

Viseum iVOS FaceRec Intelligent CCTV Biometric Face Recognition Analytics

Adaptive and Intuitive Face Recognition Software



"Viseum's Face Recognition System will become as essential for daily life, just as Automatic Number Plate Recognition (ANPR) is today".

- Reliably delivers **4 times greater accuracy** than any other Face Recognition System – Encouraging its reliable use for many more surveillance applications.
- Operates using any professionally selected and sited standard camera, and can be further optimised by the unique 360° Long Range **Viseum IMC Camera** – Automatically match, monitor and uniquely follow **100 times more faces** and automatically detect over **15 times more incidents** from just one camera installation.
- The only CCTV surveillance technology to accurately follow people until their face is captured, giving you the ability of capturing faces in populated wide areas of high risk suspects, even when they approach CCTV cameras, and consistently hide their identity.

Industry Step Change

"There are virtually unlimited security and surveillance applications when trained to use Viseum iVOS F3 functionality operating with F3 functionality operating." (Viseum UK Group President)

General Use

People are automatically allocated to and checked against red, black and green security lists, for alerting security staff and to be followed automatically. **Basic Example** - a VIP or a suspect can be followed through a city, and live reports of incidents and events that may affect them can be sent to the security staff as either alarms or simply as situation awareness. Note – **Viseum iVOS FaceRec** can be used for many more security applications with **Viseum iVOS F3** (early prototypes know as tag-and-track).

Typical High Security Application - Suspicious Behavior

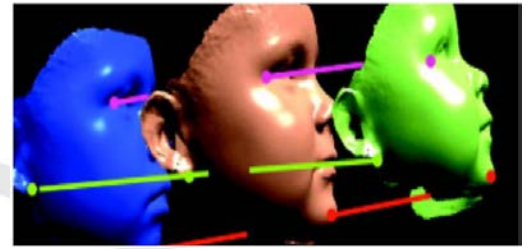
Some of our **Surveillance Technology Strengths** are to uniquely identify people through different visual biometrics, to cross reference this information to their actions, locations and any access control information, and to automatically follow them. **Basic Example** – A person walking through a **Customs Border** who consistently hides their face as they walk past static cameras. This can be automatically alarmed as high risk suspicious behavior, without them knowing that the unique Viseum IMC camera can follow the suspect to capture and cross check their faces against a database of wanted suspects.

[> See Viseum Customer Business Case <](#)



[> Viseum Group Profile <](#)





Viseum Face Recognition Software Accuracy

Our expertise with image processing combines several matching and detection algorithms to deliver the highest face recognition accuracy available. We operate within a 95% - 98% accuracy threshold for controlled environments, such as border crossings. During comparison trials when up against our nearest rivals Viseum iVOS FaceRec constantly proved to be at least 4 times more accurate than its closest competition in all installations.

Proven Face Recognition Software out in the Field

1. The Viseum Face Recognition Software was recently tested by a major financial institution in London, and compared it with the next best Face recognition system they already had in use. This customer highlighted significant advantages, with accuracy, system design and operational benefits of the Viseum iVOS FaceRec software.
2. For a major international hotel in the UK, the Viseum Face Recognition System was left on 24-hours a day to capture and identify persons entering and leaving the hotel entrance. Viseum iVOS FaceRec automatically captured and re-identified 270,000 facial images during a 3-day period. This matched the hotel's register of guests with a 97.8% accuracy.
3. During a shopping mall's highest seasonal shopping period, iVOS FaceRec successful re-identified 758 faces from black, white, coloured and all skin variations. Our nearest rivals running the same test in parallel only collected and identified 187 white faces. During this test the customer was so impressed with this capability, a web cam was also attached to the hotel's ATM machine, and with 100% accuracy it allowed only the hotel's residents to use it.

During all of these tests iVOS FaceRec software also displayed excellent accuracy for its unique partial identification capability. For example parts of faces showing but with half-hand coverage or momentary "odd" facial expressions. No other Face Recognition technology can achieve this.

Some Select Reference

The software is also currently in use in various parts of the world and in various industry sectors including:

- **Olympics Development Agency (ODA).**
- World Cup Stadiums.
- MFO (Multi-national Force & Observers) - Supervising the implementation of the security of the Peace Treaty between the Arab Republic of Egypt and the State of Israel.
- Brazilian Military Police.
- South African International Hotel.
- Elbit Systems.





How Viseum Face Recognition Works

Viseum iVOS FaceRec System captures images of people, identifies the faces in the image from the full scene and then stores and indexes each facial image. Multiple still-images are captured of each person in order to build a better profile on the database and also for the software to anticipate a changing appearance e.g. glasses, beard, ageing etc.

Our integrated software systems use a web protocol indexing & face matching platform. This data management expertise allows our **Face Recognition Software** to automatically identify from the relevant camera anywhere in the network, and open the pre-configured comparison database table of captured images. Whilst aiding network design and operational performance, this also supports enrolling new faces onto the system – during this secure process all registered faces and live captured faces can be investigated to ensure that false system enrollment cannot be allowed.

Viseum Face Recognition Network Capacity – CCTV Design

With state-of-the-art camera, face recognition technology and database technology, and centralised and/or de-centralised flexible system architecture, there is no software or hardware limitation on the number of faces to manage or size of CCTV network involved. This allows unlimited databases with an unlimited number of registered faces, to be tracked, logged and managed on the relevant watched lists.

Viseum Facial Recognition Surveillance System incorporates:

- Multiple algorithms cross check system – delivering best accuracy.
- Fast and easy searches of multiple databases at one time.
- Integrates with the Viseum IMC camera – captures face images up to 70m (depending on lighting conditions and angle of face).
- Any number of databases, tracking logs and watch lists.
- Real-time indexing/detection from multiple live and recorded video sources.
- Real-time/offline matching/enrolment.
- Secure web reporting capability (text, email, audio/visual alarms).
- Automatic face assignment.
- External API available for integration into other systems.
- Digital Input/Output for event alarms.



Full Data Protection Law Compliance

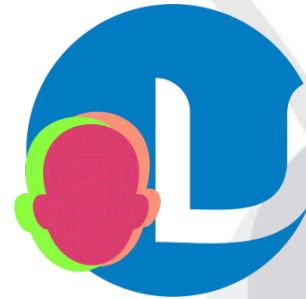
Under many countries' data protection legislation, there requires to be manual intervention as opposed to a totally automated procedure. Viseum iVOS FaceRec allows the user to manually compare faces from the database with the face just captured.



Typical High Value Uses - Viseum Face Recognition

Viseum's Face Recognition Software may not only be used for security and threats but also for a variety of "friendly" requirements. For example:

- **Border** and **Perimeter Control**.
- Finding persons-of-interest or missing persons.
- Authorised access to sensitive secure areas.
- Bank ID checks (ATM, cash in transit, etc).



Viseum CCTV Training



Viseum Intelligent CCTV Making People's Faces the World's Greatest Weapon Against Crime and Terrorism.



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Legal Statement

We have invested heavily in the protection and policing of our intellectual property rights (IPR). Central to our business is the commercial protection we provide our partners in sharing these secured markets. We commit to the policing of this IPR in the following way: As with any infringement, its trade reseller is the primary target for legal action, which is in turn followed up by making the potential user aware of the infringing product's recall due to its illegal use. This is then followed up with full and complete legal action with the suppliers of such goods. This policy of proactive policing our markets in this way since 2002 has proven so successful that we have only ever identified one infringing party. A PLC entity was found to be trading with infringing goods and they can now no longer sell such goods into our international territories, nor can they secure investment due to this breach.

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Patents Granted European Patent > [EP 1 579 399](#) <, United States of America > [US 7,952,608 B2](#) <

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