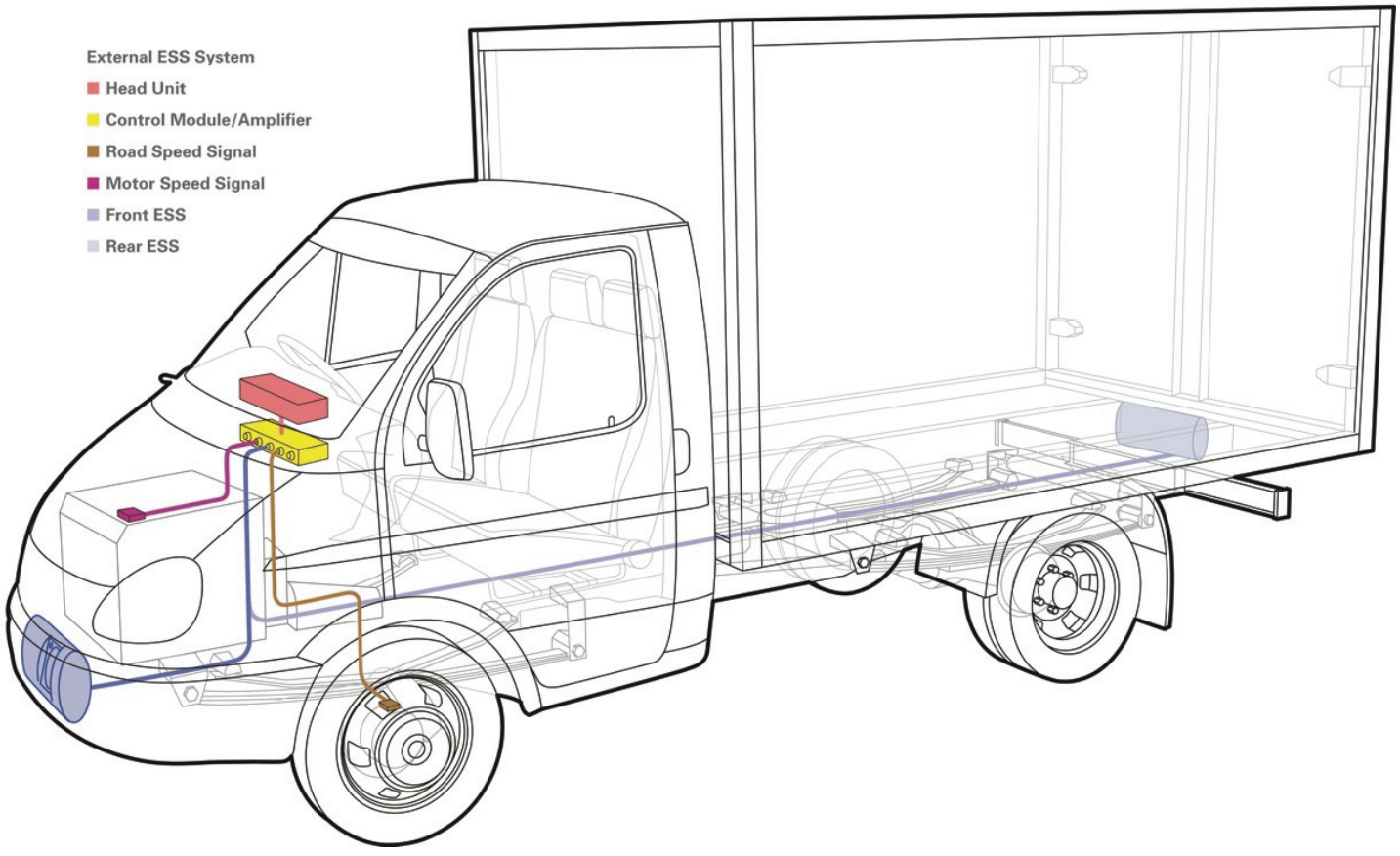
Searching for positives

Do operators have any real interest in running electric vehicles or is their compliance in trials merely paying lip service to future propulsion technologies? John Challen reports

Few fleet managers would say that an electric vehicle is at the top of their shopping list right now. Despite the growing availability of battery-powered LCVs and buses, the costs of investment are too high and the range allowed by the battery packs is too tight. The limited charging infrastructure to keep these vehicles moving in the most efficient way is another drawback, and there is little empirical evidence of the operational requirements relating to servicing and maintenance.

All this means that the results of a recent survey of 100 fleets should come as no surprise. The poll concludes that fewer than one in five small to medium size operators would consider buying an electric vehicle inside the next two years. In fact, just 18 of the operators quizzed were 'open to the idea of buying or leasing an electric car or van',



according to MIB Data Solutions, which produces the fleet data and fleet industry databases.

Yet, despite the apparently lukewarm response from many operators, vehicle manufacturers and component suppliers are continuing to work on electric commercial vehicles to change fleet managers' perceptions. When some of the issues surrounding electric vehicles have been resolved, they say, people may well change their minds.

Renault and Ford, for example, both promoted their electric LCVs at April's Commercial Vehicle Show, while Mercedes-Benz and Iveco have both since set out their EV stalls by unveiling battery-powered versions of the Vito and EcoDaily models respectively. In addition, despite the loss of Modec earlier in the year, specialist electric vehicle powertrain manufacturers, such as Smith Electric Vehicles and Allied Electric, have seen business improve, as operators dip their metaphorical toes into the EV waters.

The side of the supplier

Away from the vehicle manufacturers, one supplier initiative, a joint venture between Lotus and Harmann Automotive, has sought to get over one issue with electric vehicles – their noise or, more accurately, their lack of noise. HALOsonic has its roots in active noise control work undertaken by Lotus some years ago and the two companies are using that technology to good effect to give electric vehicles a new 'voice'.

"In the US, there has been a lobby for noise levels in urban environments to be regulated and this has led us to working on a device that uses the Lotus technology," explains Harmann Automotive's Jon Lane, lead engineer for HALOsonic. "What they want to hear is something akin to, or identifiable as, a combustion engine. Any sort of different sounds – beeps, sirens etc – are not what they are looking for and research supports that view."

The HALOsonic technology is linked to vehicle speed, gear and brake position to determine the sound generated. "The hardware consists of one speaker or, in some cases, two, linked to a control module," explains Lane. "This module then takes in the sensor signals, and decides how much and what sound to emit. What we want is to provide as much of a familiar sound as possible. When a vehicle is moving away, you want a sound that is changing, based on the changing speed."

One target market for HALOsonic is delivery vehicles operating in an urban environment and Lane confirms that one of the projects Harmann is currently undertaking is with an unnamed supermarket chain. "We have chosen a very typical use case where vehicles are often moving in urban environments on a stop/start cycle and you need to make people aware of that," he says.

In the bus market, there are further developments with battery power and companies coming together to deliver it – in this case, because the stop/start cycle lends itself, for instance, to taking advantage of regenerative braking. One example is General Motors Ventures' recent investment of $6 million in Proterra, the zero-emission commercial transit bus manufacturer.

Ford is persisting with new electric commercial vehcles in readiness for the upcoming charging infrastructure

That move is part of GM's avowed mission to invest in next-generation technologies that support innovation in the global transportation industry and the money forms part of the overall investment group's $30 million in cash to be made in the bus manufacturer.

Proterra's EcoRide BE-35 battery electric bus is averaging up to 24mpg (diesel equivalent) in service, a roughly 600% improvement over a typical diesel bus. Using technology developed by Proterra, the lightweight, composite-body bus recharges in just 10 minutes.

In the UK, NEL, part of the TÜV SÜD group, is working with bus developers by way of three electric bus demonstrators involving energy providers in Scotland. John Bingham is manager, low carbon technologies at the company. "There is a lot of talk about decarbonisation of road transport, which is possible with a number of fleets, such as supermarket delivery vehicles; but long distance haulage will not be easy because the range will be very limiting," he asserts.

"TÜV SÜD has a big push in e-mobility and is looking at a number of technology areas, such as standards for batteries, battery life and management, and charge/discharge cycles," continues Bingham. "We will also be looking at a range of drive systems for electric, as well as hybrid, commercial vehicles."

Time will tell if these developments change commercial vehicle operators' opinions of electric vehicles. Despite all of the promised directions for technology improvements, cost will surely remain the major hurdle for the foreseeable future. At a time when financial prudence is still required by the vast majority, availability of government subsidies could be a deciding factor. TE