





BE AWARE!

As well as being vendors we are also the software developers



We would need a hundred pages to explain why vCAM from Vurella is superior to all other video monitoring and recording systems, but the most important differentiator for us is that we are the software developers. This means that if we haven't got it the way you want it, we can build it. What follows is a description of our system highlighting some of the things we have already done to differentiate ourselves.

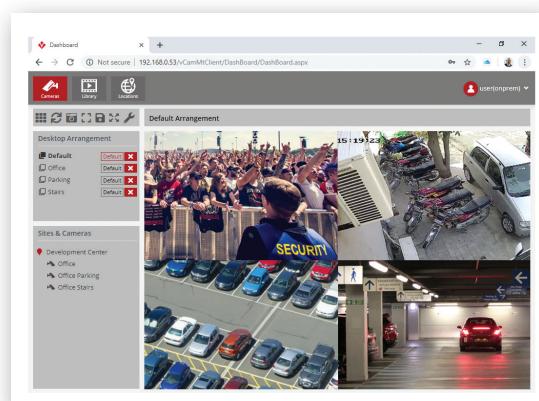


Thieves steal your DVR boxes before they burgle your premises

For people who are a little technical, we have built a multi-tenant video streaming engine which sits securely in our UK Data Centres, some of which follow the highest cyber-security principles and others whilst being secure, do not go overboard. Where your CCTV footage sits is really a decision for you and the type of business you run, but be assured, once caught on one of our cameras, you are done for!

For Local Government, the Armed Forces, Hospitals, Councils, Large Corporates and Universities

There are cases where the installation is so large or so important that it makes sense to host the streaming server on the actual premises. This is no problem for us. All we would require is remote access to your server, so that we could deliver any upgrades to the server under your maintenance agreement. If this is a problem, then a private cloud solution on your own dedicated server may be better.



This system is under a 24 month CCTV subscription

The world is moving towards the cloud. The choice between buying or renting depends on your business. And for smaller type installations, there is no point in buying a software system which is capital intensive when you can pay for it on a camera license per month, rather than affecting your CAPEX (capital expenditure) do what your accountants often refer to as OPEX (operating expenditure). As long as you sign up for a minimum period, subscription is often the way to go.



Don't throw away old digital and analogue cameras

Since we are not a camera manufacturer, we have no vested interest in you buying our cameras. Our software is designed to be "manufacturer make and model agnostic". This means that you can keep your existing cameras with an inexpensive encoder placed in front of them and then add on new cameras you require. Preferably IP.

A screenshot of a web-based video library interface. The top navigation bar includes 'Dashboard', 'Cameras', 'Library' (which is selected), and 'Locations'. The main area is titled 'Search Library' and shows a list of locations: Vurella DEV Center, DEV 1st Floor, Parking Area, Vurella Head Office, and Head Office Garage. A 'Recordings' section is set to 'Yes' and shows dates from 01/04/2019 to 04/04/2019. Below this is a grid of thumbnail images representing recorded video clips from various cameras. To the right, a large video player displays a live feed from a camera at Vurella DEV Center, DEV 1st Floor, dated 01-04-2019 16:00-16:59. A 'Capture Details' sidebar provides options to update the capture information.



Video eats bandwidth and bandwidth costs money

If you have cameras recording 24 hours a day, the rate at which you consume hard disk space and the amount of bandwidth required can rise to astronomic proportions. And that's where ingenuity of architecture and design are required. So in our system, here are few features that will minimize the consumption of bandwidth and hard disc required.

- ◆ Recording on motion detection only, with a time buffer either side
- ◆ Overwriting or archiving recordings after a configurable number of days
- ◆ Recording and alerting on “no motion” – for example a suspicious package
- ◆ Emailing kilobytes of animated GIFS instead of megabytes of video capture
- ◆ Algorithms written to compress video streams whilst optimizing quality (CODECS)
- ◆ Multicasting broadcast at software level. Only one stream required to service hundreds of end points

We've written our own JavaScript player

Many systems use 3rd party players to playback video. In some cases, there is “jitter” and in others simply poor quality. That's why we took the decision to write our own Java player to ensure that quality is at a maximum and jitter is minimised considerably or in most cases visibly undetectable. What's the point of trying to identify something that keeps moving and jerking around the screen? What's more if you take a snapshot from the video of something important to the police, say, you know it will be of the highest quality.

My business is too small

Not at all. We host our own servers in our own UK Data Centres. If you are a shop or a small business, you don't buy your own system, you rent a camera licence from us.



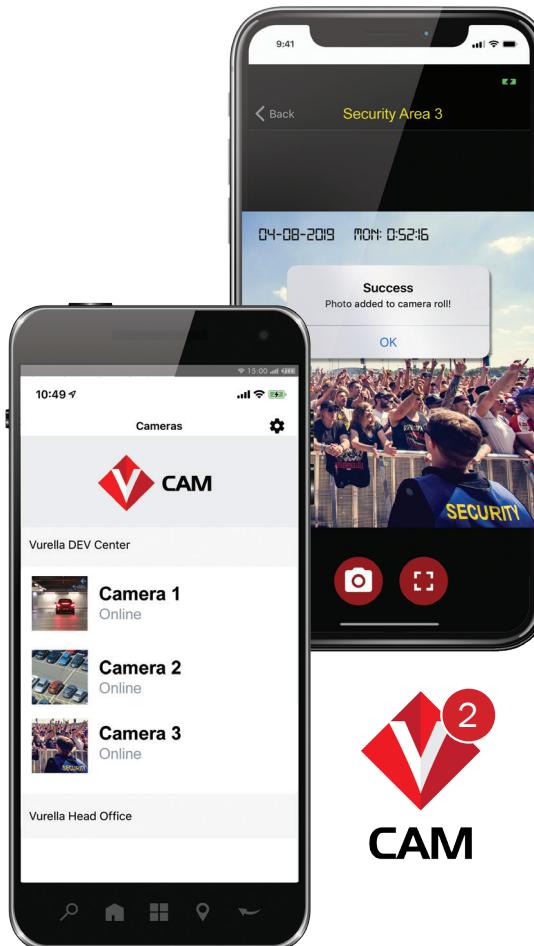
Yes, you have to buy your own cameras and yes you have to pay for the cabling if you haven't bought wi-fi enabled cameras but a company with three cameras could be paying as little as the cost of a box of chocolates per month. And if you already have some cameras, then you don't even have to change them.



WARNING

24-hour surveillance, 12-hour and 1-hour surveillance in operation

Each camera whether fixed or PTZ can be individually configured and controlled by the software. A scheduler allows you to decide when you want to record and what you want to record and how you want to be alerted. In a locked warehouse perhaps 8.00pm to 8.00am is more appropriate to ensure that no one breaks in.



Triggers and alerts are now in operation

Finally, this is not only a command and control room application, it's also an everyday iPhone and Android application that will alert you when something untoward happens and you will be able to see what is happening in real time. So, whether you are a large corporation or a corner shop, we have exactly what you need and at a price that is relative to the size of your business and that you can afford.





Speed cameras ahead

Now to get on with more advanced technology. Instead of painting lines on a motorway for a speed camera to calculate whether you are speeding, we think that's old hat. We do everything inside the software. We draw two virtual lines inside the software, and we can calculate the speed of the vehicle using distance over time. What's more with ANPR*, we've got your number plate, as well as the colour, make and model of your car.

You may not have realised this yet but an iPhone or Android tablet can become a speed camera. It is obviously not recommended, but it does show you what the software can do. Here are a couple of other benefits by doing things virtually rather than physically.

- ◆ Taking a camera view of a living room, we could draw a box around the door so that only motion detected in this rectangle would be triggered alerted and recorded
- ◆ We could collapse the box into a line and create a trip wire
- ◆ Incorporation of facial recognition into the vCAM server which in the UK has to comply with GDPR

Let's face it we know who you are

Facial recognition is not a perfect science. That doesn't mean you shouldn't use it; you should, but you should also understand its limitations at the time of implementation. If, for example, you think you can point a camera at the exit to a train station and pick out one or two faces, then the accuracy of the software will plummet dramatically. If you do the same exercise via a turnstyle, where you can see each face one at a time, the accuracy is very



high. For most cases, we have written our own algorithms which considers 32 different contours starting from the eyebrows and forehead down to the lips to make a match against the database of faces you have. We also use third party APIs where someone else's software in that particular environment may work better. For more information please feel free to contact us.



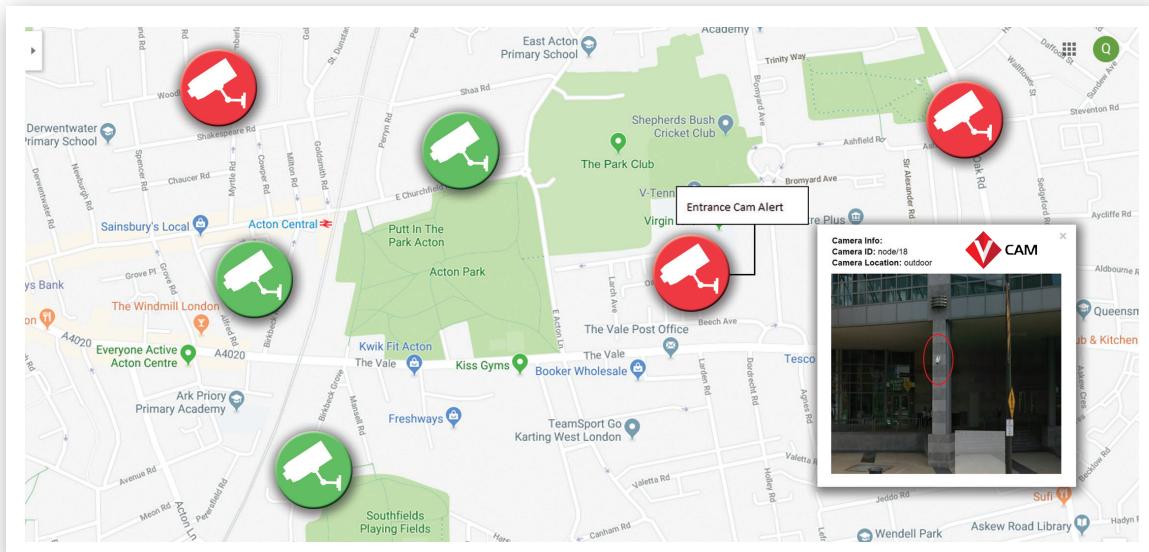
They are supposed to get on your nerves

Whether its Google, Bing or OpenStreet maps, we can overlay camera positions on maps of your choice and flash them as alerts. Clicking on them opens the camera and you can view the image. This is particularly useful for the armed forces and remote surveillance. And yes, if the blinking doesn't get on your nerves then they are not doing their job.



Advice on hardware

In some countries we provide a turnkey solution and in others we deliver via a channel, but we offer infrastructure and technical advice on all projects whether they are remote in the sense that there is no internet coverage or complex like getting a real time feed from a drone camera. Turnkey elements can include laying a complete Metro Ethernet self-healing, redundant fibre optic network, complete wireless network using 4.9 GHz- 5.8 GHz band radio. In addition, we can advise on complete civil works including camera pole installation, SMART distribution boxes for both primary and alternate power as well as setting up integrated command and control centre (IC3).





Quick Summary

- ◆ Camera make and model agnostic
- ◆ Automatic Number Plate Recognition
- ◆ Advanced video analytics
 - ◆ Speed camera
 - ◆ Left object
 - ◆ Scene change
 - ◆ Virtual and double tripwire
 - ◆ Wrong-way detection
 - ◆ Vehicle colour and size classification
 - ◆ Car counting, people counting
- ◆ Facial Recognition
- ◆ Image stitching
- ◆ Helmet mounted cameras with real time feed over VSAT and Wireless – 2.4GHz as well as 4.9GHz-5.8GHz
- ◆ Traffic Management
- ◆ RFID based integrations
- ◆ Auto Registration and Management systems (ARMS)

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1 Fleet Place, London, EC4M 7RA.

Harlow Enterprise Hub, Kao Hockham Building, Edingburgh Way, Harlow, Essex CM20 2NQ.

Email: contactus@vurella.com