

waste today



How new waste truck technologies are changing fleet management

Video and telematics solutions have become standard additions to many of today's collection vehicles, changing how operators think about managing fleets.

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Anyone who works with waste collection trucks knows how drastically technology has changed the roles and responsibilities of drivers and hauling companies in recent years. Thanks to the added emphasis on

accountability, efficiency and preventative maintenance, video and telematics solutions have become standard additions to many fleets today.

Telematics and video are two parts of the whole in the new age of high-tech trucking: Telematics allows users to see the unseeable in terms of vehicle performance and driver behavior, while video provides evidence of the knowable but often undocumented action of a truck and its operator. Although telematics and video have combined to place more responsibility on haulers and cause them to keep up with costs, training and oversight, they also have given collection professionals the tools to do their jobs better, and often, with more ease.

The role of telematics and video

Safety is perhaps the biggest concern of business owners and fleet managers, and it's one of the most critical metrics used to assess driver performance. Through the use of onboard cameras, technology providers have now created a platform that allows for improved monitoring and accident prevention.

"Video-based safety technology equips drivers and managers with the insight and training necessary to curb dangerous driving habits and minimize preventable accidents," Jason Palmer, chief operating officer of San Diego-based SmartDrive, says. "Video-based safety programs accurately and objectively measure each driver's risk and pinpoint the exact skills each driver needs to work on to improve safety. Dangerous habits like speeding, distracted driving, unsafe lane changes, as well as failing to get out and look behind the vehicle before backing can all be identified and addressed in a timely manner."

Palmer says while cameras alone don't lead to safer driving, the data derived from their use can provide teaching opportunities that generate tangible results. Within the first year of use, he says, the majority of fleets that adopt SmartDrive's video safety program experience positive changes in driver performance, averaging a 59 percent reduction in distractions, 74 percent reduction in fatigue, 69 percent reduction in speeding and a 75 percent reduction in close following distances.

In addition to safety, video also is essential for exonerating drivers after an accident. As the saying, "a picture is worth a thousand words" suggests, these tools can be instrumental in providing incontrovertible evidence of a driver's actions, which can then be leveraged to rebuff false claims in court.

"Prior to the utilization of onboard cameras, fleets had to rely solely on the perceived context of an accident from the participants and witnesses," Palmer says. "When it comes down to 'he said, she said' situations, the blame often falls on the driver of the large commercial vehicle—whether warranted or not. Video provides indisputable evidence of what happened in a collision, exonerating the driver when not at fault and saving the company from paying out unnecessary claims. If the waste driver is at fault, the fleet can settle disputes quickly, saving valuable time, resources and costly legal fees."

Palmer says that, according to a recent SmartDrive customer survey, nearly 70 percent of respondents cited enhanced liability protection as the most important function of the technology. He notes that one in three respondents indicated that video was instrumental in at least 25 percent of their exonerations,

helping save the company money from legal expenses and ensure the driver maintains his or her commercial driver's license following an accident.

On the other side of the spectrum, sensor-driven onboard telematics also assists in tracking driver behavior while adding the benefit of vehicle performance monitoring for improved preventative maintenance opportunities.

“Proactive maintenance monitoring through telematics means fleet managers get a heads-up when an issue arises so the waste collection truck can be routed in for maintenance before a breakdown,” Reza Hemmati, director of product management at [Spireon](#) in Irvine, California, says. “In addition, driver behavior alerts regarding harsh braking and other unsafe driving habits provide a counseling mechanism so managers can have real driver counseling conversations with real data to support them. When fleet managers can ensure their trucks are being operated properly, it not only reduces unplanned breakdowns and accidents, but increases the life of the truck asset itself.”

Beyond driver behavior and asset health, Hemmati says telematics can be pivotal in tracking and monitoring truck routes. This routing data allows fleets to promote fuel savings and reduce the cost of upkeep over time.



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Viable solutions

Not so long ago, fleet management was purely an analog pursuit. In more recent years, the largest waste management companies started making investments in advanced technologies to track their vehicles. Now, the prevalence of smart devices and internet of things technologies has made managing fleets economical for haulers of all sizes.

“Telematics and fleet management solutions used to be a nice-to-have [feature] that were mostly employed at enterprise-level fleets,” Hemmati says. “But over the past decade, telematics solutions

have become more affordable and attainable than ever, making the ability to optimize your fleet, regardless of industry, a 'need to have' if you want to increase efficiency and profitability."

Hemmati says that part of what makes telematics and fleet management solutions need-to-have technology is the competition in the industry. While haulers may still be able to operate and manage fleets without the assistance of these tools, they're at an increased risk of falling behind the curve.

"Old habits may be hard to break, but it's important to understand that your competitors who use telematics have an advantage over you—they are operating more efficiently, profitably, safely and productively," Hemmati says. "They are serving your customers faster and better, and their drivers are able to take on more work with the same number of trucks/assets. How long will your company survive when this is your competition?"

One byproduct of haulers bringing in more onboard technologies in recent years is that many trucks are now inundated with a number of software solutions that are each used to perform different tasks related to data capture and analysis. However, today's manufacturers are making a conscientious effort to consolidate these systems for more streamlined use of video, telematics and other smart technology.

"Convergence is at the forefront of emerging technologies within the transportation industry, and waste collection is no exception," Palmer says. "Advanced safety solutions require an increasing number of devices, sensors and hardware installed within the vehicle. Fleets are looking to take advantage of the best and latest technology, while eliminating redundant equipment as much as possible. ... Without convergence capabilities, fleet managers are given the added challenge of deciphering how to pull valuable insight from the flood of information collected. With the convergence of data, devices and sensors, fleets can reduce the number of onboard systems and better secure their data to protect driver privacy."

As these onboard systems continue to be developed, they will allow for more nuanced data capture. In time, Hemmati says, telematics and video tools will allow waste management operators to leverage these pieces of software for even more control over their fleets.

"With the internet of things continuing to permeate our lives, we will see additional sensors integrated into both consumer and commercial vehicles that enable more effective diagnostics and maintenance, collision mitigation and autonomous driving," Hemmati says. "Those advancements will eventually migrate to all sectors that use vehicles, including waste management, and will be used by fleet managers to extend the life of vehicles, eliminate unnecessary capital expenses, create better conditions for drivers and reduce risk for everyone on the road."

Although Palmer says that new technologies will continue to automate driver processes in the near future, the human element will still be critical in making sure the operations of the next generation of waste management trucks are being monitored and working appropriately.

"Vehicles will grow increasingly automated, slowly becoming equipped to handle critical driving functions. The process, however, won't happen overnight, and the role of the driver will remain pivotal

in the execution of safe-automated or semi-automated vehicle operations,” Palmer says. “As drivers begin to rely increasingly on automated driving functions, they ... are still required to oversee and monitor that automated operation and drive the vehicle to and from the designated location. Even as driving and waste collection functions become more and more automated, drivers will need to stay vigilant to ensure proper and safe operations.”

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