

OVERVIEW

Utilities are in the business of producing and distributing electricity, which is inherently dangerous. Constructing electrical structures or modifying them is a complex task, which is why utilities have long focused on improving safety practices. Utilities have been leaders in safety training and processes to improve safety outcomes, but challenges remain.

One of them is that standards from one contractor to the next are different, but utilities that need to build and maintain assets must adhere to one set of standards regardless of the contractor doing the work.

The challenge to establishing a safety culture and enforcing safety standards are real:

- ✓ Safety inspectors can't be everywhere.
- ✓ Safety is the outcome of a good process being followed. It's a lagging indicator that the process is broken.
- ✓ Safety needs to be part of the culture.
- ✓ Avoiding "big brother" syndrome is a real challenge.
- ✓ Attacking people with 'safety' when they are trying to get the job done is morale crushing.

The cost of unenforced safety standards leads to problems. Five of the top ten injuries according to OSHA are related to construction safety, which are as follows:



**Fall protection,
construction**



**Scaffolding, general
requirements
construction**



**Ladders,
construction**



**Fall protection
(training requirements)**



**Eye and face
protection**

Three Key Ingredients in Establishing Your Safety Culture

Establishing a safety culture involves people, processes and technology working together to achieve good safety outcomes. This includes proper training and establishing good safety practices, but also the right kind of technology. Safety processes and best practices can be monitored by managers by using a combination of technology helping utilities quickly remediate safety issues or simply understanding safety trends on their job sites. The technology acts as an augmentation to a safety inspector providing another set of eyes to understand where to focus their efforts.

Supercharge Your Safety Program

Enabling jobsite cameras with artificial intelligence (AI) is the ultimate special power that can supercharge a safety program and play a critical role in reinforcing safety processes, safe work practices and laying the foundation for a safety culture.

Components of a Supercharged Safety Program

1. Worksite Monitoring Via Cameras

Jobsite cameras enabled with AI allow for immediate notification of AI events, but they also have another benefit—they record and store what happens on the job ... every day. Any time a contractor or employee wants to view what happened, it's simply a matter of reviewing the video replay to resolve conflicts about the root cause of the issue.



2. Automatic Identification of Safety Fundamentals

Fundamentals include wearing a hard hat, vest or safety glasses, but interestingly, lack of safety glasses is in the top ten safety incidents according to OSHA. So is this a fundamental or a hard requirement that needs immediate notification to a construction supervisor? Regardless of how your utility classifies or remediates safety fundamentals, enabling off-the-shelf cameras with AI enables identification of these issues.



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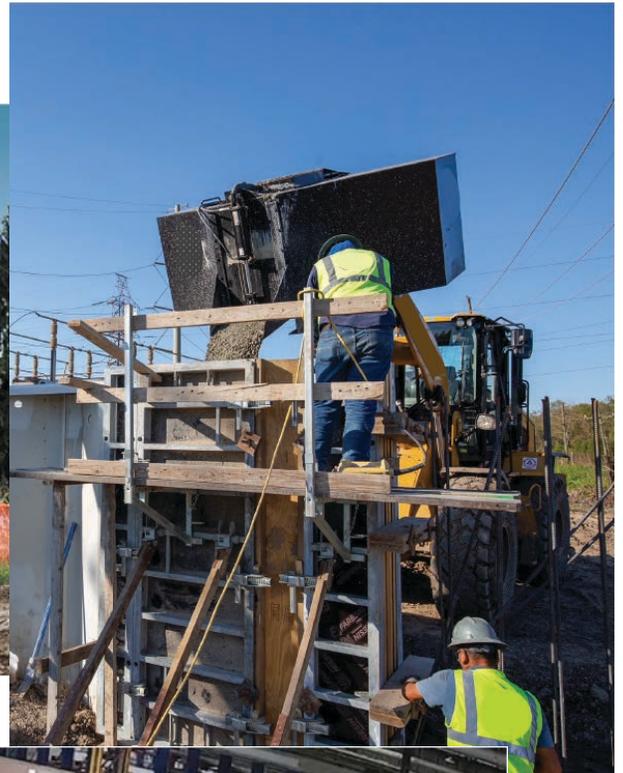
email: info@cobravisoin.ai

1984 Isaac Newton Square W, Suite 206
Reston, VA 20190

3. Establish Fundamental Safety, Then Advance

Establishing fundamentals is always a first step to establishing a safety culture. Once this foundation is laid, then moving to advanced safety measures is a progression that leads to long-term success.

- **No dig.** Monitoring no-dig zones and preventing live lines from being cut or punctured can prevent serious injury or damage to property.
- **Falls.** Unclipping a line, even momentarily, puts workers at risk of a fall. Monitoring this type of activity and informing workers of safety practices is another good example of establishing a safety culture. If a fall has occurred, identifying and alerting medical personnel in real-time can provide critical response information.
- **Collision avoidance.** Using AI to identify close calls or prevent collisions will assist companies in preventing injuries or damage to property. This can provide information on trends and inform safety personnel of potential "safety hotspots" where additional monitoring or training may be required.



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Empower Additional Safety Observation Sources

It's not just AI that can observe safety incidents; employees and contractors are also key components to a safety culture. Enabling safety walks with technology provides an easy method for submitting feedback about good and bad safety behaviors.

Whether it's AI or a manual observation, a real-time safety alert can be triggered, providing an immediate notification to the job site via an alarm (light, noise, vibration). Depending on the seriousness of the safety observation, further action can be taken in the form of technology alerts (e-mail, text or website notifications).

Safety Observations

Safety Observation: Contacts

Task Details

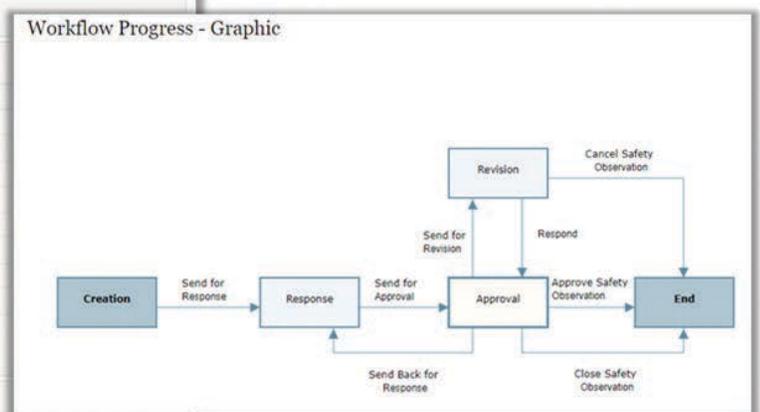
From: Artificial Intelligence
To: Carl Weathers
Sent For: Approval

General

Record No.	uxso2-3931	Creator	Artificial Intelligence
Title	GC-Worker not wearing hard hat-Area 1	Creation Date	11/13/2020 04:59 AM
Location	Area 1	Job Name	Inland Gas Upgrade (IGU)
Date of Event	11/13/2020	Job Number	TB-0001
Due Date	11/18/2020 04:59 AM	Status	Open
Incident Type	Good Catch		

Good Catch

Safety Issue Observed: Worker not wearing hard hat
Good Catch Addressed? Yes No
Action Taken:

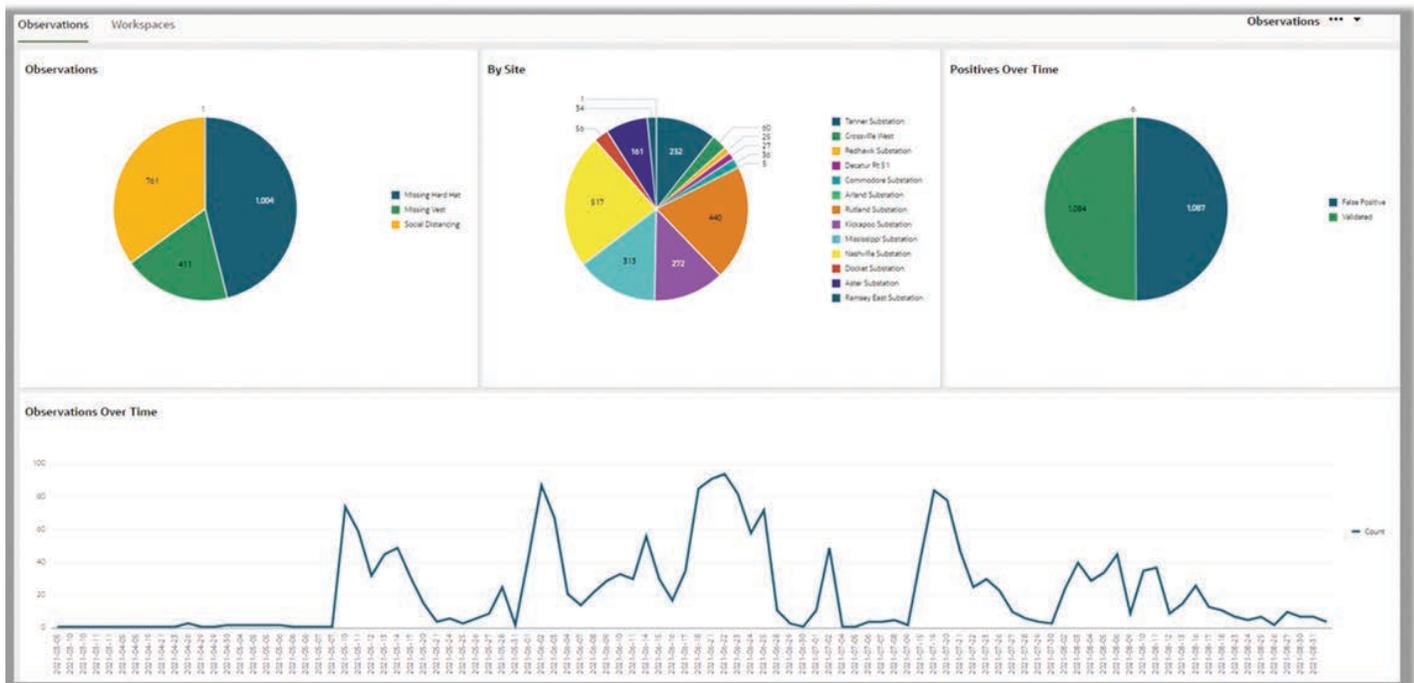


Leverage Actionable Data Across the Business and Vendor Network

Now that safety incidents have been detected, leveraging the output to improve your safety culture is a logical outcome. Reporting across vendors, job sites, safety incident type or job type becomes actionable data to inform management about the relative safety of their personnel or contractors.

Ideally this can be used to collaboratively work with safety inspectors, construction managers and work crews to improve processes that lead to reduced safety incidents.

1. By vendor
2. Safety incident
3. By job site
4. Trending
5. By job type



Providing Access to the Constructive Safety Feedback Loop

Quickly informing work crews of safety incidents creates a positive approach to creating a safety culture. For instance, the job site briefing has long been used to inform work crews of safety incidents or reminders. Imagine providing work crews with the near real-time updates on the safety incidents from the previous day or week.

Reducing the time from incident to response informs work crews that safety is an important part of their job that is actively being monitored. Ultimately this information can be used to create a remediation plan to ensure that safe work practices are being followed.



The Benefits of Establishing a Robust Safety Culture

- Establishing good safety practices is the foundation for a productive job site for employees and contractors.
- Safe work practices leads to a reduction of job site injuries, which is in the interest of all stakeholders (employees, contractors, customers and owners)
- Enabling automatic identification of job site safety issues establishes a foundation for a safety culture.
- Improving the identification of safety issues enables safety inspectors to focus on the work crews or job sites that need the most attention.
- Simply having a camera monitoring a job site makes employees and contractors aware that construction practices are being tracked and will be reviewed regularly.

Key Outcomes for Your Safety Program

Artificial intelligence is used to identify incidents across a broad range of safety issues.

Safety incidents are summarized and reported.

Fundamental and advanced safety incidents can be monitored and reported.

Real-time alerts can be triggered depending on the type or severity of the safety incident.

What is CobraVision™?

CobraVision™ is an AI platform trained to interpret and understand the safety, inspection and construction quality needs of asset-intensive industries, from scanning live videos and stationary worksite cameras, to analyzing live drone footage. **CobraVision™** identifies, classifies, and responds to streaming video sources, ultimately providing you with real-time knowledge of fixed assets, safety and construction practices for improved outcomes and efficiency of your projects and operations.

Partner with CobraVision™

Artificial intelligence will be the cornerstone of the next wave of innovation in construction, inspection and safety. **CobraVision™** is at the forefront of establishing an intelligent foundation for clients to collaboratively guide and develop AI use-cases to create meaningful business value.

