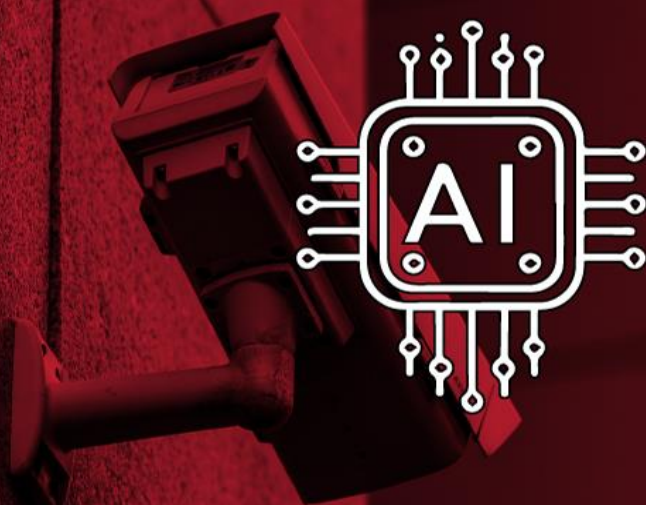# com sur ™

the missing piece of CCTV

"SEE WHAT THE CAMERA SAW"

THE FOOTAGE WHISPERER

AI

'BETTER' AI VIA DAILY AUDITS
NO MORE DATA WALL

100+ TOPICS - AIRPORTS TO ZOOS

GAUTAM D. GORADIA

UTILITY VALUE OF COM-SUR™ FOR ARCHITECTS AND INTERIOR DESIGNERS

WELCOME

AUDIT HOURS OF FOOTAGE IN MINUTES
FIND OUT HOW COM-SUR, THE BEST 'MOUSETRAP' WILL HELP

"Seeing is believing - See what the camera saw"

CCTV and other forms of video surveillance are commonly used by architects and interior designers world over, but footage is often only reviewed reactively. Our company realized this problem early-on and has developed the world's only CCTV video footage auditing software that encourages daily auditing (hours in minutes) of CCTV footage, filling the gap for a complete "workflow". The software works with existing cameras and VMS, regardless of type/brand, and provides a standardized approach for intelligent incident reporting.
Our software also offers exceptional investigative capabilities.

'COM-SUR' – THE WORLD'S ONLY CCTV/ SURVEILLANCE VIDEO FOOTAGE AUDITING, SMART BACKUP, AND STANDARDIZED INTELLIGENT INCIDENT REPORTING SOFTWARE – THE MISSING PIECE OF CCTV/SURVEILLANCE VIDEO

COM-SUR is the world's only CCTV/surveillance video footage auditing, smart backup, and standardized intelligent incident reporting software that serves as a complete workflow and force multiplier. It helps audit 24 hours of footage in minutes, reduces data size, creates standardized intelligent reports, and delivers business intelligence. COM-SUR helps unlock hidden information in CCTV/surveillance video footage and enables people to gain actionable intelligence, improve homeland security, prevent crime and losses, identify and mitigate threats and hazards, and improve operational efficiency. It empowers people to gain new jobs as CCTV/surveillance video footage auditors and start new businesses of auditing video footage. Like MS Office, COM-SUR is an enabler that makes it easy to work with CCTV and other surveillance cameras in a standardized way, leading to better decision-making. It also offers exceptional investigative capabilities.

BETTER AI VIA DAILY AUDITS – NO MORE DATA WALL

COM-SUR delivers 'BETTER' AI by transforming how organizations approach CCTV video

surveillance, auditing, and post-event analysis. By generating a constant stream of real-time, site-specific data—Continuous Frontier Data—COM-SUR ensures that AI systems are never starved for fresh, actionable insights, which is key for building custom models and addressing key challenges like data exhaustion, data walls, and data cascades that often hinder AI from performing at full potential.

A key to making AI more effective lies in continuous learning from real-world incidents through daily and post-event auditing. COM-SUR enables AI models to evolve based on audit findings and incidents that go beyond real-time detection. By auditing daily footage, capturing exceptions, and feeding this data back into AI models, COM-SUR significantly improves the accuracy of AI systems, helping to reduce false alarms and enhance detection capabilities. This continuous feedback loop ensures that AI learns from what might have been missed in real-time, making it smarter and more reliable over time.

By integrating Reinforcement Learning from Human Feedback (RLHF) and Explainable AI (XAI), COM-SUR ensures that AI systems are continuously refined, transparent, responsible, and contextually aware. However, recognizing that AI can only perform tasks it's programmed for, human intelligence and intervention remain essential in verifying and refining AI outcomes. With COM-SUR, businesses can leverage AI as a powerful tool while maintaining human oversight, ensuring more accurate and informed decision-making—ultimately leading to 'BETTER' AI. This not only enhances surveillance but also paves the way for Augmented Intelligence, where AI-driven insights empower human operators while keeping them at the center of decision-making.

HOW COM-SUR SMARTLY REDUCES 'VIDEO' STORAGE SIZE

COM-SUR employs an innovative approach to smartly reduce the amount of video to be audited and consequently the storage size of videos. Regardless of the video's frame rate, COM-SUR captures a single image of the consolidated 'moment' of 'that' one second, when the I, P, and B frames come together. This method significantly reduces data size without sacrificing vital information. It goes without saying that when multiple cameras are displayed in a grid view, say 4x4, the storage size is further reduced since all the cameras are captured as a single image. Since no suggestion is being made to replace the actual video with images, COM-SUR acts as a wonderful supportive technology both to audit (review) just 86400 frames representing 24 hours and reducing the data size at the same time.

CHALLENGES FACED BY ARCHITECTS AND INTERIOR DESIGNERS

1. Site security:

Architects often visit construction sites for project supervision and inspections. Ensuring the security of these sites is a challenge, with risks of theft, vandalism, and unauthorized access.

2. Site safety:

Architects face challenges related to ensuring the safety of construction sites. This includes addressing potential hazards, complying with safety regulations, and implementing measures to prevent accidents.

3. Data security:

Architects deal with sensitive design data and client information. Ensuring the security of digital files, drawings, and project specifications

is critical to protect intellectual property and client confidentiality.

4. Showroom security:

Interior designers often work in showrooms where valuable furniture and decor items are on display. Securing these showrooms against instances of theft and vandalism is a concern.

5. Design studio security:

Interior design studios house valuable samples, materials, and client information. Implementing security measures to protect these assets is crucial.

6. Project site security:

Interior designers overseeing installations at project sites need to address security concerns related to tools, equipment, and the safety of the design elements being installed.

7. Compliance issues:

Architects must navigate complex building codes, zoning regulations, and other legal requirements. Ensuring compliance with these regulations can be time-consuming and challenging.

8. Insider threats:

Architects and interior designers have to deal with insider threats from disgruntled employees or even unwitting staff who fail to follow proper security and safety measures.

9. Humongous growth of surveillance video:

The exponential growth of surveillance cameras has resulted in an unprecedented surge in surveillance video. Effectively managing this data has become a daunting challenge due to the massive storage capacity required,

especially considering the prolonged retention periods necessary for security, incident investigation, or legal purposes. Furthermore, the prevalence of high-resolution video with increasing megapixels compounds the storage demands, making efficient data management an urgent priority for organizations grappling with the immense volume of surveillance footage.

USE OF VIDEO SURVEILLANCE BY ARCHITECTS AND INTERIOR DESIGNERS

Here are some ways in which architects and interior designers utilize video surveillance:

1. Construction site monitoring:

Architects regularly visit construction sites to oversee project progress. Video surveillance cameras, including CCTV and time-lapse cameras, are strategically placed to provide visual documentation of the construction process. This allows architects to remotely monitor site activities and address any issues promptly.

2. Security for design studios:

Video surveillance systems are installed in design studios and architectural offices to enhance overall security. Cameras positioned at entry points, common areas, and workspaces help monitor the premises, ensuring the safety of valuable assets and sensitive design information.

3. Remote project monitoring:

Architects and interior designers use video surveillance systems with remote monitoring capabilities. This allows them to access live video feeds and recorded footage from

construction sites or design studios, enabling real-time collaboration and decision-making from any location.

4. Time-Lapse videos for project documentation:

Time-lapse cameras capture images at scheduled intervals, creating time-lapse videos that showcase the entire construction process. Architects use these videos for project documentation, marketing purposes, and presentations to clients or stakeholders.

5. Security in showrooms:

Interior designers working in showrooms deploy video surveillance to enhance security. Cameras in showrooms help deter theft, monitor visitor activity, and protect valuable furnishings and decor items on display.

6. Client residences' security:

Interior designers working on residential projects may install video surveillance systems in client residences to address security concerns. This is particularly important during the delivery and installation of furnishings and decor items.

7. Archiving design process:

Video surveillance can be used to archive the design process. Architects and interior designers may capture video footage of design discussions, client meetings, and the evolution of design concepts, providing a visual record for future reference or as part of project documentation.

8. Monitoring access points:

Access points in design studios, architectural offices, or construction sites are monitored using video surveillance. This helps manage and control entry, ensuring that only authorized individuals have access to secure areas.

9. Safety and compliance:

Video surveillance contributes to safety on construction sites by monitoring compliance with safety regulations. Architects can use footage to review safety practices, identify potential hazards, and address safety concerns.

10. Collaboration with stakeholders:

Video surveillance systems enable architects and interior designers to collaborate effectively with stakeholders, including clients, contractors, and project managers. Visual documentation and real-time monitoring contribute to transparent communication and decision-making.

USE OF DRONES BY ARCHITECTS AND INTERIOR DESIGNERS

Here are some ways architects and interior designers use drones:

1. Site analysis and surveying:

Drones are used for site analysis and surveying, providing architects with detailed aerial views of the project site. This information aids in understanding topography, land features, and existing structures, assisting in the initial stages of design.

2. Project documentation:

Drones capture high-quality video footage and images, allowing architects and interior designers to document the progress of construction projects over time. Time-lapse videos created with drone footage can showcase the evolution of a project from start to finish.

3. Design visualization:

Aerial views captured by drones contribute to design visualization. Architects use drone imagery to present design concepts to clients, providing a comprehensive understanding of how the proposed structures or renovations will integrate with the surrounding environment.

4. 3D Mapping and modeling:

Drones equipped with advanced sensors can create 3D maps and models of project sites. This technology aids in accurate spatial analysis, helping architects and designers plan and visualize the design in the context of the existing environment.

5. Monitoring construction sites:

Drones are deployed to monitor construction sites, providing real-time aerial views. This enhances project management by allowing architects to remotely assess site conditions, construction progress, and adherence to design specifications.

6. Inspections and assessments:

Drones are used for building inspections, enabling architects to assess structures, roofs, facades, and other elements from aerial perspectives. This can be particularly useful for identifying maintenance needs or potential issues in existing buildings.

7. Marketing and presentations:

Drone footage is often incorporated into marketing materials and presentations. Architects and interior designers use aerial views to create visually compelling content that showcases their work and design concepts.

8. Client communication:

Drones facilitate effective client communication by providing clients with a clear visual representation of the design and construction progress. Aerial views offer a comprehensive perspective that is not easily achievable through ground-level photography.

9. Environmental impact assessments:

Architects may use drones to conduct environmental impact assessments for projects. Aerial surveys help evaluate the potential impact of a construction project on the surrounding ecosystem.

10. Event documentation:

Drones are employed to document design events, exhibitions, or openings. Aerial footage captures the scale and layout of events, providing a unique and engaging perspective.

USE OF CAMERAS BY ARCHITECTS FOR CPTED (CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN) PROJECTS

Cameras can be valuable tools for architects involved in Crime Prevention through

Environmental Design (CPTED) projects. CPTED is a multidisciplinary approach that focuses on designing the physical environment to reduce crime and enhance the safety and security of a space. Cameras contribute to various aspects of CPTED projects as follows:

1. Surveillance and monitoring:

Cameras provide constant surveillance and monitoring of public spaces, building entrances, and other critical areas. This helps architects and designers assess the visibility and sightlines within a space, ensuring that potential hiding spots for criminal activity are minimized.

2. Designing for natural surveillance:

Natural surveillance, a key CPTED principle, involves designing spaces in a way that maximizes visibility. Architects can strategically place cameras to enhance natural surveillance, ensuring that critical areas are monitored, and potential criminal activity is easily observed.

3. Assessment of sightlines:

Cameras assist architects in assessing sightlines (A sight line is an unobstructed line of sight or view extending from a viewer to some object or landscape in the distance. The sight line makes it possible for the viewer to see some object in the distance) and identifying areas where visibility might be obstructed. This information allows for adjustments in the design to improve natural surveillance and minimize blind spots.

4. CPTED audits and analysis:

During the planning and design phases, architects may conduct CPTED audits to evaluate the safety and security of a space.

Cameras provide visual documentation that aids in the analysis of environmental features and potential vulnerabilities, informing design decisions.

5. Community engagement:

Visible cameras contribute to community engagement in CPTED projects. Architects can incorporate cameras in a way that promotes community involvement in monitoring and maintaining security, fostering a sense of shared responsibility for safety.

6. Documentation of design strategies:

Cameras help document design strategies implemented for CPTED. This includes the placement of lighting, landscaping, and other elements designed to enhance safety. The recorded footage serves as a visual record of the implemented CPTED measures.

7. Integration with other security measures:

Architects can integrate cameras with other security measures, such as access control systems, lighting, and alarms. This comprehensive approach ensures a layered and effective security strategy aligned with CPTED principles.

8. Evaluation of design impact:

Post-implementation, cameras assist architects in evaluating the impact of the designed environment on safety and security. Architects can review footage to assess how users interact with the space and identify any unanticipated issues.

LIVE MONITORING – CHALLENGES

Some larger construction sites as well as showrooms of interior designers have a dedicated control room with operators, set up for live monitoring of CCTV and other cameras such as drones. However, live monitoring comes with its own set of challenges of video blindness, poor attention span, boredom, operator bias, false alerts, and so on.

Moreover, these cameras continuously capture and record humungous amounts of video data. It therefore becomes a daunting task for the operators to review and analyse this data whenever the need arises. Thus, it may be noted that benefits from video surveillance systems can accrue only when they are used optimally, suggestions for which are enumerated further on, in this document.

COMPLIANCE - GENERAL

Conformity or compliance in any organization means adherence to laws and/or rules and regulations, various standards, as well as data storage and security requirements as laid down by government bodies, governing bodies of the respective industry, or the management of the organization. When an organization complies with the requirements mandated by government and/or governing bodies, then it is termed as 'regulatory compliance' which enables the organization to run in a legal and safe manner.

COMPLIANCE - AUDITS

Several organizations carry out compliance audits on a regular basis to avoid the potential consequences of non-compliance.
A compliance audit examines how well an organization adheres to compliance requirements. Some organizations use video surveillance to monitor compliance issues and audit recorded video footage from time to time for investigating and preventing compliance issues. Auditing video provides actionable insights on the level of compliance within the organization.

"CCTV AND OTHER FORMS OF VIDEO SURVEILLANCE ARE NOT ENOUGH – WE MAKE IT WORK FOR YOU"

While it is not being suggested that optimal usage of video surveillance can cure all issues, several issues of the following kind can be addressed by doing just a little 'more' with respect to making the optimal use of video surveillance systems:

- Accidents/Causes of potential accidents

- Potential causes of fires

- Compliance issues

- Health and safety issues

- Operational issues

- Loss/fraud/theft

- Recces/suspicious movements/activities

- Insider job/security lapses

- Violence/disputes

- Unauthorized/unlawful activities/visitors

- Intrusions, especially by animals

- Unruly workers/security guards

- Inattentive staff (e.g. guard sleeping)

- Unclaimed/unattended objects

- Issues with female workers

- Cameras/recorder malfunctions

So, what is the 'more' that needs to be done?

1) AUDIT CCTV AND OTHER SURVEILLANCE VIDEO FOOTAGE DAILY AS A STANDARD OPERATING PROCEDURE

'Auditing' means 'seeing' what the cameras 'saw'. Auditing of CCTV and other surveillance footage should be done daily (continuous investigation) to identify potential issues and threats. Auditing is a dedicated and systematic process that helps address challenges related to live monitoring and alert-based systems. Auditing helps in evaluating analyzing incidents to improve existing policies, procedures, and processes. Concerned personnel should be trained to become video footage auditors, and the audit teams should be rotated to avoid complacency/collusion. Daily auditing of CCTV and other surveillance video footage can also help in adhering to the principles of Kaizen and TQM for business improvement.

2) DOCUMENT AUDIT FINDINGS/INCIDENTS

Audit findings/incidents should be documented in a standardized template to find the root cause to prevent future recurrences. Historical data of such findings/incidents can reveal patterns that can help take better informed corrective and preventive action. If all architects and interior designers report incidents in a standardized template, relevant stakeholders can derive business intelligence from the data and take action for the collective benefit of all architects and interior designers.

3) ENSURE DISASTER RECOVERY OF CCTV AND OTHER SURVEILLANCE VIDEO FOOTAGE – LIKE A 'BLACKBOX'.

CCTV and other surveillance video footage must be stored at multiple locations in order to ensure that even if the recorder/storage device is stolen, destroyed or tampered with the data is never lost. Further, any backed-up data must easily be searchable and retrievable; else, it is going to be a nightmare finding the relevant video.

4) DISPLAY DYNAMIC INFORMATION AT RELEVANT PLACES

Document and display details of information that is dynamic in nature in relevant areas. For example:

1. List of authorised daily workers at a construction site or the authorized staff at a showroom of an interior designer.

2. List of authorized security personnel deployed at a construction site or at a showroom of an interior designer.

3. List of habitual offenders/suspects likely to visit the construction site or the showroom of an interior designer (a 'Watch out' list).

5) USE A POWERFUL NEW SIGNAGE

"WE AUDIT CCTV VIDEO FOOTAGE EVERYDAY".

One size, one color, one powerful message.

Across the nation.

DE-CENTRALIZED SURVEILLANCE + CENTRALIZED
SURVEILLANCE = OPTIMAL RESULTS

Organizations with multiple locations struggle
with centralized video surveillance due to
infrastructure cost, internet bandwidth, and
operator limitations. De-centralized surveillance
offers higher accountability at each location and
better situational awareness, leading to more
chances of discovering exceptions.

NEW SKILL – 'CCTV VIDEO FOOTAGE AUDITOR'

In a groundbreaking move, the Ministry of Skill
Development of India has established National
Occupational Standards for the crucial skill of
CCTV Video Footage Auditing. The Ministry of
Education has also introduced a course to teach
this skill to students in grades 11 and 12. This
initiative will not only create new job
opportunities and business ventures for those
seeking a fresh career path but also for retirees
from both the armed forces and the private
sector. Additionally, this skill will help activate
the millions of CCTV cameras currently
underutilized, bringing them out of 'sleep mode'
and enhancing their effectiveness.

CONCLUSION

"You see, but you do not observe"—a famous
quote by Sherlock Holmes in A Scandal in
Bohemia (1891, by Sir Arthur Conan Doyle)—
perfectly illustrates the need for human insight
in surveillance. While computers can 'see,' it is
human observation that truly interprets and
acts on what is seen. COM-SUR simplifies and
enhances this critical process, leading to more
effective and insightful results.

"Cameras don't lie"—but how will you know
unless you 'see' what the cameras 'saw'? Don't
wait for things to go wrong. Start auditing your
CCTV footage with award-winning COM-SUR
today.

In closing, we present three guiding principles
that will revolutionize video surveillance:

1. Auditing is fundamental—everything else is
peripheral.

2. Cameras have lenses—humans have eyes.

3. Let's make cameras 'accountable.'