

Keeping tabs on running costs

CMS Supatrak has developed a vehicle tracking system that fits in any truck and tells the operator not only where his driver is, but also if he's driving efficiently. Too good to be true? Craig Sheer went to find out

Despite what certain sections of the public may think, the tools of the road haulage industry are no longer smokey gas-guzzlers. Trucks are built around the latest technology and, while that imposes certain limitations on how much you can now tinker with your own vehicles, it does make them clean and economical. CAN-bus electronic architecture is just one important example of advanced engineering, linking a vehicle's main operating components electronically to monitor their performance and optimise their joint efficiency. In the past decade CAN-bus has become a standard feature of all new European heavy trucks.

Although the thought of dealing with hi-tech wizardry leaves some truck

operators feeling a bit long in the tooth, the good news is that this technology can lower annual operating costs – in some cases by several hundred pounds per vehicle. In the right application new technology becomes a useful servant, as Swindon-based RHA Allied member CMS Supatrak is eager to illustrate.

Creating IT systems

CMS has been trading since 1992, originally offering back-office computer systems for logistics operators, particularly in the next-day parcel and courier services. As managing director Jason Airey explains: 'That was how we started out, and we still provide a complete, fully-managed solution

for these types of users, from job booking and allocation through to POD confirmation. That's our background: creating IT systems for some of the biggest fleets. We have around 12,000 deployed devices now out in service.'

As Supatrak's name suggests, vehicle tracking is a major part of its business activities. Alongside its standard tracking facility CMS offers its JobTrak service based on a range of portable devices which is used by mobile workers in a variety of sectors including delivery firms, local councils, and enforcement agencies.

The firm has been working in this area for a decade and with good success: however, with the rising price of fuel and an ongoing search



Jason Airey:
'You can see which jobs use more fuel. If you're handling lots of start/stop work maybe you should be billing the customer more for those than for straight runs up the motorway. That's the type of information EcoTrak shows'

for increased efficiency by many truck operators. CMS has exploited its knowledge of IT and telematics to move into a new domain: a vehicle tracking package which also monitors fuel consumption and driver habits.

'Our biggest core product now is fuel-saving technology, modifying driver behaviour through telematics, and we are currently looking at remapping engine ECUs for better economy,' says Airey, who adds: 'It's not just suitable for HGVs, it is also compatible with cars because we have a separate version for light vehicles, although trucks are our main focus.'

Until recently most truck operators calculated their MPG figures based on vehicle tank refuelling against distance covered, which worked fine provided there were no leaks or fuel theft.

The advent of CAN-bus electronics has changed the way fuel use is monitored on newer-generation vehicles, because the precise quantities injected into the cylinder are electronically metered, so the ECU knows the fuel flow rate to the engine. CMS's EcoTrak system, like other fleet management tools, keeps a running tally of fuel use and, more importantly, can identify driving characteristics by the electronic monitoring of accelerator pedal position, engine revs, gear selection, idling and so on. This gives a considerably more accurate report of fuel consumption, and can help identify less fuel-efficient drivers.

Driver training

Driver training is an obvious aid to cutting fuel use and vehicle abuse, and Airey sees EcoTrak as complementing the work of trainers. 'If you can manage driver behaviour and not let it lapse after training you start to see significant fuel savings,' he says.

Successfully creating EcoTrak was no five-minute endeavour, requiring the assistance of specialists in the vehicle development world. 'We work with companies who are OEM suppliers to the manufacturers, working in the development of CAN-bus networks on their trucks,' explains Airey. 'And, using their technology, we can access the J1939 CAN-bus protocol through the standard connection port in a vehicle. We don't interfere with or add to the vehicle wiring loom so there are no warranty issues with using our system.'

Although this sounds fairly straightforward, providing one already understands the basics of CAN-bus electronics, Airey says there are further challenges to tackle when dealing with certain brands and hence CMS's development work is ongoing. 'One of the manufacturers encrypts all the CAN-bus data, so we have to try to decrypt that before our system is able to work in that manufacturer's vehicles.'

Installing EcoTrak in a vehicle



requires little more than the addition of a black box plugged into the CAN line, performed by one of CMS's trained engineers. The vehicle operator can subsequently track the movement of his vehicle via a dedicated website hosted by CMS through its own secure servers and the operator then has immediate access to real-time data, so can not only see where a vehicle is but can also monitor its fuel economy.

In theory, EcoTrak sounds like an interesting proposition: the results it has achieved in service make sound business sense. CMS worked closely with RHA member Boarhunt Garage to improve its fleet average MPG figures and the results are convincing:

'When we originally installed EcoTrak on their container trucks they were getting 7.4 – 7.5mpg. With driver behaviour management through EcoTrak they are now up to an average of 8.52mpg running on the same work as before,' says Airey.

Range of data

With a comprehensive range of data at the operator's fingertips, Airey says that operators can also gain a better idea of their running costs on individual jobs. 'You can see which jobs use more fuel. If you're handling lots of start/stop work maybe you should be billing the customer more for those than for straight runs up the motorway. That's the type of information EcoTrak shows.'

Obviously hauliers have every right to be sceptical when told of possible savings, such as those achieved by Boarhunt, so CMS offers free trials to operators who are seriously interested in its products. 'People often don't believe us,' says Airey, 'so we arrange a trial, fitting our EcoTrak unit to two or three vehicles without them telling the driver.



CMS's background is creating IT systems for large fleets. Working with specialists developing CAN-bus networks on trucks, EcoTrak can access through a standard connection port in the vehicle

Left: The operator can track his vehicle via a dedicated website hosted by CMS through its own secure servers

From there you've got a benchmark on what the truck is actually doing each day.

'We encountered one retail chain whose newest units were achieving 6.2mpg: 34% of its total running time was idling for more than five continuous minutes, and more than 40% of the time it was being over-revved. You could see immediately why it was only returning 6.2mpg – they had no driver control at all!'

The benefits of using EcoTrak are obvious and, although the truck manufacturers offer some if not all of these capabilities, there remain some challenges for operators of mixed fleets. 'Our unique selling point is, unlike a system you buy from a truck manufacturer, you are not limited to only using it with that particular brand of vehicle. Our system works with any truck that has the J1939 connection,' says Airey.