



**COM
SUR**™

the missing piece of CCTV

THE FOOTAGE WHISPERER

"SEE WHAT THE CAMERA SAW"



UTILITY VALUE OF
COM-SUR™ FOR
COLD STORAGE AND
REFRIGERATION
FACILITIES

WELCOME



AUDIT HOURS OF FOOTAGE IN MINUTES
FIND OUT HOW COM-SUR WILL HELP

CCTV surveillance is common in cold storage and refrigeration 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 VIDEO FOOTAGE AUDITING, SMART BACKUP, AND STANDARDIZED INTELLIGENT INCIDENT REPORTING SOFTWARE – THE MISSING PIECE OF CCTV

COM-SUR is the world's only CCTV 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 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 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 cameras in a standardized way, leading to better decision-making. It also offers exceptional investigative capabilities.

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 screenshot 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 screenshots, 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 COLD STORAGE AND REFRIGERATION FACILITIES

1. Contamination and food safety:

Cold storage facilities must adhere to strict hygiene and food safety standards to prevent contamination of stored products. Failure to maintain proper sanitation practices can lead to the growth of bacteria, molds, or pests, resulting in product spoilage or health hazards.

2. Unauthorized access:

Unauthorized access poses a significant threat to cold storage and refrigeration facilities. Intruders gaining entry can compromise the integrity and safety of stored goods.

3. Theft and pilferage:

Cold storage and refrigeration facilities store

valuable goods, including high-value food products, pharmaceuticals, and so on, which are susceptible to theft and pilferage.

4. Temperature fluctuations:

Maintaining consistent temperature control is critical in cold storage and refrigeration facilities to preserve the quality and safety of perishable goods. Equipment failures, power outages, or human errors can lead to temperature fluctuations, potentially causing spoilage and financial losses

5. Fire hazards:

The use of refrigeration equipment, electrical systems, and flammable materials in cold storage and refrigeration facilities increases the risk of fire. A fire can cause significant damage to the facility, compromise product safety, and result in financial losses.

6. Inventory management:

Inventory management in cold storage and refrigeration facilities poses unique challenges due to the perishable nature of stored goods and the need for temperature control. Maintaining proper rotation to minimize waste and prevent spoilage, optimizing limited storage space, ensuring stock visibility, and accurate order fulfillment are key challenges.

7. Personnel safety:

Working in cold storage and refrigeration facilities presents unique risks to personnel due to low temperatures, slippery surfaces, and potential hazards associated with operating machinery and handling heavy objects.

8. Compliance issues:

Cold storage and refrigeration facilities must

comply with various regulations and standards related to food safety, pharmaceutical storage, worker safety, and environmental impact. Failure to meet these requirements can lead to legal penalties, reputational damage, and operational disruptions.

9. Insider threats:

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

10. 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.

COVID-19 PANDEMIC

The pandemic had a significant impact on the operations of cold storage and refrigeration facilities worldwide. These facilities experienced increased demand as they played a crucial role in storing and distributing temperature-sensitive goods, including COVID-19 vaccines. Supply chain disruptions, shifts in product demand, and strain on cold chain infrastructure were observed. Operational challenges arose, emphasizing the importance of business continuity planning. Guidelines were issued to prevent the spread of

COVID-19, but outbreaks still occurred.

USE OF VIDEO SURVEILLANCE AT COLD STORAGE AND REFRIGERATION FACILITIES

Most cold storage and refrigeration facilities have video surveillance covering the following areas:

- Entry and exit points
- Cold storage areas
- Loading docks
- Inventory tracking areas such as conveyor belts, sorting areas, scanning points etc.
- Critical infrastructure areas such as refrigeration systems, power supply areas, backup generators etc.
- Corridors and common areas
- Parking and other outdoor areas

Further, the concerned stakeholders at cold storage and refrigeration facilities generally need to review and analyse recorded CCTV video footage from time to time for investigating incidents and/or accidents, and other issues in order to corroborate evidence as well as assist Police/other Law Enforcement Agencies.

USE OF THERMAL CAMERAS

Thermal cameras are commonly used in cold storage and refrigeration facilities for various purposes due to their ability to detect and measure heat signatures. Here are some ways in which thermal cameras are utilized:

1. Temperature monitoring:

Thermal cameras are effective in monitoring and managing temperature levels within cold storage and refrigeration areas. They can quickly detect temperature variations and provide real-time thermal imaging of the stored goods, enabling operators to identify hot or cold spots, potential temperature leaks, or equipment malfunctions.

2. Spoilage detection:

Thermal cameras can help identify potential spoilage or quality issues in perishable goods. By comparing the thermal signatures of products against predefined temperature thresholds, these cameras can alert operators to anomalies that may indicate spoilage or compromised product quality.

3. Energy efficiency:

Thermal cameras are used to assess and optimize energy efficiency in refrigeration systems. By capturing thermal images of equipment, such as compressors, condensers, or evaporators, operators can identify areas of excessive heat or energy loss. This information can be used to optimize system performance, reduce energy consumption, and lower operational costs.

4. Leak detection:

Thermal cameras can detect refrigerant leaks in cooling systems. Refrigerant leaks often result in temperature fluctuations or abnormal heat patterns. By using thermal imaging, operators can identify areas with temperature differences or thermal anomalies, indicating potential leaks that require immediate attention.

5. Intrusion detection:

Thermal cameras are utilized for perimeter security and intrusion detection in cold storage and refrigeration facilities. They can detect the presence of individuals or objects based on their heat signatures, even in low-light or adverse weather conditions. This helps in preventing unauthorized access, detecting intrusions, and enhancing overall facility security.

6. Fire prevention:

Thermal cameras play a role in fire prevention by detecting abnormal heat patterns or hotspots that may indicate a potential fire hazard. By continuously monitoring the facility and triggering alarms upon detecting excessive heat, thermal cameras assist in early fire detection, enabling prompt response and mitigating the risk of fire-related damages.

7. Equipment maintenance:

Thermal cameras are employed for preventive maintenance of refrigeration equipment. By capturing thermal images of equipment components, operators can identify abnormalities, such as overheating or malfunctioning parts, and proactively schedule maintenance or repairs to avoid equipment failures or costly downtime.

LIVE MONITORING – CHALLENGES

Several cold storage and refrigeration facilities have a dedicated control room with operators, set up for live monitoring of CCTV 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 CCTV video footage from time to time for investigating and preventing compliance issues. Auditing CCTV provides actionable insights on the level of compliance within the organization.

AUTOMATED SOFTWARE – WHY THEY WILL NOT WORK IN ISOLATION

In the wake of the Christchurch shooting incident, several high-profile places of worship considered deploying gun detection technology. However, there are concerns about its efficacy, since it may not be able to detect all types of weapons, or the perpetrator could still create damage before being detected.

Similarly, automated systems like video analytics, AI/ML can only detect what they have been programmed for. What about the rest? Again, these technologies are prone to triggering huge amounts of false alarms. Also, since the permutation combinations of exceptions can be vast and varied, it becomes almost impossible to automate every kind of exception. Facial recognition technology also raises ethical and privacy concerns, and has been found to produce inaccurate results, especially for certain ethnic groups. Therefore, experts suggest that while automated technologies will continue to grow, human intervention and intelligence will still be necessary to verify alerts and ensure their efficacy.

“CCTV IS 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:

- Operational issues
- Recces/suspicious movements/activities

- Insider job/security lapses
- Equipment malfunction/other technical issues
- Violence and vandalism
- Unauthorized/unlawful activities/visitors
- Health and safety issues
- Compliance issues
- Accidents/Causes of potential accidents
- Potential causes of fires
- Loss/theft/pilferage
- Intrusions, especially by animals
- Inattentive staff (e.g. guard sleeping)
- Unruly staff/security guards
- Unclaimed/unattended objects
- Issues with female staff
- Cameras/recorder malfunctions

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

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

'Auditing' means 'seeing' what the cameras 'saw'. Auditing of CCTV 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 CCTV video footage auditors, and the audit teams should be rotated to avoid complacency/collusion. Daily auditing of CCTV 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 cold storage and refrigeration facilities report incidents in a standardized template, relevant authorities can derive business intelligence from the data and take action for the collective benefit of all cold storage and refrigeration facilities.

3) ENSURE DISASTER RECOVERY OF CCTV VIDEO FOOTAGE – LIKE A 'BLACKBOX'

CCTV video footage must be stored at multiple locations in order to ensure that even if the recorder 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 cold storage or refrigeration facility.
3. List of potential suspects/miscreants likely to visit the premises of the cold storage or refrigeration facility (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.

CONCLUSION

"You see, but you do not observe" is a quote by Sherlock Holmes in A Scandal in Bohemia (1891, written by Sir Arthur Conan Doyle). COM-SUR makes 'observation' far effortless and effectual leading to superior results.

"Cameras don't lie" - but how will you know unless you 'see' what the cameras 'saw'?

Audit CCTV - why suffer!

Get award-winning COM-SUR now.

Don't wait for things to go wrong!