SUM OF ITS PARTS

Mercedes-Benz has its own version of the all-important TCO (total cost of ownership) acronym, called 'road efficiency'. Ian Norwell reports from the Millbrook customer event on what's new

Mike Belk, managing director of commercial vehicles at Mercedes-Benz in the UK, opened the firm's second customer event of the autumn at Millbrook by underscoring parent Daimler's intention to stay in front. "Pushing ahead with digitisation, and intelligent platforms that use the data, is all part of making efficiencies for hauliers that they will see on their bottom line," he insisted.

For him, one of the keys concerns the proliferation of sensors throughout its latest chassis, which gives Mercedes' telematics platform FleetBoard new opportunities to interrogate and analyse events. Hence its road efficiency approach, the three strands of which comprise: further spread of FleetBoard's data-gathering; more refinements to OM470 and OM471 engines; and updates to its safety systems.

Some operators need convincing that spending money on safety, above and beyond the significant amount already mandated, might benefit their bottom line. So let's start there.

Safety systems arrived in heavy trucks primarily because companies like Bosch innovated and supplied OEMs with devices to offer as options. Legislators would not have mandated lane-assist or AEBS (autonomous emergency braking systems) if component suppliers hadn't developed them.

"Take-up of new safety systems is always low, and particularly in right-hand-drive markets," said Ross Paterson, head of sales engineering and technical support at Mercedes-Benz UK. His contention, however, is that safety is critical not just for its own sake but also for keeping costs down. Quite simply, the expense of even a minor impact, in terms of downtime, repairs and insurance costs, is substantial.

There's also a long game being played here by the suppliers. Their investment cannot be repaid by option take-up alone, so the goal is legislation that mandates the components. For example, the take-up of lane-assist as an option was around 4%. Since legislation, it's obviously 100%.

To stimulate take-up of its latest safety devices, Mercedes has created a safety pack that includes four devices: ABA4 (active brake assist), PCA (proximity control assist), RCA (roll control assist for rigids only) and driver's airbag. Paterson says that the saving over ticking separate boxes on the options list will be 30%. But their effectiveness is best conveyed on the test track.

DRIVING IS BELIEVING

ABA is Mercedes' name for AEBS, and its fourth generation has significant extra functionality. Currently unique to the German giant is the inclusion of pedestrian recognition capable of detecting someone stepping into traffic, even from between parked cars. It utilises so-called multi-mode radar that improves resolution and delivers a

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Sam Whittaker

wider scan. The pedestrian triggers the system and stops the truck.

But with the vast majority of truck collisions being rear end shunts (in 40% of which the driver never even gets to the brake pedal), the AEBS element is the big prize. I've been in full-pressure stop AEBS demos before, but nuances to ABA4 are interesting. The braking intervention now comes in two waves, with firstly significant brake pressure applied, followed by full pressure. This is to allow for the possibility that a stationary vehicle at the end of a traffic queue might move off at the last moment.

Avoiding the drama of an unnecessary full-pressure stop for following traffic is obviously a good thing. Incidentally, after the alerts have sounded, but before automated braking starts, if the driver uses significant steering movement – an indicator or the accelerator – ABA activation is abandoned. The system assumes the driver is finally taking evasive action, which should not be compromised.

Of benefit in day-to-day driving is PCA. This de-stresses the stop-start of motorway queues, by acting as a slow-speed-cum-static adaptive cruise control. The driver just sets the distance and, if the traffic moves away within two seconds, it is all automated. If it takes longer, he touches the throttle pedal.

As for the addition of the driver's airbag, I'd say it's high time this was standard. Nevertheless, Mercedes says take-up of the safety pack in Europe is currently 39% of tractors registered. In the UK, it stands at just 2.8%. Are we waiting for legislation?

Moving on to Mercedes-Benz FleetBoard telematics, Daimler is leading again with what is probably the most advanced and mature system on the market. The proliferation of sensors on both chassis and driveline has increased data available for service departments to

tailor service to the real-world duty cycle. Scania adopted the same approach in its new R and S series.

Connectivity – the buzzword of September's giant Hanover show – allows R&M contractors to link to vehicles and run live health checks. As well as avoiding over- or under-servicing, this approach can pick up issues, such as low tyre pressures or fluid temperatures out of kilter, and act to prevent failures.

Crucially, it also allows fleet managers to check that drivers are utilising all the technology at their command. That's why this OEM can confidently offer uptime contracts with guarantees. "Mercedes-Benz Uptime will be available on Euro 6 chassis against a service contract, or as a standalone service from March 2017," said Sam Whittaker, customer service and operations director at Mercedes-Benz UK. "That commits us to providing a free replacement vehicle if we fail to put you back on the road within 24 hours of your first call."

Given a claimed 55-minute roadside response and a 90% roadside repair rate, that's a fairly safe wicket. And uptime pilot studies started in Austria, the UK, Poland and Germany in 2013 further improve confidence. The UK pilot was run on Somerset-based RT Keedwell Group's 350-strong fleet.

What about those engines? Efficiencies were already underway following extensive revisions to Mercedes' OM471 and OM470 engines back in 2015. From a road efficiency perspective, these have now been followed by aggressive parts price reductions – including a spectacular cut for service exchange DPFs (diesel particulate filters) from £2,500 to £300 retail.

And apart from knocking on the head any service life worries about this relatively new item in the engine's breathing apparatus, the multiple versions of cruise control have also helped extend component life. Apparently, R&M data suggests that Actros brake discs now last an average 387,300km (front) and 492,000km (rear), while 80% of clutches survive more than 700,000km. Oil and air filters wait for 117,825km before they call for change.

TCO is a perfectly good measure for fleet managers, but road efficiency tells it like it is. And it demonstrates that these assets can now be sweated as never before. TE