

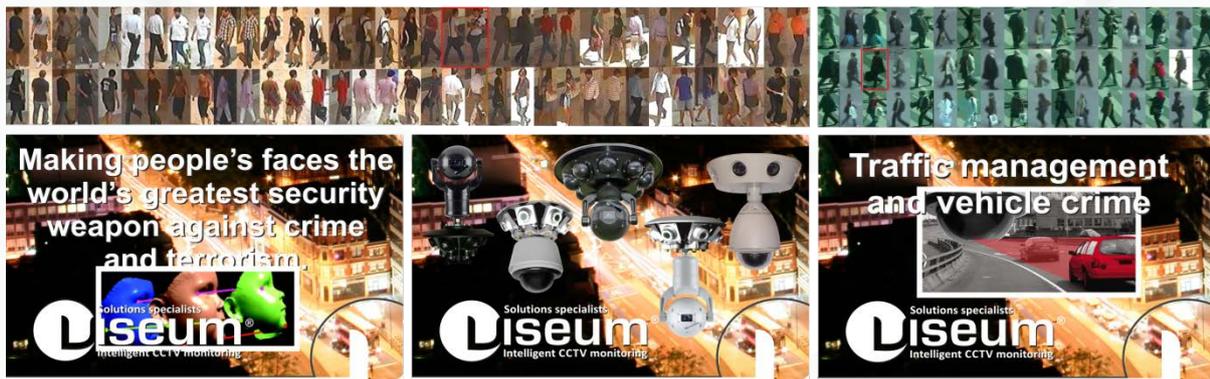
Face Recognition Installation Programme

Viseum iVOS F3 – Automatically identifying people and Find, Fix and Follow persons of interest

Viseum iVOS FaceRec video analytics software automatically identifies people. It automatically finds and follows persons of interest during emergencies. This is one of Viseum's technology strengths in both open-world and closed-world environments. An open world is where different people will be moving through a city-type environment. An example closed world is an airport departure lounge where the same people will be moving around. Typical Viseum [face recognition system](#) environments are partly both open-world and closed-world.

Old low-quality CCTV systems

It is extremely difficult finding persons of interest in emergencies and when time is critical. Low-quality images of people may be the only available video. It would benefit the customer to automatically detect and follow persons of interest using such poor-quality images.





Typical Technical Challenges

1. Typical PERSONAL-ID images are very different to the actual live person e.g. several years older and loss or gain in weight.
2. PERSONAL-ID images are often edited in photography studios for vanity. This makes technical recognition problematic because;
 - a. The subject, in fact, looks very different to real life.
 - b. This risks a serious security breach by allowing person “A” to penetrate a security system as person “B” (espionage, terrorism, etc).

A typical example of an edited image:



PERSONAL-ID



Actual image of face

A PERSONAL-ID image can be used when looking for persons of interest during emergencies. This uses ageing techniques cross-checked with Viseum’s other person following methods.

If an image is edited it can be identified as a potential security risk. Viseum will not use such images to verify a person for security clearance.

3. PERSONAL-ID images are usually manually scanned with poor-quality scanners. When saved, poor compression causes much corruption to the image.





Viseum's proven Face Recognition System techniques

Viseum's unique experiences and innovations prove that passing a test better than any other [face recognition software](#) will not deliver operational success for the customer. Viseum's other technology innovations will also be needed. For example, depending on the poor-quality input images of the persons of interest, a 60% success rate in a closed-world environment may give a customer confidence to award the project. But, this will deliver too many missed subjects and too many false-positives when used in a partially open-world environment.

Viseum Software and Hardware Technology Services will always use the best face input images available. Sometimes these input facial images will be poor quality. The chances of finding suspects under live open-world technical challenges will be increased with many other techniques:

1. The last known location of the person of interest. Viseum Geospatial Software Technology Services will predict their location with a gallery of likely suspects.
2. Person Recognition F3 (Find, Fix and Follow) Software Technology Services will be used to automatically cross-reference, where possible, other available face recognition and geospatial data.
3. Automatic Number Plate Recognition Software Technology Services. There are many techniques to associate people with vehicles. This is used to automatically cross-reference and find them.
4. There are many techniques to improve the quality of face input images to rapidly search for persons of interest. For example, ageing techniques with [social media investigations](#).
5. Viseum will train the customer in better quality scanning of PERSONAL-ID input image and processing techniques.





Face Recognition CCTV security success

Viseum will need to know the customer's exact technical requirement. That is, exactly what security result they wish to deliver. When we learn of this in detail, we will also ask more questions to fully understand all of the customer's operational challenges.

Viseum will take all this information into consideration. We will design and innovate a robust solution that will solve the customer's problems. The customer will then be trained to benefit from this new customised solution.

Face Recognition System pilot installation

There are vast differences in the cost for Viseum Software Technology Services and processing servers. For example, costs will be lower or higher depending on:

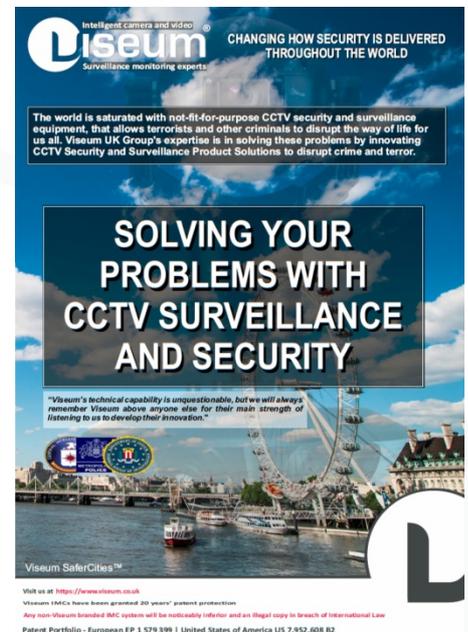
- The size of the watchlist e.g. from 100 to 100 million faces.
- The quality of input images e.g. from high-quality to poor-quality images of faces.

It is important to note that Viseum does not invest in quick like-for-like tests. These tests are inconclusive without Viseum's customisation services. As part of the customer's project delivery, a full pilot is essential for further customisation of the final solution. Please see these 2 brochures describing some of these techniques:

- [Global F3 - Find, Fix and Follow](#)
- [Viseum iVOS FaceRec](#)



> [Viseum Technology and Support Strengths](#) < This is a brochure presentation of our technical support and capabilities. It is very successful for Viseum sales training and provides our customers with confidence in our project support and delivery.



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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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