com sur ™

the missing piece of CCTV

COM-SUR™ EMPOWERS PEOPLE TO ACHIEVE
OPTIMAL OUTCOMES FROM SURVEILLANCE VIDEO,
LEADING TO A SAFER WORLD.

THE ADVANCED COURSE

The Advanced course is useful for both commercial and non-commercial users including business owners, CCTV operators/system integrators, or anyone looking for new skills for jobs and business opportunities.

It is reckoned that this group needs more advanced features, including detailed reporting, as well as gaining business intelligence from the same.

This course revolves around the COM-SUR 'ULTIMA' version (highest version), which besides covering the topics of the Foundation course, concentrates on the several more advanced features like false colors (forensics), that make video content analysis (VCA) extremely easy, efficient, and standardized. The Advanced course is also useful to investigate incidents that need minute analysis of video, photos, and images. While some specific examples are given below, most can overlap, and are relevant for any vertical. For example:

Airports may want to minutely investigate suspicious movements, left baggage, suspicious items discovered through an X-ray machine.
Banks may want to minutely investigate an incident of theft/fraud.
Commercial establishments may want to minutely investigate health and safety issues.
Educational institutions may want to minutely investigate movements of students and school staff.
Factories may want to minutely investigate production lines and processes.
E-Commerce companies may want to minutely investigate product handling and shipping.
Hotels may want to minutely investigate guest complaints.
Hospitals may want to minutely investigate patient care and staff safety.
Insurance companies may want to minutely investigate roof conditions or damaged pipes and rigs.
Restaurants may want to minutely investigate kitchen hygiene.
Retailers may want to minutely investigate staff and customer interaction.

Also, issues like wastage of resources, shrinkage, compliance and operational efficiency, risk mitigation, root cause analysis, threat and hazard identification, total quality management, good manufacturing practices etc., all become easier through the use of COM-SUR ULTIMA.

The course covers interesting use cases, including how COM-SUR makes it easy for AI and ML models to work with more relevant images for the purpose of training models, thereby reducing bias.

Segment Details	Advanced Course Topics
01. Introduction and COM-SUR overview. Recorded course video	• The course will begin with discussions of the global challenges of CCTV surveillance. This will include deliberations on why CCTV video footage has turned into 'garbage'. While trillions of hours of surveillance video are recorded on a daily basis; crime, fraud, losses, process violations, health and safety issues, poor efficiency, wastage, traffic violations, etc., continue to occur; clearly indicating that CCTV by itself is not enough. • The three 'missing' pieces of CCTV will be discussed, and how COM-SUR not only plugs them beautifully, but also acts as a complete 'workflow' for the standardized usage of CCTV. • Benefits of using COM-SUR will be discussed, along with how COM-SUR brings value to different stakeholders, including the creation of new jobs of CCTV video footage auditors, and new businesses of CCTV video footage auditing services. • Examples of the limitations of video analytics and artificial intelligence will be discussed, including how these technologies cannot detect every exception; and why human intervention will always be needed to deliver augmented intelligence. • The utility value of COM-SUR at every business vertical will be discussed, i.e. from an airport to a zoo (A to Z). • COM-SUR's societal purpose will be discussed, and how COM-SUR can help various vulnerable areas of society. • Finally, the angle of crowd sourced surveillance and community policing will be discussed, both in terms of saving huge amounts of money for governments, and how citizens can be involved in nation building.

USE CASES:

1. Covid-19 and such pandemics. How auditing of CCTV footage can ensure that protocols and guidelines are being followed, and that issues related to hygiene are not ignored.

Use cases will demonstrate that the world cannot let its guard down 'post' COVID-19, since one does not know what will follow next. No assumptions can therefore be made anymore. COVID-19 has demonstrated that the entire world can shut down, most unexpectedly. Therefore, prevention is key in all areas.

With respect to COVID-19, use cases will also demonstrate how one needs to look beyond masks, social distancing, and temperature monitoring.

2. Several other use cases will be discussed, both in terms of criminal and non-criminal use cases.

Segment Details	Advanced Course Topics
02. Converting live/recorded video into images. ('Capturing'). Recorded course video	Overview: Explaining how COM-SUR smartly converts live/recorded video into images in the background. This helps users to: (1) reduce the 'amount' of video to be audited (2) hugely reduce the size of the data (3) create a very cost-effective disaster recovery mechanism. *Demonstration of the following features:* • Explaining the 'Window' screenshots capture feature, i.e. converting video feeds, whether live or recorded, from any source (CCTV/drones/UAVs/body-worn/mobiles) into screenshots (images) in the background, using the Quick and Advanced capture features. • Explaining capturing 'Windows' from multiple monitors on a single workstation. • Explaining the challenges of a browser, and why a video management system (VMS) is recommended for live video viewing. Explaining the limitations of certain VMS with respect to the total number of instances that can render multiple live video streams simultaneously; for example, discussing how the Milestone VMS allows the opening of multiple instances simultaneously along with rendering live video in each instance, without the need for multiple monitors. • Explaining the change of color of the COM-SUR icon in the taskbar, as well as the change of color of the 'Window' screenshots capture list button on COM-SUR's main screen. • Explaining the options available in the 'Window' screenshots capture dialog box; i.e. setting a time interval between two screenshots, difference between interval based and 'Max' Possible capturing, describing the 'Window', selecting the desired area of the feed to be captured. Further, explaining the feature of capturing for a specified duration which is especially useful during investigation of an incident and you want COM-SUR to capture screenshots for a pre-defined duration. • Explaining the various elements of the Window Screenshots Capture List dialog box, i.e. the option to Edit the capturing process of a 'Window', the Refresh Counter, Open Folder, Review, Stop, Stop All, and Close buttons.

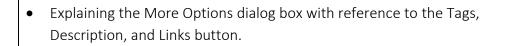| Segment Details	Advanced Course Topics
03A. COM-SUR's 'Smart Media Player' (The Results dialog box). How it makes the process of Auditing (investigating) easy, efficient, and standardized. - Part A Recorded course video	Overview: Most video management systems (VMS) just 'manage' cameras. While some of them offer video analytics, search features, and so on, none offer the ease, flexibility, and multiple playback features, including one that can be controlled by the 'mouse'; and of course, the ability of being able to playback with great ease during a remote video auditing process. Also, video extraction is not an easy process from a DVR/NVR/VMS, especially during remote video auditing. And what about a case when the recording device itself is stolen, destroyed, or tampered with? *Demonstration of the following features:* • Explaining the user interface of COM-SUR's Smart Media Player (the Results dialog box). A cursory description of the same is made, referring to the instructions on every dialog box in COM-SUR, as well how each button is described with a relevant tool tip. Explaining what the 'green' color on a button means while referring to the 'Magnify Details' button and explaining the same. • Explaining the various ways of auditing (investigating) hours of CCTV video footage in minutes; easily and efficiently. While the COM-SUR ULTIMA version offers six different playback mechanisms, the easiest one, i.e. the *Glider Mechanism* will be demonstrated first. • Explaining the Refresh Result Set feature, to bring forth a new set of screenshots being captured in the background. • Explaining how to invoke the Glider mechanism, and how to 'glide' through thousands of screenshots and/or images in minutes (representing hours and hours of video footage) using the mouse, zooming/panning, and flagging an exception. Changing the size of the Glider window and demonstrating its utility value for comparison between a single frame with multiple frames. Navigating one by one in the Glider mechanism. • Explaining the balance five playback mechanisms, i.e. (1) Slider (2) Fine-Tune Slider (3) Play, Rewind, Last, First, Next (plus hold), Previous (plus hold) (4) Skip (5) Auto-Review

- Explaining how to Zoom/Pan screenshots and/or images effortlessly during the auditing activity using the mouse wheel/left mouse button. Explaining how to Reset a screenshot and/or image to its original resolution.

- Explaining how to enhance the Exposure (Brightness and Contrast) of screenshots and/or images.

- Explaining how to apply various Filters (Grayscale, Invert, Color Tints, and Heatmap) to screenshots and/or images to improve the chances of isolating/discovering persons/items of interest, and for forensic investigation.

- Explaining how the Magnifier option i.e. picture-in-picture (PIP) is very useful to concentrate on a specific area during the Auditing. Further, explaining how the comparison can be done using various Filters.

- Explaining how to quickly Flag a screenshot and/or image having a person/item of interest so that you can come back to it later.

- Explaining how to categorize persons/items of interest using different Color Flags, and how to work with them.

- Explaining how to Highlight specific areas of a screenshot and/or image to work with desired areas and filtering out the irrelevant ones.

- Explaining the menu options available on right-clicking the Highlight box.

- Explaining how to add a Caption (F2) to one or more Highlighted areas to create and share images of people, items of interest, exceptions, etc. along with its description as a caption. This feature also acts as a tool to aggregate relevant images for artificial intelligence models.

- Explaining how to review Highlighted area(s) only using the Customized Review feature.

- Explaining the Collage feature, where a single Highlight box is used to select people/items of interest in order to create a 'storyboard' and taking next steps with the same.

- Explaining how to add Clip-arts and text to screenshots and/or images. Further, explaining how to customize the same with respect to color, width, mask, transparency, font, etc.

- Explaining the Undo feature to jump to the previous screenshot/image.

Segment Details	Advanced Course Topics
03B. COM-SUR's 'Smart Media Player' (The Results dialog box). How it makes the process of Auditing (investigating) easy, efficient, and standardized. - Part B Recorded course video	• Explaining how to Send the current screenshot/image to the Collection dialog box. • Explaining how to access the More Send Images to Collection Options. • Explaining what is a 'Visible Area' of a screenshot and/or image, and the different scenarios of accessing the 'Visible Area' i.e. when a screenshot/image is zoomed or panned, and/or when an area of a screenshot/image is highlighted, and/or when the exposure of a screenshot/image is enhanced, and/or when a Filter has been applied to a screenshot/image, and/or when a Clip-art and/or text has been added to a screenshot/image. • Explaining how to send the 'Visible Area' of the screenshot and/or image to the Collection dialog box. • Explaining how the More Send Visible Area to Collection Options. • Explaining how to Edit a screenshot and/or image from within the Collection dialog box, and the Refresh button that displays the Edited result. Also, explaining how to Locate a screenshot and/or image that is in the Collection dialog box in the Results dialog box. • Explaining the various elements and features of the Collection dialog box. • Explaining how to create standardized reports in Microsoft PowerPoint with the screenshots and/or images in the Collection dialog box, i.e. Speedy Report, Audit Report, Incident Report, and All is Well Report. • Explaining how to create videos from the screenshots and/or images in the Collection dialog box, explaining the F/F Rate, the Preview feature, as well as the choices to embed the video (with or without images) in the Speedy Report or Audit Report or Incident Report or All is Well Report. • Explaining how to add Links to screenshots and/or images from the Collection dialog box. For example, adding videos, documents, URLs, etc. as a Link. This is especially useful to create a 'case folder' for a specific case. • Explaining how to create videos from multiple 'Windows'.

- Explaining how to create a Collage from screenshots and/or images from the Collection dialog box for sharing multiple related persons/items of interest together as a single composite image.

- Explaining how to Review a limited set of screenshots and/or images; for example, those that may have been flagged.

- Explaining how to add a Description to the screenshots and/or images from the Collection dialog box, which is especially useful when creating reports in Microsoft PowerPoint/Word/PDF.

- Explaining the 'Send' option to send the desired screenshots and/or images to a Location, via Email, via Skype, via WhatsApp, or as a COM-SUR data file.

- Explaining the Remove from Collection option.

- Explaining what Contact Sheets are, and how to create them in Microsoft Word, Microsoft PowerPoint, and PDF.

- Explaining the Quick Video mode and Selective Quick Video mode.

- Explaining how to invoke the Full screen mode and exiting the same. Explaining the various shortcut key combinations for different elements in the Full screen mode.

- Explaining the menu options available on right-clicking the screenshot/image in the Results dialog box.

- Explaining the More Options dialog box with reference to how to navigate to the previous or next Result Set in the Results dialog box.

- Explaining the More Options dialog box with reference to the Refresh button.

- Explaining the More Options dialog box with reference to the Search/Open and Act/List of Windows being captured options.

- Explaining the More Options dialog box with reference to the Delete and De-link options from the Results dialog box. Explaining why De-Linking is useful for COM-SUR's database maintenance.

- Explaining the More Options dialog box with reference to the Tags, Description, and Links button.

- Explaining the More Options dialog box with reference to the Exposure and Filters dialog box.

- Explaining how to navigate to a specific screenshot and/or image by entering the respective screenshot and/or image number.

Segment Details	**Advanced Course Topics**
04. Manual capturing of visual information. Recorded course video	Overview: A huge problem that users face when analyzing videos, (besides codec issues), is having to: (a) Pause at an important moment/scene (b) Analyse the same (c) Click Print Screen (d) Paste the result into a software like MS Paint (e) Play the video, and do this all over again. This is a very cumbersome, and time-consuming process. With COM-SUR, the user simply clicks the F6/F7 keys as often as needed while the video is playing; thereby taking away the need to Pause. Doing so, not only converts that important moment/scene into an image, it simultaneously aggregates the same in COM-SUR's Collection dialog box. This results in enormous reduction of burden, and allows the user to concentrate on the video, rather than wasting time, and losing the attention span. *Demonstration of the following features:* • F6/F7: Explaining when to use the F6 key, and when to use the F7 key; both for capturing a person/scene of interest from recorded/live videos; for example, from a scene of crime/incident. Pointing out to the 'green light' in COM-SUR's task bar icon, indicating the confirmation of the activity. • F8: Explaining when and how to use the F8 key for capturing multiple items of interest from a single source. For example, a scene of crime/incident may depict several items of interest in a single scene. • F9: Explaining when and how to use the F9 key for snipping multiple items of interest from multiple sources. For example, an investigation could consist of videos, webpages, social media, etc., all of which may need to be collated. This feature is also very useful to create a digital library of news articles.

Segment Details	Advanced Course Topics
05. Creating and Searching for Reports, and obtaining MIS (Business Intelligence) from Reports and Tags. Recorded course video	Overview: Using historical data, Audit/Incident reports and Tags, COM-SUR delivers 'patterns' (business intelligence). This allows stakeholders to take more informed decisions, and corrective and preventive action. *Demonstration of the following features:* • Explaining how to create Audit, Incident, and All is Well Reports. • Explaining how to search for previously created Audit and Incident Reports and taking next steps. • Explaining how to obtain MIS reports in Microsoft Excel, based on the previously created Audit and Incident Reports. Further, explaining the various Report Type and Group By options. • Explaining how to obtain MIS reports in Microsoft Excel based on the Tagged items. Further, explaining the various Report Type options available in Tags MIS.
06. Miscellaneous topics. Recorded course video	• Auto-Pilot - Explaining how COM-SUR can help in monitoring the activity on a desktop; for example, one may want to monitor the activity of a POS terminal, when a user is away from his/her computer. • Explaining how to Bookmark frequently used URLs of video feeds for quick and easy access. • Open and Act - Explaining how files, including folders/zipped folders can be opened in order to bring in external images and/or screenshots into COM-SUR's 'Smart Media Player'.

Segment Details	Advanced Course Topics
07. Search and COM-SUR Settings. Recorded course video	• Explaining how to Search for screenshots and/or images within a desired date and time range. • Explaining how to Search for screenshots and/or images using a unique search mechanism for a desired time 'slot' within selected dates. • Explaining how to Search for previously Tagged screenshots and/or images from the Tag Cloud. • Explaining the various elements of the Tags dialog box. • Explaining each of the tabs in the Settings and Tools of COM-SUR.
08. RIP-IT - A batch frame extractor tool from videos. Recorded course video	• Explaining the 'RIP-IT' software, also built by us, which is a batch frame extractor tool that will extract frames from external videos from various external sources such as, drones, body worn cameras, covert cameras, dashcams, mobile phones or even from an external DVR or NVR which can then be imported into COM-SUR. • Explaining how to extract frames for selected time slots as well as change the layout in which the frames will be extracted. • Explaining the various extraction settings in RIP-IT with respect to every X seconds/every X frames. • Explaining how to bring in the extracted frames into COM-SUR using the Open and Act utility.
09. From the Founder - the value proposition of COM-SUR. Recorded course video	Check out the Founder's views about why COM-SUR needs to become a de-facto part of CCTV and video surveillance, and the overall value proposition that COM-SUR can help deliver to the user.