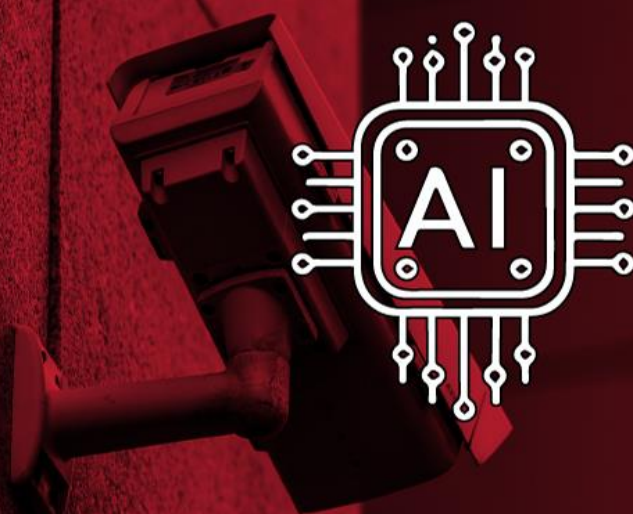




# "SEE WHAT THE CAMERA SAW"

THE FOOTAGE WHISPERER



'BETTER' AI VIA DAILY AUDITS  
NO MORE DATA WALL

100+ TOPICS - AIRPORTS TO ZOOS

GAUTAM D. GORADIA



### UTILITY VALUE OF COM-SUR™ FOR LIVESTOCK FACILITIES

#### 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 drone surveillance is common in livestock facilities 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 LIVESTOCK FACILITIES

#### 1. Animal welfare issues:

Livestock facilities constantly need to monitor the welfare of the animals therein. This includes identifying signs of distress, illness, or injury, ensuring that animals are being treated humanely, and monitoring their living conditions.

#### 2. Threats to biosecurity:

Biosecurity refers to practices aimed at preventing, reducing or eliminating the introduction and spread of disease. Livestock facilities must ensure that proper biosecurity protocols are being followed in their premises in order to prevent the spread of animal diseases, particularly those of foreign origin.



### 3. Theft and vandalism:

Livestock theft is a significant concern for livestock facilities, as valuable animals can be targeted for illegal activities such as sale, slaughter, or breeding. Perpetrators often conduct pre-operational surveillance of the target area, making it important to detect suspicious activity during this phase to prevent an incident.

### 4. Occupational safety and health issues:

Livestock facilities constantly need to monitor the safety and health of workers within their premises, ensuring that they are following proper safety protocols and identifying potential hazards that may need to be addressed.

### 5. Compliance issues:

Livestock facilities must comply with various regulations related to animal welfare, food safety, environmental protection, and biosecurity.

### 6. Insider threats:

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

### 7. 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 AT LIVESTOCK FACILITIES

Most livestock facilities have video surveillance covering the following areas:

- Entry and exit points
- Barns and stables
- Feeding and watering areas
- Processing areas
- Outdoor areas where animals graze or are transported

Further, in order to analyse the behaviour of the animals in the livestock facility, especially with respect to whether they are being fed on time, do they exhibit any visible signs of any illness, etc., as well as to investigate incidents /accidents, officials of livestock facilities check surveillance video recordings of the relevant cameras from time to time.

### DRONES

Drones are increasingly being used to monitor livestock facilities for the following purposes:

#### 1. Herd management:

Drones are used to monitor herd movements and identify individual animals that may require medical attention, before they become more serious.

## 2. Facility monitoring:

Drones are used to monitor the entire facility, including outdoor areas, pens, and pastures in order to identify potential safety hazards, such as broken fences or loose equipment, and ensure that animals have access to food, water, and shelter.

## 3. Crop monitoring:

Some livestock facilities also have crops or grazing lands that require monitoring. Drones are used to monitor crop growth, detect potential pest infestations, and assess the overall health of the crops.

## 4. Security monitoring:

Drones are used for security purposes, such as monitoring for intruders or theft.

### LIVE MONITORING – CHALLENGES

Several livestock facilities have a dedicated control room with operators, set up for live monitoring of CCTV and drone cameras. 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:

- Animal welfare issues

- Biosecurity threats
- Occupational safety and health issues
- Productivity issues
- Recces/suspicious movements/activities
- Staff negligence
- Insider job/security lapses
- Unauthorized/unlawful activities/visitors
- Inattentive staff (e.g. guard sleeping)
- Fraud/loss/corruption/theft
- Potentially hazardous material
- Compliance issues
- Housekeeping issues
- Issues with female staff
- 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 video 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 livestock facilities report incidents in a standardized template, relevant authorities can derive business intelligence from the data and take action for the collective benefit of the livestock sector.

### 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 authorized staff.
2. List of authorized security personnel deployed at the livestock facility.
3. List of habitual offenders/suspects likely to visit the livestock facility's premises (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.'