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the missing piece of CCTV

THE FOOTAGE WHISPERER

"SEE WHAT THE CAMERA SAW"

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UTILITY VALUE OF
COM-SUR™ FOR
SHIPBUILDING AND SHIP
REPAIR YARDS

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 common in shipbuilding and ship repair yards 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 SHIPBUILDING AND SHIP REPAIR YARDS

1. Unauthorized access:

Intruders attempting to gain access to the shipyard premises can pose a significant security risk. This includes individuals seeking to steal valuable equipment or materials or potentially engage in sabotage or vandalism.

2. Theft and vandalism:

Shipbuilding and ship repair yards often have valuable equipment, tools, and materials that can be attractive targets for theft. Vandalism can also occur, leading to damage to infrastructure, machinery, or vessels.

3. Industrial espionage:

Competitors or unauthorized individuals may attempt to gather sensitive information or trade secrets related to shipbuilding processes, designs, or technologies. This poses a threat to

the intellectual property and competitiveness of the shipyard.

4. Worker safety:

Shipyards can be inherently hazardous environments due to heavy machinery, large vessels, hazardous materials, and complex operations. Ensuring the safety of workers and preventing accidents is a significant challenge.

5. Compliance issues:

Shipbuilding and repair yards must adhere to various regulatory requirements related to safety, environmental protection, labor laws, and security protocols. Meeting these compliance standards and keeping up with evolving regulations can be demanding.

6. Insider threats:

Shipbuilding and ship repair yards 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.

COVID-19 PANDEMIC

The pandemic severely impacted the operations of shipbuilding and ship repair yards worldwide. There was a decline in global trade and a decrease in new shipbuilding orders. Shipping companies and operators facing financial difficulties had to scale back their operations. Guidelines were issued to prevent the spread of COVID-19, but outbreaks still occurred.

USE OF VIDEO SURVEILLANCE AT SHIPBUILDING AND SHIP REPAIR YARDS

Most shipbuilding and ship repair yards have video surveillance covering the following areas:

- Entry and exit points
- Loading and unloading areas
- Workshops and production areas
- Storage and inventory areas
- Dock and berthing areas

Further, the concerned stakeholders at shipbuilding and ship repair yards 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 shipbuilding and ship repair yards due to their ability to detect and visualize heat signatures.

Here are some specific applications of thermal cameras in shipbuilding and ship repair yards:

1. Fire detection and prevention:

Thermal cameras identify hotspots or abnormal temperature rises, which helps in early detection of fire hazards. By monitoring critical areas prone to fire, such as engine rooms, welding stations, or electrical equipment, thermal cameras can provide early warnings and allow for prompt intervention.

2. Equipment and machinery monitoring:

Thermal cameras are used to monitor the temperature of machinery and equipment within the shipyard. This helps in identifying overheating, mechanical faults, or malfunctions that could lead to equipment failure or accidents. By detecting anomalies, maintenance personnel can take preventive measures and avoid costly repairs or downtime.

3. Security and perimeter monitoring:

Thermal cameras can enhance the security of shipyards by providing surveillance in low-light or nighttime conditions. They can detect human or animal presence based on heat signatures, allowing security personnel to monitor the perimeter and identify any unauthorized access attempts.

4. Energy efficiency and insulation checks:

Thermal cameras are used to assess the thermal insulation and energy efficiency of vessels under construction or repair. By visualizing heat loss or areas of poor insulation, shipbuilders can optimize insulation

materials and designs to improve energy efficiency and reduce operating costs.

5. Environmental monitoring:

Thermal cameras are used to monitor environmental factors such as water temperature, air temperature, and heat dissipation in and around the shipyard. This data can help in assessing the impact of the shipyard's operations on the environment and ensuring compliance with environmental regulations.

USING DRONES FOR REMOTE VISUAL INSPECTION

Drones are being increasingly used for remote visual inspection of shipbuilding and ship repair yards. They are employed for aerial surveys, capturing detailed imagery and videos for visual assessments of vessels and infrastructure. Drones also monitor project progress, documenting milestones and supporting project management. In terms of safety and security, drones provide real-time aerial surveillance, detect unauthorized access, and identify potential hazards or breaches. They contribute to inventory management and logistics by tracking the movement of materials and supplies. Additionally, drones assist in environmental assessments, monitoring factors like water quality and air pollution.

LIVE MONITORING – CHALLENGES

Some shipbuilding and ship repair yards 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/fraud/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 shipbuilding and ship repair yards report incidents in a standardized template, relevant authorities can derive business intelligence from the data and take action for the collective benefit of all shipbuilding and ship repair yards.

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 shipbuilding and ship repair yard.
3. List of potential suspects/miscreants likely to visit the premises of the shipbuilding and ship repair yard (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!

Finally, allow us to present three important
mantras that change the landscape of video
surveillance:

1. Auditing is fundamental – everything else is peripheral.
2. Cameras have lenses – humans have eyes.
3. Let's make cameras 'accountable'.