

Cart before HORSE

Trailer-specific telematics systems collect performance data such as braking and tyre pressures and beam it, real time, to a nearby screen. Will Dalrymple reports

Forward-thinking fleets track goods vehicles electronically using telematics. Doing so offers them feedback about how well the fleet is being run, and advice about maintenance. But if the data is only collected by the tractor powertrain, for example, it may miss out the perspective of the business-critical component: the unit carrying the load. Also, as fleet managers cannot benefit from what intelligent components have to say until their data is captured, linking trailers into a telematics system provides more efficient information-gathering than the occasional data dumps provided when the trailer is connected to a workshop diagnostics computer.

Trailer-specific telematics systems are now offered in the UK. Four are profiled here: Idem's TC Trailer Gateway, Wabco's TX-TrailerGuard, Schmitz Cargobull's SmartTrailer and Michelin's Effitrailer.

Upon the launch of SmartTrailer at Munich's Transport Logistic 2017 show in May, Schmitz Cargobull said: "Big data has been around in the tractor-trailer world for a long time. An increasing number of components are controlled by digital processes or monitored with sensors. Creating a comprehensive network of information is the future

of road-based transport."

The systems seem to be built in similar ways. Sensors scattered around the trailer send signals related to systems operation to a central on-board processing unit via a trailer data network. That beams operational data to a remote central server, where the data can be sifted and analysed. Customers can use a variety of means including smartphone apps (SmartTrailer's is shown, right) and dedicated computer 'portals' to review this information.

COOL CHAIN

An early application was monitoring operation of the refrigeration unit. Trend data on refrigeration could prove that the haulier met its contractual terms for temperature during transport. Now, trailer telematics systems also generally monitor the trailer's location, brake systems, tyre pressures and temperatures. Many offer rear door monitoring, for security purposes, and sometimes ge positioning data to track individual trailers (for example, possibly sending alerts when a trailer goes into an excluded area).

Idem and Wabco (through subsidiary Transics) provide modular systems that can be extended by

adding current or future function blocks.

Transics says that some customers start with the basic model, and upgrade it in stages, just so as not to have to take on the whole offering at once, which can be complex and generates lots of data.

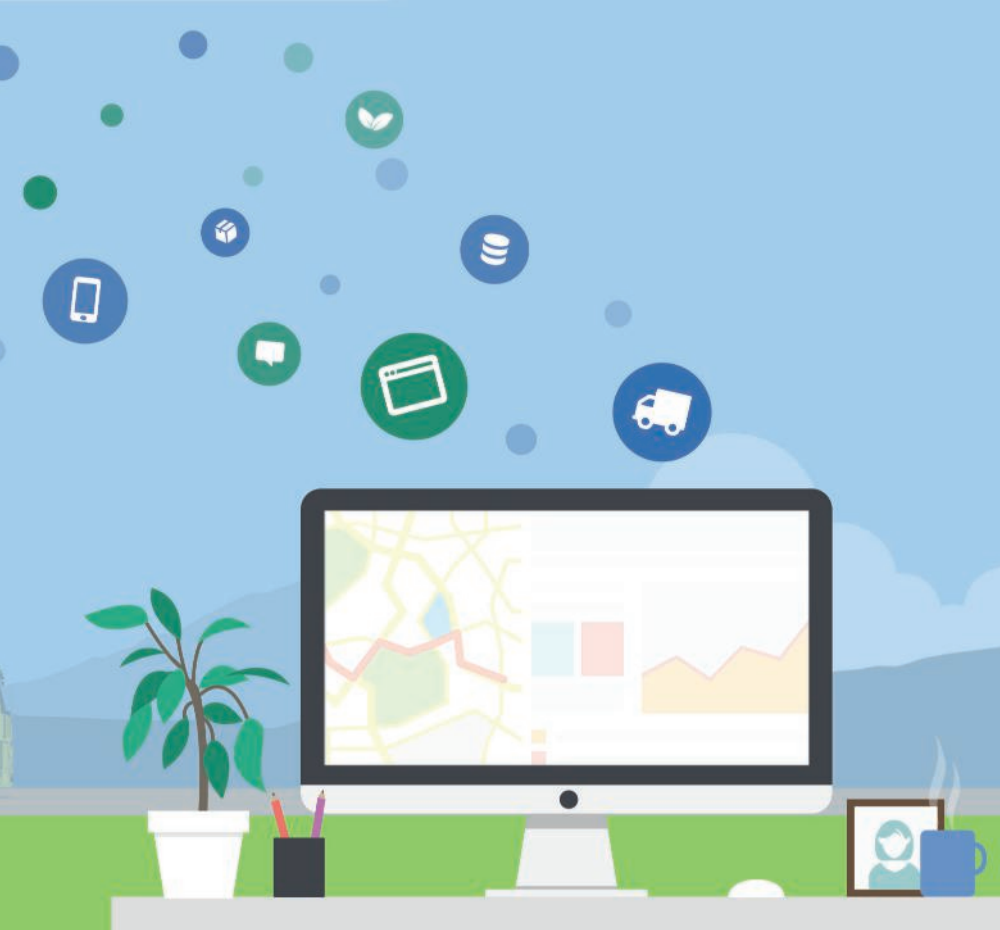
Both companies also benefit from a corporate connection to a trailer component supplier: Idem is corporate sister to axle manufacturer BPW, and Wabco supplies EBS (electronic braking systems), among other trailer systems.

In Idem's TC Trailer Gateway, launched last year, the add-on elements are called 'hubs', and can even be provided by third parties. The central unit that collects truck data and transmits it to a remote computer server is called the 'gateway'.

As a standalone system, the gateway includes POSMonitor for ge positioning, TruckTrailerCoupling status indication and EBSMonitor for braking information.

Hubs launched in October 2016 include TireMonitor for pressures and temperatures, and TempRecorder and TempMonitor - two fridge-related systems that can store temperature data for 18 months. They can be extended with FuelMonitor for reefer tank supplies





and DoorMonitor for trailer security.

The most basic Wabco TX-TrailerGuard function is track and trace, pinging trailer coordinates every 24 hours when unhitched, and up to every five when hitched and driving. Add-ons include EBS data – speed, mileage, harsh braking – from any brand of EBS, and instances of roll stability support system actuation from Wabco brand braking systems.

Other TX-TrailerGuard extras include tyre pressure monitoring, brake lining monitoring and reefer information – including internal temperature, fuel tank sensor data, or error codes. More recently, an electronic remotely-actuated door lock, Optilock, has been offered. TX-TrailerGuard is part of a wider Wabco offering called Intelligent Trailer.

Didier Nulens, global sales, service and marketing leader at Transics, says that demand for TX-TrailerGuard has picked up in the last six months or so. When asked why this might be, he answers: falling prices, and increasing demand. He says: "The customers of our customers, the shippers, are demanding much more information, and in real time."

Rather than assembling hardware and software components piecemeal, Schmitz Cargobull's SmartTrailer system is integrated and comprehensive. The

offering consists of TrailerConnect 2.0 sensor system and a third-generation CTU telematics system. Sensors monitor everything from running gear to tractor-trailer coupling sensors to the level of fuel in the fridge fuel tank. SmartTrailer also estimates the precise mileage carried out by the trailer, based on data from the ABS sensor, GPS information and algorithms. When combined with data from the acceleration sensor in the telematics module, the system can identify trailer movements and stationary periods.

OPEN OFFERING

In contrast, not only is Michelin's Effitrailer telematics offering not vendor-specific, but also it will work with any trailer fitted with EBS, whether or not the operator runs Michelin tyres. However, it does say that the offering is designed for large trailer fleets – more than 100.

It consists of TPMS and EBS sensors, an on-board datalink, and provides real-time data of trailer use including mileage, status (towed or unhooked) and any overloading via a fleet manager web portal. Computer services company

Worldline was contracted to collect and process system data.

Effitrailer offers constant geolocation of every trailer on the scheme, so can be set to provide an alert should a trailer go out of its work zone (this is also an option on the Wabco TX-TrailerGuard product line).

Three new features from an October 2016 system update include: assigning an asset ID number to each trailer, to help keep track of individual trailers in large fleets; refrigerated trailer temperature tracking; and a door opening sensor that flags up when the doors are opened in unusual places, or at unusual times.

The service contract includes some additional services too: there are monthly reviews from a logistics analyst, and a contractual obligation to reduce the incidence of tyre breakdowns by 50%, or it will cover the repair costs. (TX-TrailerGuard also includes project management support time).

Paul Davey, Michelin Solutions commercial director, concludes: "With this expanded toolbox, the programme now offers operators even more data for analysis and a tighter degree of control over trailer fleet activities, streamlining day-to-day business and easing the administrative burden of managing diverse and busy fleets." 

