com sur ™

the missing piece of CCTV

THE FOOTAGE WHISPERER

"SEE WHAT THE CAMERA SAW"

100+ TOPICS - AIRPORTS TO ZOOS

UTILITY VALUE OF
COM-SUR™ FOR
WATER TREATMENT AND
DESALINATION PLANTS

WELCOME

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

CCTV and other forms of video surveillance are common in water treatment and desalination plants 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.

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 WATER TREATMENT AND DESALINATION PLANTS

1. Chemical and biological contamination:

There is a constant need to safeguard water sources and treatment processes from chemical spills, biological contamination, or accidental release of hazardous substances. These incidents can have severe health and environmental consequences.

2. Worker safety:

Worker safety is a significant concern at water treatment and desalination plants. These facilities often involve complex processes, machinery, and hazardous substances, which can pose various risks to workers.

3. Unauthorized access:

Water treatment and desalination plants are vulnerable to unauthorized access by individuals with malicious intent, such as sabotage, theft, or terrorism. Intruders may attempt to disrupt operations, tamper with equipment, or contaminate water sources.

4. Sabotage and vandalism:

Water treatment and desalination plants face threats of sabotage or vandalism, either by disgruntled individuals, activists, or criminals. Acts of sabotage can lead to disruptions in water supply, damage to infrastructure, or environmental contamination.

5. Theft:

Water treatment and desalination plants house valuable equipment, machinery, and resources that make them attractive targets for thieves.

6. Operational challenges:

Water treatment and desalination plants must manage operational challenges, such as maintaining consistent water quality, ensuring efficient and reliable operations, managing large volumes of water, and adhering to regulatory standards and compliance.

7. Insider threats:

Water treatment and desalination plants have to deal with insider threats from disgruntled employees or even unwitting staff who fail to follow proper security and safety measures.

8. 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 severely impacted the operations of water treatment and desalination plants worldwide. Owing to restrictions/lockdowns, these facilities faced issues such as workforce shortages, disruptions in the supply chain for chemicals and equipment, and so on. With the emphasis on hygiene and sanitation during the pandemic, there was an increased demand for clean water. Water treatment and desalination plants had to adjust their operations to meet the rising demand, often facing capacity constraints and the need for rapid scaling up of production. Guidelines were issued to prevent the spread of COVID-19, but outbreaks still occurred.

USE OF VIDEO SURVEILLANCE AT WATER TREATMENT AND DESALINATION PLANTS

Most water treatment and desalination plants have video surveillance covering the following areas:

- Entry and exit points

- Pumping stations and tanks

- Treatment process areas

- Storage and reservoir areas

- Critical infrastructure areas housing components such as power supply units, generators, etc.

Further, the concerned stakeholders at water treatment and desalination plants 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 at water treatment and desalination plants due to their ability to detect and visualize heat signatures. Here are some specific applications of thermal cameras in water treatment and desalination plants:

1. Equipment monitoring:

Thermal cameras can be used to monitor the temperature of critical equipment, such as pumps, motors, valves, and electrical panels. By detecting abnormal heat signatures, thermal cameras can identify potential equipment malfunctions, overheating, or electrical issues that may lead to failures or safety hazards.

2. Leak detection:

Thermal cameras are effective in identifying leaks in pipelines, valves, and storage tanks. They can detect temperature differentials caused by the escaping water or other fluids, helping to locate and address leaks promptly. Early detection of leaks is crucial to prevent

water loss, system inefficiencies, and potential damage to equipment or infrastructure.

3. Fire detection:

Thermal cameras are highly sensitive to heat and can quickly identify hotspots or potential fire incidents. By continuously monitoring areas prone to fire risks, such as electrical rooms, storage areas, or chemical storage facilities, thermal cameras can provide early warning and enable prompt response to mitigate fire hazards.

4. Security and intrusion detection:

Thermal cameras are used for perimeter security and intrusion detection at water treatment and desalination plants.
These cameras can detect the heat signatures of individuals or objects moving in restricted areas or attempting unauthorized access, alerting security personnel to take appropriate actions.

5. Energy efficiency:

Thermal cameras can help identify energy inefficiencies in the plant's operations.
By visualizing heat loss or areas with excessive energy consumption, thermal imaging can assist in optimizing energy usage and improving overall energy efficiency.

USING DRONES FOR REMOTE VISUAL INSPECTION

Drones are being increasingly used for remote visual inspection of water treatment and desalination plants. Drones offer several benefits in terms of efficiency, safety, and cost-effectiveness for monitoring and

inspecting these facilities. They provide aerial views, capture high-resolution images and videos, and access hard-to-reach areas that may be difficult or time-consuming for human inspectors to reach. Drones equipped with specialized cameras and sensors can assess the condition of infrastructure, detect leaks or damages, monitor water quality, and aid in asset management. They can also assist in emergency response situations by providing real-time data and imagery to support decision-making.

LIVE MONITORING – CHALLENGES

Several water treatment and desalination plants have a dedicated control room with operators, set up for live monitoring of CCTV cameras and other 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 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:

- Operational issues

- Recces/suspicious movements/activities

- Insider job/security lapses

- Equipment malfunction/other technical issues

- Violence and vandalism

- Health and safety issues

- Unauthorized/unlawful activities/visitors

- Accidents/causes of potential accidents

- Potential causes of fires

- Loss/theft

- 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 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 the stakeholders of water treatment and desalination plants report incidents in a

standardized template, relevant authorities can derive business intelligence from the data and take action for the collective benefit of all water treatment and desalination plants.

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 water treatment and desalination plant.

3. List of potential suspects/miscreants likely to visit the premises of the water treatment and desalination plant (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 video - why suffer!

Get award-winning COM-SUR now.
Don't wait for things to go wrong!