

Europe's General Safety Regulation will significantly change vehicle safety specifications. Brian Weatherley examines the impact on truck makers and buyers, and asks whether more should be done to encourage early adoption of available enhanced safety systems

# SAFER PASSAGE

Is it better to spend money on additional safety equipment ahead of any legislative deadline, and maybe win an early dividend, or wait until the vehicles you're buying have it fitted as standard, due to the regulatory mandate?

Given that by the end of 2015 all new trucks will come fitted with a whole raft of extra safety equipment – thanks to EC 661/2009, the General Safety Regulation (GSR) – many may consider that question rhetorical.

GSR covers four key items: DRL (daytime running lights); ESC (electronic stability control); LDWS (lane departure warning systems); and AEBS (automatic emergency braking systems). The implementation timetable is already well underway (see panel page 16). And, while not included within the GSR, there are also proposals to revise the current ECE-R29 regulations covering cab impact strength, though as yet no implementation date has been set.

No prizes for guessing that the General Safety Regulation's goal is to reduce the number of HGV-related accidents across the EU. AEBS, in particular, tackles rear-end collisions involving trucks – an all-too frequent occurrence, judging by the latest European Accident Research and Safety Report 2013, from Volvo Trucks' accident research team.

This study notes that 20% of all HGV accidents causing serious or fatal injuries to trucks' occupants involve one truck driving into the back of another – notably when one is driving more slowly than another uphill, or drives into a queue of stationary traffic. As Volvo's traffic and product safety director Carl Johan Almqvist puts it: "90% of all truck accidents stem entirely, or partly, from human factors – for instance, when one or more drivers are distracted or misjudge their speed." Small wonder then that truck AEBS was included in the GSR.

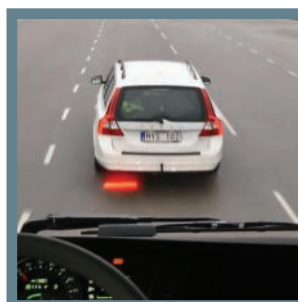
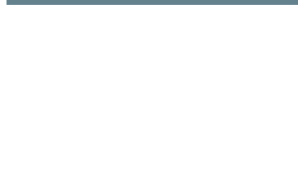
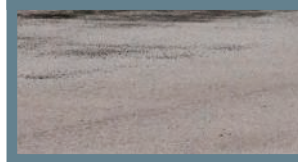
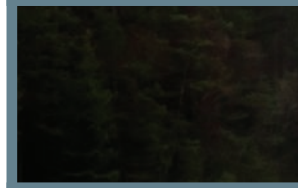
However, for AEBS to function, it requires the forward-looking radar of an adaptive cruise control (ACC) system. "Active Brake Assist [Mercedes-Benz's name for AEBS] uses radar to recognise a vehicle in front and warns the driver of an imminent collision," confirms Nick Blake, Mercedes-Benz Trucks' UK head of engineering. "If no action is taken, the brakes are applied fully. While it cannot be guaranteed that the vehicle will stop [in time to avoid a collision] its speed will be greatly reduced and the impact lessened."

Having recently examined ESC and AEBS (see *TE* February 2014, page 14), let's first look at the implications of the General Safety Regulation for both operators and manufacturers in terms of new vehicle prices. "There's no doubt that the addition of mandatory safety systems will add to the future cost of trucks," acknowledges DAF Trucks' product marketing manager Phil Moon. "There are significant hardware, software and development costs. However, many of the latest DAF models are already equipped with ESC as standard, so there won't be a price rise for this."

## Bottom line benefits

Either way, Moon maintains that seasoned operators taking optional safety systems have reported direct and indirect benefits to their bottom lines. "For instance ACC, which is an integral feature of DAF's AEBS, can save fuel as well as make the driver's life more relaxing. Also, ESC and LDW systems can and do prevent accidents. And what price can you put on business disruption caused by accidents, let alone the loss of life or serious injury?"

According to the DfT's (Department for Transport) 'Valuation of Road Accidents and Casualties: 2012 Annual Report', published last September, the





Clockwise from main picture: Volvo Trucks' Stretch Brake system, developed to reduce the risk of jack-knifing and trailer instability

AEBS detects slow vehicle ahead and automatically brakes if the driver does nothing

Daytime running lights are already mandatory

Emergency brake assistance dashboard view

Forward-looking ACC and AEBS radar sensor

average cost of a fatal accident stands at £1,917,776. However, that figure does not include legal costs, compensation claims, replacement vehicle hire or management time spent dealing with an incident. Nor does it recognise the psychological impact on those involved in the collision.

But, while the case for optional safety kit isn't hard to make, the challenge remains to get fleets to pay extra for it. "Many operators do express interest in such safety systems, because minimising risk of accidents is high on everyone's agenda," agrees Moon. "However, take-up has been limited. It's only the most safety-conscious fleets and those transporting dangerous goods, or using vehicles with high centres of gravity, that have adopted them early. However, these operators clearly believe they bring worthwhile benefits: once they have made the decision to take a safety feature, they rarely remove it from subsequent vehicle orders."

Insurers could be key players in encouraging more companies to order optional safety equipment ahead of any mandatory deadline. They could incentivise proactive early buying through premium discounts, believes Blake. "If the insurance firms could be persuaded to give reductions, it would make early adoption much more cost effective. In Europe this already happens, so there is no reason

why this shouldn't work in the UK."

But it's not happening. Stuart Wring, managing director of Gloucestershire-based Wrings Transport, says insurers prefer to consider a company's past performance and claims record, rather than any potential reduction in claims due to fitment of safety equipment. "They won't give you an immediate reduction based on your actions: it's got to be the result of any change," he insists. "They want to see your results."

#### Cheaper insurance

Wring says he'd be interested in talking to any insurer offering a discount based on safety kit, but it's always going to be after the fact. "The only thing I've ever talked to them about is vehicle tracking and safety-recording cameras. Their answer is: 'It doesn't reduce your premium, but your experience will.' So, if you don't lose a truck or a trailer through theft, and don't have any accidents, because of the cameras, that will reduce your costs."

Having spent £9,000 on Smart Witness cameras (which record the road ahead and help to establish liability in the event of a collision) across his fleet of 50 vehicles, Wring now expects to see savings. "Our insurer hasn't cut the premium," he explains, "but has indicated it won't rise, if we keep our good

## Safety interventions

**ESC (electronic stability control):** must be whole vehicle type approved before 1 November 2011 to avoid new type definition. Mandatory for all registrations from 1 November 2014.

**DRL (daytime running lights):** mandatory for new types from 7 August 2012.

**LDWS (lane departure warning systems):** mandatory for new types from 1 November 2013. Mandatory for registrations from 1 November 2015.

**AEBS (automatic emergency braking systems):** mandatory for new types from 1 November 2013. Mandatory for registrations as from 1 November 2015.

### Safe-inside coupling

For drawbar operators who prefer their drivers to remain in the cab at all times, VBG's MFC (multi-function coupling) provides mechanical, electrical, pneumatic and now hydraulic coupling and uncoupling of the prime mover to a trailer, automatically. MFC is based on a new type of mechanical coupling, under which electrical, hydraulic and pneumatic connections are fully integrated.

The wedge-shaped coupling, incorporating the towing eye, is fixed to the trailer A-frame and slots into a unit at the rear of the chassis. It's aligned using ultrasound sensors that send signals to a dashboard display. Once inserted, the coupling wedge is held in position by a pneumatic lock. All connections are made automatically, without the driver needing to leave the cab.

VBG says its MFC has attracted much attention from operators, not least those with hydraulic equipment, such as timber hauliers.

### Stretching braking efficiency

Volvo Trucks' Stretch Brake system, developed to reduce the risk of jack-knifing and trailer instability by straightening-up a drawbar combination descending wet or icy gradients, will become available this year. The system complements a vehicle's existing electronic-stability program, but while ESP is at its most effective at higher speeds, Stretch Brake only operates below 40kph.

Volvo explains: "As the rig approaches a downhill slope, the driver manually activates the system. Upon releasing the accelerator, the brakes on the trailer are automatically applied in a pulsated mode all the way down the hill, until the gradient levels out and speed can once again be increased."

practices in place. We pay around £200,000 per annum so, if the quote doesn't increase, we'll save around 10% a year.

"We used to have around two bumps a month, but that's reduced by half, which has probably saved us around £10,000. I think that's because the cameras improve our drivers' behaviour. They know their journey is being recorded all the time. We also have stickers on our vehicles warning other road users that all our journeys are recorded. So the

cameras are a win-win. Our accident rate is down; inconvenience is down; repairs are down. Even if the premium stays the same, it's good all round."

Meanwhile, in Scotland, all eight of Pollock Scotrans' DAF Super SpaceCab XF tractors had LDW fitted from new, as have three of the operator's New Actros Giga Space artic's. "We had it because it was part of the package, but until now I wouldn't have specified anything with it," reckons managing director Scott Pollock – not least as the Bathgate-based fleet's insurer was not prepared to offer a discount for the extra safety kit. "And once it becomes mandatory they'll not be interested in giving a reduction, because they know you've no choice but to take it," he concludes.

Pollock would "definitely" like to see the insurance industry offering premium reductions for optional safety kit. However, he reports that Pollock Scotrans has been supported by its insurer in the fitment of forward-facing cameras. "It's going to cost us £29,000 to equip the whole fleet," says Pollock. "The insurance company says they'll put £7,000 towards it. To me, it's going to be as big a benefit for them as us. You get these people who pull-in in front of you and jam on the brakes and you hit them. It's going to save our insurer paying out."



Interestingly, Volvo Truck's product manager for UK and Ireland John Comer reckons there is a growing awareness among operators of additional safety systems. In conversations with customers, around a quarter raise the subject as a specification 'must-have' and even more do so during vehicle hand-overs. "I don't know whether, with Volvo, there is an element that people think 'It's a Volvo' and the brand carries safety credentials, in terms of passive safety [for example, cab impact strength]." However, generally he notes: "In terms of active safety equipment, UK operators will probably tend to wait until it becomes mandatory. But you'll always have early adopters. One of the things we've found operators do pay [extra] for is ESC."

Ironically, the extra cost of non-mandatory safety kit is hardly doing chassis manufacturers any favours either, as Mercedes' Blake points out. "Stability Control and Brake Assist – which gives maximum braking effort, if the system detects the driver applying the brakes in an emergency situation – are fitted as part of the standard specification. But others, such as Active Brake Assist and Lane Departure Warning, will add a significant cost to the vehicle. Unfortunately, that would put us at an even bigger cost disadvantage to the competition. As a result, we have decided to delay their introduction until they are required under GSR." TE