providing incident security, frictionless access, and secure privacy, Augmented Vision is used by customers in unique domains.

The immense volume of video and image data available in these domains is used to protect areas of interest across the board.

SOLVE A CASE FASTER

With Augmented Vision, you do not have to spend endless hours watching video footage or looking at images. This cutting-edge tool identifies normal background noise in a scene and detects, extracts and classifies pedestrians, faces, vehicles and license plates, identifying potential clues faster and more effectively. As a result, you maximize resources to obtain actionable intelligence faster.

ALLOCATE YOUR RESOURCES BETTER

Previously, it would have taken multiple people and weeks of work to view 500 hours of video footage to study half a million faces. Augmented Vision can complete this in almost a day on a small workstation system with one single officer.

Transforming video protection into actionable intelligence

In highly frequented public or private spaces, the use of CCTV cameras can help spot potential threats, preventing situations from escalating and ultimately keeping people safe. However, it is not always easy to understand the complexity of many CCTV streams simultaneously collected over many hours. Determining your key persons of interest (POI) is important, but how do you survey everything at the same time to make sense of momentary events?

Augmented Vision is the answer. It performs live monitoring across thousands of CCTV cameras, differentiating between individuals based on biometric and non-biometric features to identify potential POI and automatically alert security staff upon a match. **This allows officers more time to follow up on actionable intelligence,** rather than reviewing endless video streams.

Identifying high-risk and vulnerable individuals

Alerting officers about targeted events of interest

Following POI across multiple camera

Identifying license plates, faces, silhouettes and more

Examples of events analytics:

- Intrusion detection
- People counting
- Mask detection
- License plate
- Vehicle identification
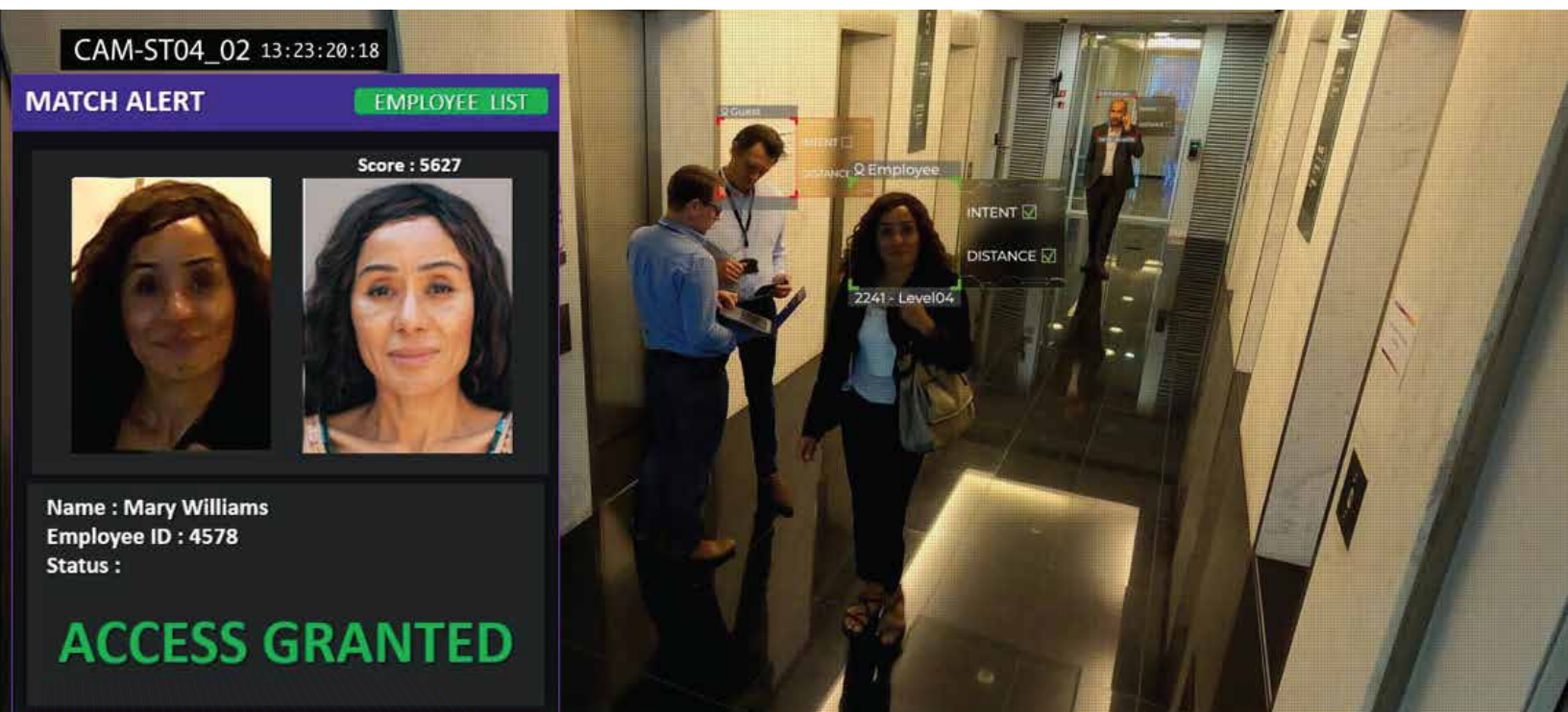- Soft biometric data: gender and age

Providing secure and frictionless access to authorized personnel

The Augmented Vision Platform can be easily integrated with any existing access control software, leveraging IP cameras to manage access facilities. Facial data is pushed either from server to server or from server to door controller, allowing Augmented Vision to fit all ecosystems. This technology can easily identify visitors and collaborators at a distance, creating a seamless biometric identif ication experience. IDEMIA's advanced algorithms, enable in-motion recognition while ensuring the highest accuracy.

Using facial recognition means that no direct contact is needed with the equipment, a hygienic alternative to other systems available on the market. The strength of the solution resides in its ability to analyze the entire situation around access points. It is capable of enabling group access and detecting suspicious behaviors. It increases security by spotting attempts at tailgating and then locking a door when an unauthorized person is identified in the field of view.

Leading embedded Artificial Intelligence Edge computing

Augmented Vision comprises of a processing solution built on the NVIDIA Jetson (Embedded ARM64 Device + GPU and SoC).

With this in mind, Augmented Vision gives you the flexibility of small deployments for covert investigations and for distributed solutions where infrastructure is sparse and communications are limited.

With the software and hardware all in one very small package, the Edge Embedded appliance is a high-performance, low-power computing device, optimized for IDEMIA's next generation video analytics and computer vision solutions.

Augmented Vision can be used as a standalone or as a hybrid solution and is therefore compatible with all existing cameras. It can be installed rapidly for quick and easy deployment.
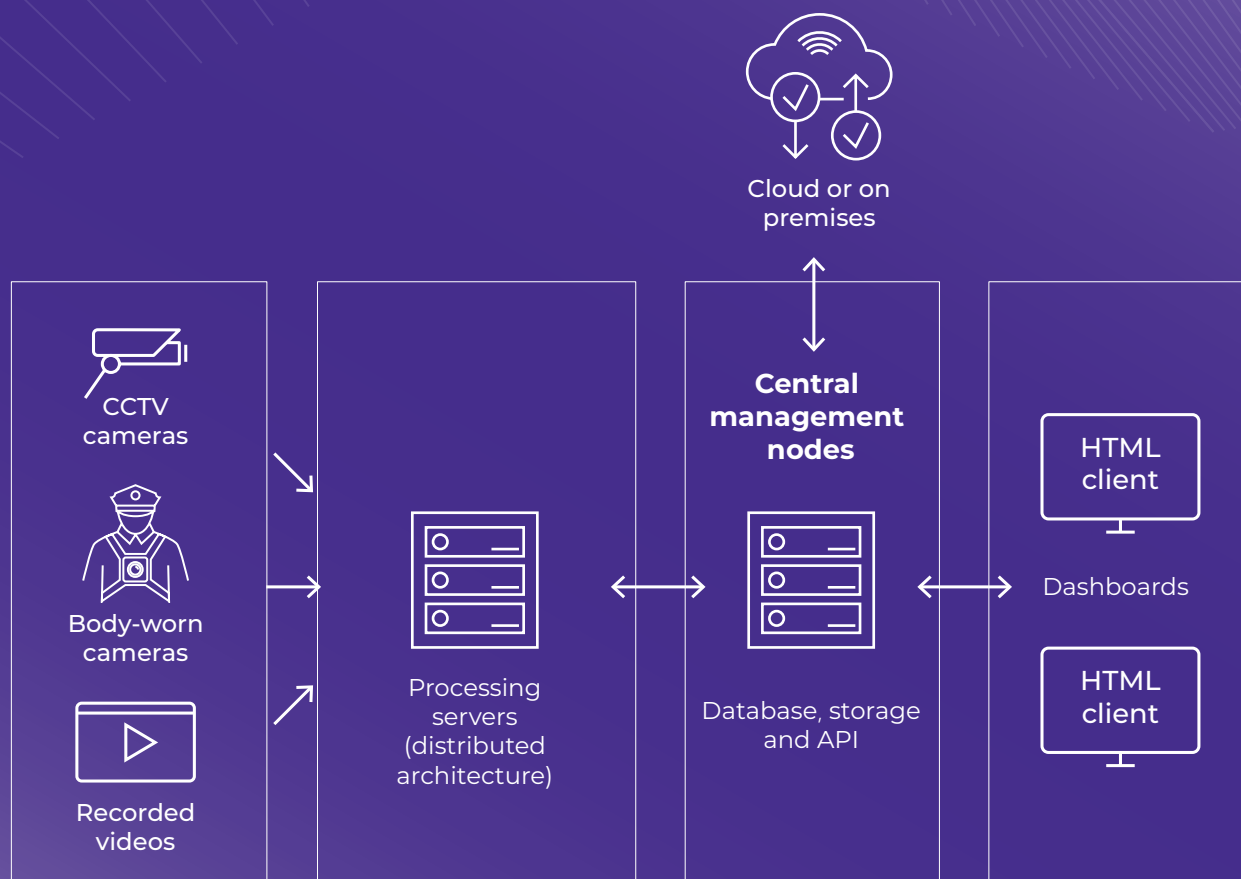
The Edge Embedded solution supports diverse operations – from multiple cameras and high person throughput to single camera deployments and covert or isolated applications.

How does the Augmented Vision Platform work?

Augmented Vision analyzes scenes in the processing service from a CCTV camera's field of view (an image or recorded video), live and/or post-event. Data is then converted into mathematical models and analyzed with respect to known object types e.g. faces, people, vehicles, license plates etc. and compared (where applicable) to a client's database. The results of this analysis are presented to the operator in various dashboards.

Cloud or on premises

CCTV cameras

Body-worn cameras

Recorded videos

Processing servers (distributed architecture)

Central management nodes

Database, storage and API

HTML client

Dashboards

HTML client

Augmented Vision
features and functionalities

Facial recognition

NIST tested, high quality face detection and recognition

Pedestrian detection

Detection and recognition of person and top/bottom color filter

License plate recognition

Detection and recognition of license plates including partial plates

Vehicles detection

Detection, classification and identification of multiple vehicle types

Object linking

Automatic and manual associations for faster case management

Meta-tagging

Automatic and customizable tagging of POI data creating searchable TAGs

Color filter

POI and object filtering for colors

Geo-tracking and mapping

Localization and positioning of cameras and POI across maps

Event analytics

Intrusion detection alerts
Mask detection alerts
Person detections
People couting

Event prioritization

Analytics processing starts at any point in time processing outward

Parallel processing

System-wide parallel processing for faster analysis of data

Collaboration

Enables local and remote teams to work together on a single case or across multiple cases

Designed for CCTVs

Our solution is designed to augment the capabilities of standard CCTV systems

Proprietary neural networks

IDEMIA's neural networks are developed and trained in-house

Hybrid deployments

Cloud, on premises hardware and *Edge* technologies working together

0.1%

False alerts per day

Embedded

Built upon world leading AI Edge computing platform NVIDIA Jetson

Scalability

System-wide scalability of the solution for enterprise performance

Versatile plug-in ability

Third party low level algorithm plug-in for fast integration

5 billion

Biometric records managed worldwide

NIST

Top ranked across multiple biometrics

Why is IDEMIA the ideal partner for you?

With over 40 years' experience and more than five billion biometric records managed worldwide, IDEMIA is the undisputed leader in biometric security systems. Our algorithms – consistently top-ranked by NIST – and sensor technologies, combined with our end-product design and manufacturing expertise, make us the partner of choice for the most prestigious organizations.

We create off-the-shelf and tailor-made solutions to meet the complex and everchanging demands of our customers. We collaborate with the world's leading law enforcement agencies and provide the most advanced tools and guidance available on the market. We supply companies around the globe with secure access control using biometric technology as well as solutions to facilitate their day-to-day activities, bringing more security and peace of mind.

We develop products and solutions in accordance with the Privacy-by-Design and Privacy-by-Default principles. We are strongly committed to helping protect and secure citizens' privacy with the highest possible level of data protection for identity verification and authentication technologies.

Our goal is to keep the world as safe and secure as possible.

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