

Heavy Equipment Gets Heavy Tech Upgrade

Written by: Aaron Kleingartner, Product and Dealer Marketing Manager, Doosan Infracore North America

For some contractors, technological advancements in heavy construction equipment can be a welcome sight. From enhanced cameras to grade control systems, some contractors want to explore the new machine options and embrace them.

Other contractors may find the machine advancements overwhelming or believe they may be a waste of money. No matter which side of the fence you fall on, it's important to know all your options. New heavy equipment technology is constantly evolving.

Technology Advancements

In recent years, construction equipment brands have developed and launched one-of-a-kind features for their earthmoving machines as technology advances and new features become increasingly important on jobsites. Many of these options were developed with machine performance and operator safety in mind, which benefits everyone in the construction industry – especially for the people operating heavy machines and vehicles.

Some of the best and most recent examples of heavy construction equipment technologies are all-around camera systems and grade control systems for excavators, as well as transparent buckets and onboard weighing systems for wheel loaders.



Onboard weighing systems offer more precise weighing in a wide range of conditions, including adjusting for rough terrain, operator technique, and machine movement, using new intelligence. These systems also feature digital CAN-bus sensors for noise immunity and ground slope compensation. None of these options would be possible without significant investments from manufacturers and feedback from early adopters in the field. Each version of a new technology improves on the last iteration as more data is gathered from jobsites around the world. But not every option is available for each machine. Some are exclusive to just wheel loaders or excavators, which are indicated below.

1. ALL-AROUND CAMERA SYSTEMS

One example of a new machine option in recent years is an

all-around-view monitor on excavators. This camera system features a 360-degree field of view, contributing to worksite safety. Cameras are mounted on the front of the excavator cab, on each side of the machine, and on the rear. One standout feature of the camera system is an additional alert system, which warns the operator of the presence of people or objects around them. The all-around camera system gives operators an extra sense of security as they go about their work, increasing productivity and working time.

Most manufacturers continue to offer a rearview camera as a standard machine feature. Some companies also offer a side view camera for enhanced visibility to the side of the excavator. These views can be seen side by side on some LCD screens in the cab.

2. TRANSPARENT BUCKETS

Another new technology is the Doosan Transparent Bucket, available for select wheel loaders. This technology utilizes multiple cameras to stitch together a view in the front of the wheel loader, rendering the bucket transparent.


An operator can see that it's there but could also see beyond it. This allows for greater control of the bucket and enhanced jobsite safety. The transparent bucket allows operators to:

- » See hidden objects – Operators can see large rocks, construction materials, obstacles, and even people in front of the machine – anything that would otherwise be obstructed from view by the bucket.

- » Minimize blind areas – The multiple-camera system helps minimize blind spots that occur when the wheel loader bucket is raised. Operators can see what's ahead of them from the in-cab monitor.
- » Operate more comfortably – The ability to “see through” the wheel loader bucket allows operators to efficiently dig into and precisely place material where it needs to go. This innovative technology helps maximize productivity.

3. GRADE CONTROL SYSTEMS

A new technology specific to crawler excavators is the grade control system. This option is available in a 2D or 3D configuration. Instead of stopping a machine to measure the trench depth, a grade control system allows a machine to operate at a continuous pace. An excavator with a grade control system can read jobsite data that is mapped out by a drone or a manual survey. This system allows an operator to work quicker and with a better feel of the jobsite and the trench depth.

It's understandable if not every contractor wants to take the time or money to explore new heavy equipment technology. However, if you do, make sure to contact your local dealership to explore what's available for your machines and what upgrades may be the easiest to make without too much investment. You may be surprised at how these new technologies can increase not only operator safety, but overall productivity and profit without much hassle. 



About the Author

Aaron Kleingartner is the product and dealer marketing manager for [Doosan Infracore North America](#), headquartered in Suwanee, Georgia. Kleingartner has 19 years of product development, analytics, and strategic marketing experience with Doosan.

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