EYE in the SKY

Vehicle monitoring systems stitch together the perspectives of multiple cameras into one single artificial overhead view, simplifying the driver's job of monitoring nearby collision hazards. Steve Banner investigates

Desperate to avoid colliding with pedestrians and cyclists, truck drivers on urban delivery work must wish that they had the ability to see all the way round their vehicles with no blind spots.

It's not an impossible dream. Camera systems that offer bird's-eye-view coverage have been around for several years now and are becoming increasingly popular as the technology matures, says Neil Todd, manager of Trailer Vision.

The name of the company is something of a misnomer; the Peterborough-based business offers 360° four-camera packages – called Omni-Vue – for rigids, too (***https://is.gd/ivewen***).

"Our cameras can cover an angle of up to 185° and they overlap, which means there are no blind spots," he says. "The different views are fed to an onboard ECU which stitches them together, and we drop a picture of the top of a truck into the void created in the centre."

The resulting bird's-eye image is displayed on a monitor in the cab, says Todd. Image clarity is steadily improving, with more and more suppliers either installing HD cameras or about to do so.

PRACTICALITIES

A bird's-eye package does not come cheap. "It costs £1,250 plus fitting – you can install it yourself if you so wish – rising to £1,695 if you want a solid state four-channel recorder installed, too," says Todd. Such an investment might prove a wise precaution if evidence is required to mount a defence in the wake of an incident.

The systems' cost has fallen over the years, says Camera Telematics managing director Errin McNamee (0333 577 5373), whose offering is the iC360. "Back in 2008/9 you'd have been talking more like £4,000," he observes. "Now the price has come down, bird's-eye technology is gaining a foothold."

It takes five or six hours to fit the cameras and related equipment to a rigid, while equipping an artic is likely to take an entire day. "A lot of it is about routing the cables," says Todd.

Cameras can be mounted on most rigids, including refuse collection vehicles. Some suppliers argue that tippers can prove problematic because of the risk of damage.

They include Daniel Wappler, product management executive at Continental Automotive, that offers a 360° camera package under the ProViu banner developed by ASL 360 (***https://is.gd/ajuhav***). He says: "Tankers can be a challenge, too."

So can articulated vehicles.

"You can address it by mounting three cameras on the tractor unit - one at the front and one on each side so you can see down the trailer's sides - and one at the rear of the trailer," says Todd. "Alternatively you can put three cameras on the trailer and one on the unit."

The difficulty of course is that the trailer may have to be swapped for another that does not have cameras.

Another possibility is to equip each unit and trailer with its own package; but that would be expensive.

CASES IN POINT

Fans of 360° cameras include Wimbledon-based logistics specialist and Pallet-Track network member ELB Partners, which has opted for Brigade's Backeye360 (***https://is.gd/zacawe***).

ELB upgraded its vehicle safety policies after a tragic and traumatic incident resulting in a cyclist fatality. It is focusing on cameras and the minimisation of blind spots.

"Before the installation of Backeye360 you were constantly looking in your mirrors whenever you drove into a town where there were a lot of cyclists about," says ELB driver Michael Gregory. "With the all-round cameras, however, you can look at the monitor and see vehicles and pedestrians coming at you from all angles. It really is a great help."

Brigade argues that in the time it takes a driver to scan four mirrors, assess the situation and react to a potential hazard, a vehicle travelling at 5kph could have gone 10m. Check one monitor, assess, and react, and it will only have gone 4.7m; less than half the distance.

None of this of course is to suggest that drivers should never look in their mirrors. The point is that they should make use of all the technologies available to them to keep themselves and vulnerable road users safe.

All-round camera systems do not require servicing. However, it makes sense to have an engineer examine them once every 12 to 18 months or so, contends Camera Telematics' McNamee, to ensure they are still working and that none of the cameras has been damaged or knocked out of alignment. "We charge around £75 to £100 for an engineer's visit," he says.

Dominic Benabda, marketing manager for Vision Techniques, adds: "A system should only need re-calibrating if it is transferred to another vehicle." Vision Techniques' system, VT Overview, (pictured, p14) provides 150° cameras that still offer a sufficiently wide angle to deliver uninterrupted coverage (***https://is.gd/ixowus***).

He says: "We can include sensors that pick up movement close to the vehicle." The driver is alerted to what is happening and can use the cameras to see where the problem is.

And there is nothing to prevent a transport manager seeing what the cameras can see, remotely, if the truck is equipped with a telematics system, he says. "We can offer 3G live streaming which can be triggered if the driver hits an emergency button," he says. "It is also possible to view images from the hard drive recorder. Everything recorded is time- and date-stamped," he adds.

Vision Techniques can offer four individual cameras as well as a stitched system. "They've got quite wide angles so you should be able to get around the blind spots but you get some bending of the images," he says.

What that type of approach does not give, of course, is the ability to see everything instantly, as though you were magically hovering just above your vehicle.

With some of the big parcel companies and supermarket groups showing a keen interest, Todd of Trailer Vision believes that 360° cameras will eventually become the norm rather than the exception; and not just on trucks and trailers. "We've developed a 12-volt version for vans for £695 and we're selling one a week," he says.

A Brigade executive says: "Our Backeye360 goes further than the FORS and CLOCS standards currently require, but I wouldn't be surprised if they headed in that direction in the future."

All-round cameras can be fitted to buses and coaches as well. Coach operator Clarkes of London has had a Backeye360 mounted on a DAF-powered Irizar i8 coach used to transport Premier League football team Watford.

"We needed something that would make it easier to drive a large vehicle in congested cities," says Clarkes general manager, Andrew Nixon. "The driver makes a lot of use of the monitor, especially when manoeuvring in tight locations, and has reported crystal-clear vision.

"Over the last few months we have not experienced any body damage to the coach concerned, which is proof that the system works," he adds.

Clarkes is trialling Brigade's MDR-408-1000 onboard digital recorder that can record images from up to eight cameras on to a 1TB hard drive. It can store up to 1,164 hours of footage.

Cash-for-crash scams remain a problem and high-profile coach operators such as Clarkes can be a target. They can't be too careful. TE

FURTHER INFORMATION: VIDEOS

Continental ProViu ASL 360 bus – https://is.gd/onuxet

Trailer Vision Omni-Vue – https://is.gd/imerax

Brigade Backeye360 – https://is.gd/munusa