

Member Communication Experience

Enhancing Safety and Efficiency on the Jobsite

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Construction sites can be hazardous places, with heavy equipment, machinery, and workers constantly operating in close proximity. In this complex environment, any misstep or error can result in severe accidents or injuries. To mitigate these risks on the jobsite, it is crucial for contractors and operators to prioritize safety measures in every aspect of their operations. Fortunately, one area where technology can significantly improve safety and efficiency is the use of observation systems for construction equipment.

Let's examine the benefits of using observation systems, the types of technology available, and how these systems can be implemented on any construction operation.

Benefits of Observation Systems

First, how do these systems work? Observation systems are practical add-ons for construction equipment that provide real-time video monitoring of a machine and its surroundings, allowing operators to make informed decisions when working on a jobsite. Among the benefits of these systems are:

- » **Enhanced visibility and operator confidence** – With construction equipment being so large, having better visibility from the equipment cab is a significant advantage to using observation systems. While operating equipment, operators can look at their observation system display to have a clear image of the jobsite. These systems also allow them to see blind spots that they could otherwise miss. By having such a comprehensive view of their surroundings,



operators can maneuver their equipment with confidence, ensuring they are safely heading in the right direction.

- » **Improved safety and efficiency** – The use of observation systems allows operators to monitor what is going on around the jobsite, preventing them from putting themselves or others at risk. Observation systems allow operators to have current information and feedback from looking at the camera monitor to determine whether it is safe to back up or turn without running into machines, crew members, pedestrians, or other obstacles. This is particularly beneficial when operating large machinery in congested areas. Additionally, observation systems can help operators be more precise in their movements, which can improve the productivity, accuracy, and quality of the job being done while working in a safer environment.

- » **Reduced downtime and operational costs** – Every minute that a machine is down results in lost revenue. Causing serious damage to a piece of equipment by backing into, running over, or colliding with another machine or obstacle on the jobsite can lead to costly repairs and a significant loss of money. With observation systems, operators can clearly see their surroundings, lowering the risk of any potential damage or accident on the jobsite.

Available Technologies and New Solutions

There are various types of high-quality observation systems available on the market, each with its own set of features and capabilities. Most observation systems come with high-resolution cameras and high-performance color optics displays. For low-light assistance, it is also possible for observation systems to include LED lights to allow clear visibility at night.

Observation systems can range from a single-camera system to up to four cameras. In terms of configuration, there are wired systems where the cameras are hardwired to the display, and wireless systems where the cameras connect to the display over a Wi-Fi network.

Different levels of ruggedness in displays are also available, ranging from medium-duty to heavy-duty to extra-heavy-duty. Typically, heavy-duty and extra-heavy-duty displays would be most used on construction sites. For new solutions, several key technological advancements are changing the landscape within observation systems:

- » **Wi-Fi modules** – Instead of having a dedicated display in the cab, Wi-Fi module systems allow operators to view the images from the cameras mounted in their equipment on their phones. This feature delivers unmatched convenience, as operators don't need to purchase or manage additional external monitors.
- » **360-degree camera systems** – These systems are a game changer as they provide footage from all angles of the equipment, giving the operator a complete 360-degree view of their working area. These 360-degree camera systems allow operators to see all the way around their piece of equipment for maximum visibility and safety.

Because observation systems are only one piece of the puzzle for a larger operational safety program, other technologies should be used along with them to ensure the people and equipment on your jobsite remain safe. For instance, machine control offerings like object detection systems, also known as blind spot monitoring systems, and modular safety awareness solutions are excellent alerting tools to increase safety and visibility between workers and machine operators, decreasing incidents on-site. As alerting devices, these solutions can help prevent machine-to-people, machine-to-machine, and machine-to-object collisions.


Implementing Observation Systems

It's important for contractors to do their research to make sure they select the proper equipment for their construction operation needs. So, selecting the right observation system might require some planning. Here are some key tips to take into consideration when implementing observation systems:

- » **Assess the needs of the operation** – Before buying an observation system, it's essential to assess the specific needs of the operation. First, consider the existing equipment, the type of work being done, the risks associated with the operation, and the common challenges faced by operators on the jobsite. Next, discuss these needs with your dealer, and work together to determine the best observation system for your operation.
- » **Install your system** – Once the system has been selected, it's time to install it. Mounting an observation system on a piece of equipment doesn't need to be a complicated task. The observation system can either be installed by the dealer or by the operator. Depending on the type of system, the installation process may vary. In the case of a wired system, it's a matter of installing the cameras and display with the brackets and hardware that comes with it and then routing the cabling between them. For wireless systems the process is even simpler, as it only requires mounting the display and the cameras and then pairing them.
- » **Get ready to use it** – There is no need for special training to guide operators on how to use observation

systems, because they are simple to control. Once they've been installed, the only thing left to do is spend time getting comfortable with using the display.

As with any upgrade to your equipment, your local dealer is your best resource for advice, installation, and maintenance of your observation systems. Your original equipment manufacturer (OEM) dealer is trained and certified in your equipment's needs and the best technology to enhance your existing capabilities.

By providing operators with real-time monitoring, observation systems have proven to be valuable tools for any construction operation looking to improve safety practices on the jobsite while promoting more precise and efficient use of heavy machinery. As technology continues to evolve, we can expect these systems to become even more sophisticated and popular. 



About the Author

Cyndi Punke is the Product Marketing Manager for [CASE Construction Equipment Parts & Service](#) with over 30 years' experience in the agricultural and construction equipment industry. Punke is responsible for multiple product areas including precision construction technology, aftermarket observation systems, as well as other safety solutions. She is passionate about providing products that make her customers' lives better.

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