Kinesense

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LE Frequently Asked Questions

(FAQ)

Kinesense LE

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General Questions:

What is Kinesense LE?

Kinesense LE is a forensic video retrieval, search, and reporting solution for CCTV evidence.

What are the main features of Kinesense LE?

Kinesense LE uses advanced video analytics to search video, for key events, enabling the rapid review of video footage during investigations. The user can create comprehensive reports, integrating key video images and clips, to a simple referenced file for review, whilst ensuring the integrity of the information is saved.

What is Video Analytics?

Video analytics is a video processing technology used to detect objects and classify activity in video.

What are the main benefits of Kinesense LE?

Kinesense LE helps to automate the video investigation process from retrieval and reviewing video to the report making process. By automatically detecting and classifying events in video, it can help save up to 95% of the time taken to watch and review video. In doing so, it helps reduce manpower costs and enables investigators to spend time on other areas.

Who is Kinesense LE for?

Kinesense LE has been specifically developed for anyone requiring the reviewing of CCTV evidence including: Specialist surveillance teams, Major Investigations teams, CCTV departments, Custody officers, Customs and Excise, and Environmental protection agencies.

Is Kinesense LE easy to use?

Yes. Kinesense LE operates with an easy to use intuitive Graphic User Interface (GUI) that enables the user to quickly and easily capture/retrieve, search, and analyse video. A help section and user manual is also embedded in Kinesense LE.

Is training necessary?

Kinesense LE contains an integrated wizard and comes with a user training manual. As the end user capabilities are not always known, we recommend a minimum of 1 day of training. Certified training is available on request.

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What is the minimum resolution and frame rate of video that Kinesense LE can be used with?

The recommended minimum resolution is 176x144 PIS pixels or QCIF. A minimum of 2 frames per second (2fps) is required for reliable detection but 5fps or above is recommended. Kinesense LE can be used with videos below 2fps but cannot guarantee reliable detection rates.

Is the frame rate set in Kinesense LE?

The frame rate is determined by the camera used to capture the footage.

Can Kinesense LE clarify the image?

Kinesense LE contains a Clarification section which allows users to clarify videos or images in several different ways such as crop, perspective crop, rotate or mirror, scale image, brightness, contrast stretch, deinterlace, gamma correction, invert, noise removal, sharpening, split channel, histogram, stabilize, super resolution, temporal medium. Kinesense LE does not alter the original image or video evidence.

What platforms does Kinesense LE work on?

Kinesense LE requires a MS Windows 10, x32 or x64. Kinesense only support the latest supported Windows version. We suggest that customers use the latest version of Windows to ensure that issues can be resolved. Kinesense products do run on earlier versions of Windows but we cannot guarantee issues can be resolved that relate to third party solutions. If a support contract is in place, we will review any issue that arise but cannot guaranteed successful resolution.

Kinesense LE can be supplied with a portable CCTV Analysis Kit or other customised hardware as required.

Is Kinesense LE supported on a Mac Computer?

No, Kinesense LE is currently unavailable for Mac Operating Systems.

Are there different versions of Kinesense LE?

Kinesense is available on a standalone basis or an Enterprise basis. All functions are available on a modular basis.

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Importation

What proprietary formats does Kinesense LE Import support?

Kinesense LE automatically imports a variety of standard and proprietary formats including but not limited to the following:

.avi, .mpg, .mpeg, .wmv, .mov, .flv, .mkv, .mp4, .vob, .xba, .h264, .asf, .sdr2, .sec, .raw, .dav, .rms, .csx, .264, .ts, .mts

Kinesense LE can also use screen capture to capture a video playing in an external player. The Manage Players tab enables users to manage and add players as required. Plug-in for various Video Management Solutions (VMS) are also available. Please contact us for a list of tested formats.

Does Kinesense LE support Multiplexed video?

Yes Kinesense LE supports multiplexed video using a screen capture method.

Does Kinesense LE work with PTZ camera footage?

Kinesense LE can capture PTZ footage, however, searching is not recommended. PTZ operations will cause excessive camera shaking, which will cause disruption to the scene and any filtered area causing false alarms within Kinesense LE.

Does Kinesense LE work with Analogue video?

Yes, Kinesense LE can import analogue footage. The CCTV Analysis Kit comes with cabling to enable analogue device extraction.

Can you process multiple camera streams from an analogue device simultaneously?

You can process multiple streams if you have multiple 'Grabby' convertors.

How does Kinesense LE capture digital video?

Kinesense can automatically import videos from standard video formats (e.g. AVI, MPEG, etc). Other propriety formats can be captured through a proprietary player provided by the CCTV manufacturer.

I have a batch of short digital videos from the same camera; can I import and display these on the same timeline?

Certain file formats can be batched and imported into Kinesense LE .and automatically and sequentially displayed on the same timeline. An example of some of these file formats are:

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.avi, .mpg, .mpeg, .wmv, .mov, .flv, .mkv, .mp4, .vob, .xba, .h264, .asf, .sdr2, .sec, .raw, .dav, .rms, .csx, .264, .ts, .mts

.biz, .box

What happens when a video format is not supported by Kinesense LE?

Most video formats are supported by Kinesense LE either directly or using the Player. Should you discover a video player that Kinesense LE cannot interface with, please contact us.

How long does it take to process a video?

The time to process a video depends on the length, format and quality of the video. Standard formats can be imported faster than real time footage. Importation via Screen Capture method is real-time but multiple videos can be processed simultaneously which helps to reduce the time required to analyse video (we recommend the use of a second monitor).

How many videos can you process simultaneously?

It depends on the video format, quality and hardware processing capabilities. For digital files, multiple videos can be processed by Kinesense LE. The number that can be processed simultaneously depends on the computer processing power and the quality of the video. With a dual or quad core computer, 4-8 videos can typically be processed simultaneously. If the videos are very high resolution the number of simultaneous imports will be reduced. When Screen Capture is being used to import video, the player must be visible on the screen. In this case, a second monitor is suggested.

Search

How fast does Kinesense LE search video?

Once the video has been imported and analysed by Kinesense LE, the search corresponding to the criteria takes seconds.

Is the video being analysed the same time as it is being imported?

Yes. Kinesense LE analyses the video and classifies the events and activity being detected as it is being imported and puts the video(s) into a database. When videos are being searched, the events are simply being recalled from the database.

What events can Kinesense LE search for in a video?

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The user can create a search filter highlighting the area of the scene they are interested in and can define their search by direction of movement and colour. There are two types of filters, Standard and Doorway. Doorway can be used to find movement coming in and out of a filter, where Standard will find all movement within a filter. If the video has been imported using Object Classification then those objects, such as cars or people, can also searched for as well using filters.

Can Kinesense LE search and identify a certain person?

Kinesense LE can connect to an external facial recognition database and, using the Face Recognition import algorithm, search for faces from that database in the video. These found faces will be represented on the timeline as events and their names will be displayed on the video above their faces. They can also be viewed in the Grid tab.

Can Kinesense LE search for a model of car?

Kinesense LE does not search for a specific car model.

Can Kinesense LE search for cars or people?

The video can be imported using the advanced setting Object Classification. This will add the classification of cars or people to events. Filters can then be used to select which classification you want to search for.

Does Kinesense LE work in crowded scenes?

Kinesense LE can record and perform some search functionality in crowded scenes, but it does not attempt to distinguish individuals from a crowd. Generally as crowded scenes are very busy scenes, Kinesense LE will detect all events. Thus the time saving is reduced compared to searching non-crowed scenes. However, if you are interested in a certain section of the crowded scene, for example, a doorway, the search filter can be very useful.

Users find that one of the greatest search features of Kinesense LE is being able to select the area of the scene you are interested in. Using this feature, events outside of the selected filter region are ignored. It is a useful feature for doorway analysis which now has its own import algorithm.

How many filters can I simultaneously create?

The number is unlimited, but for intuitive purposes a maximum of 8 filters is advised.

How does Kinesense LE represent its search results?

Kinesense LE highlights the results of the search on a timeline. Each event is identified by an orange sprite (line), and can easily be reviewed by clicking on the orange highlighted event on the timeline, or by clicking on the 'Next Event' button to jump from event to event.

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Moving objects detected within the filter region, which don't fully match the search criteria, are shown below the line on the timeline.

What does the height of the orange sprite on a timeline represent?

Multiple events happening at the same time are represented by orange sprites stacked on top of each other.

What happens to the sections of video that Kinesense LE determines does not match the search criteria?

Kinesense LE takes a complete copy of the entire video which is represented on the timeline. The user can click on the timeline to review any section or time of the video they want. Only the events corresponding to the search criteria are highlighted as an event (orange sprites).

Can I review video frame by frame?

Yes, video can be reviewed on the timeline frame by frame.

Reporting

How do I export video to create reports using Kinesense LE?

Using Kinesense LE, the user can create either image and/or video reports. Video reports can be exported as AVI files or to a DVD. Advanced Reporting features including storyboarding, annotation and clarification prior to exportation.

Can I prepare court ready reports using Kinesense LE?

The salient clips and images from different video sources can be stitched together into reports. Export reports to AVI or DVD format are playable on any player. Features include the ability to add logos and title slides to individual clips for court preparation. Timestamps are automatically extracted from the video and displayed on the presentation title slide.

Can I add my department logo to a video or an image report?

Yes. A simple file has to be replaced within Kinesense LE. Please contact Kinesense for more information.

How many videos can I put into a report?

The number of videos to be exported to a report is unlimited By default the exported length is set to a max of 2 hours but this can be changed in the settings file.

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How many images can I put onto a report?

The number of images to be exported is currently limited to 300 images in one exported file.

Can I export more than one report at a time?

Yes, you can export multiple reports at the same time.

Can I put images onto a video report?

Yes. By clicking the 'Send Image to Video Report' button in the Image report tab, images can be sent to the video report storyboard to be exported along with the selected video report. External images can also be added to a video within the Video Report tab.

How can I highlight certain events in a video clip?

Kinesense LE Professional contains advanced annotation features allowing you to spotlight suspects and camouflage innocent bystanders.

Is the chain of evidence adhered to within Kinesense LE?

Although, chain of evidence standards differ by region, Kinesense understands the need to ensure that the steps taken during the process are logged and can be reported. To this effect, Evidence Audit and Disclosure Reports can be automatically created in the software. Furthermore, each frame is hashed and secured within the software.

Can I trust Kinesense LE to create authentic evidence to use in a law court?

Yes, Kinesense has a deeply rooted respect of the chain of evidence needed by law enforcement agencies around the world. Kinesense LE software is able to log all activities used within the software to ensure that all information stored on the system is trustworthy and reliable.

Tagging

Can Kinesense LE keep track of suspects across multiple videos?

By using Kinesense LE's Tagging system users can keep track of multiple suspects across multiple videos. They can also import and export their suspect lists, including any images they've attached to the suspect, to different databases. This system can also be used to track vehicles and objects.

How can I create a document containing events captured in Kinesense LE?

By tagging events in videos, such as when a person or vehicle enters or exits a scene, the user then has a choice of ways to export this information. They can export the Events table, which they can filter to only include certain events or objects, to a .CSV file which will open in Excel. They can export a Word document containing custom detail they

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want to be displayed. They can also add the events to Video Report and create a report from there. For objects the images will be sent to the Image Report where a Word or PDF document can be created.

Can I add an image of a suspect that has been tagged in a video?

An image of a suspect or vehicle can be added using the Snap Tag Image feature in Forensics. This will allow the user to select an area of the video where the suspect is present. An external image can also be added in the Object Details section of the Tags tab.

Face Recognition and Face Classification

How does Kinesense perform Face Recognition?

To preform face recognition on a video you select the Face Recognition algorithm from the algorithm list when importing the video. Kinesense finds the faces while importing and sends them off to a third-party facial recognition database. The results are then sent back from the third-party database and displayed in Kinesense.

What is the difference between Face Recognition and Face Classification?

Face Recognition is used to find faces within a video that are already stored in the face recognition database. Face Classification is used to find any faces in a video and classify them using certain attributes, such as age, gender and if they are wearing glasses.

How does Face Recognition Work?

Face recognition matches pattern around eyes and nose in order to recognise a face. It works great for people who have changed their attire and helps to recognise them easily. The faces to be recognised should be high quality mug-shot images, also the images should not be too dark or blurry.

What are the requirements for Face Detection and Face Recognition?

Minimum requirements for Face Detection:

- Fast moving object 25-30 fps
- Slow moving objects 10 fps
- 60 pixels inter-pupil
- Good lighting

Minimum requirements for Face Recognition:

- sharp image (no blur)

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- one face is completely visible in the image
- inter-pupil spacing larger than 32 pixels
- at least 64 grayscales within the face area

(reference database image has to be of sufficient quality also)

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