

# ANOTHER GENERATION?

With 10 years now under its belt, the digital tachograph is facing further change as new legislation awaits imminent publication. John Kendall explains

It is 10 years since the digital tachograph became mandatory for all new in-scope vehicles, replacing paper chart analogue units that had been in use since the 1980s. The switch to digital recording opened up a range of possibilities. It would be easier to integrate tachograph data with fleet management software. Fraud would reduce because it would be more difficult to manipulate drivers' records. And the new device opened up the possibility of transmitting data directly from vehicles.

At its heart, however, the tachograph's purpose was unchanged. It would record vehicle speed, and the working hours and activities of drivers. In the words of the European Commission: "This is aimed at helping to enforce the rules on driving times and rest periods, and to monitor the driving times of professional drivers in order to prevent fatigue, and guarantee fair competition and road safety."

But the 2006 introduction pre-dated the smartphone, dominated by Apple and devices using the Android operating system. So inevitably the digital tachograph has continued to evolve, with European units modified to take account of the 'one minute rule', changes to simplify manual entries in

2011, and subsequent alterations to calibration centre practices. As a result, later units were known as second-generation devices.

Further changes followed in 2012. These required the incorporation of improved security features. An additional independent motion sensor was needed to verify motion data from the tachograph. It was also possible to download driver's card data via a smartphone, using a Bluetooth dongle. And a GPS antenna could be combined with the tachograph to provide a trace of where the vehicle had been.

## NEW LEGISLATION

As we go to press, the EU is in the process of agreeing technical amendments in response to latest tachograph developments. This will result in legislation coming into force from 2019 - 36 months after the

amendments have been unveiled. These changes should have been published by March this year.

Among the new features that will become mandatory from 2019 are:

- Improved security, aimed at making fraud more difficult and also to reduce the administrative burden on transport operators. The EC estimates that this could save companies around €515m per year.
- An interface with satellite navigation systems, notably Galileo and EGNOS, the European rival to the US GPS and Russian GLONASS global navigation satellite systems (GNSS).
- A remote communication facility for police and enforcement agencies, capable of downloading specific tachograph data from a moving vehicle.
- An ITS (intelligent transport systems) interface able to link the tachograph with other applications.



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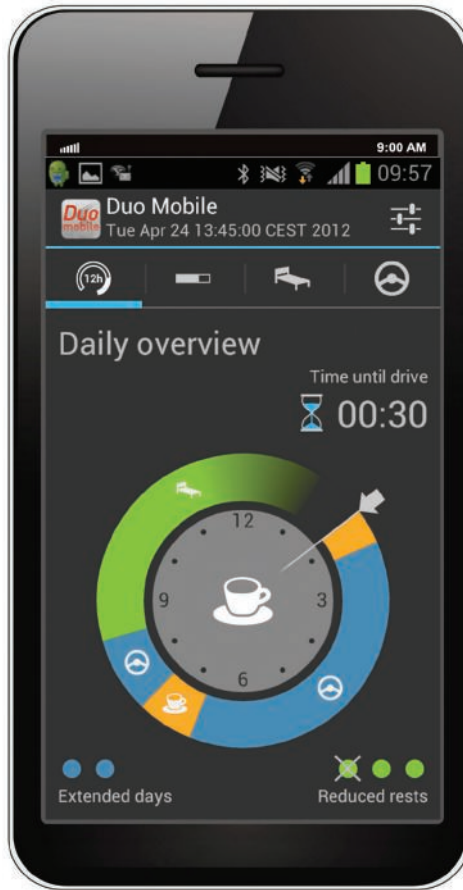
Arne Lohage

What will this mean in practice? Firstly, three years may seem a long delay between publication of legislative amendments and first new tachographs being delivered. However, in that time, manufacturers must design, build and test the new devices - and study the implications of the legislation to ensure that their devices are compliant. That said, all vehicles registered 36 months after the legislation and requiring a tachograph will have to be fitted with the new device.

Secondly, while it has been possible to connect a tachograph to a GNSS feed since 2012, this will be the first time it has been a requirement. However, this feature should make life easier for drivers, because it removes the need for them to enter their starting and finishing points each day. As Peter Needham, product manager for tachographs at Continental Automotive UK, explains: “The tachograph will store geographical coordinates at the beginning and end of the day, and after every three hours of accumulated driving.”

How will that work? Arne Lohage, European legal and requirement manager at Stoneridge Electronics, explains that the intention is to use the European Galileo satellite system. “The original purpose and requirements are to use a signal from Galileo that is possible to authenticate [to increase security], because you know it is this satellite communicating. It should also be free of charge.”

The downside: the legislation means a GNSS module will have to be incorporated into the tachograph. That’s not popular with truck manufacturers, according to Lohage, because it means an additional GNSS antenna having to



be accommodated on the vehicle.

Meanwhile, fleets and drivers may be concerned about the kinds of data that police and other enforcement authorities will be permitted to download. However, Continental’s Needham counters that it’s not drivers’ hours information.

#### FRAUD PREVENTION

“It’s information that relates to manipulation-type events,” he explains. “It could be sensor faults, power interruption and also speed. It means the enforcement agencies would be in a position to identify whether there are any perceived manipulations so they [should] stop a vehicle. It’s a way of filtering out those that are not suspected of manipulation.”

The contact with the tachograph is

expected to be made using the DSRC (dedicated short range communication) channel. This was designed specifically for automotive use and is widely harnessed for electronic toll payment. Technical issues may mean that enforcement data will use a slightly different frequency, but, either way, there is no provision for exemption from this legislation, so any vehicle fitted with the new tachograph can be checked.

“In the beginning the proposal was to download ‘interesting’ data - driving hours, resting time and so on,” comments Lohage. “But the data restriction lobbyists put their efforts in and the result was that no data of relevance is downloaded from the tachograph to the DSRC module.” Astonishingly, Lohage also explains that the enforcement agencies will not be required to buy DSRC equipment to carry out remote checks until fully 15 years after the legislation comes into effect - another 18 years from now.

Incidentally, there is also a provision in the new legislation to include weight sensor data with information transmitted by the DSRC module. This would permit enforcement authorities to check vehicle weights on the move. “The weight sensor data might not necessarily go through the tachograph,” says Jonas Norlander, product manager for tachographs at Stoneridge. “The vehicle manufacturer can arrange it so that the DSRC module is connected to the sensors and processors of the weight sensing system in another way.”

This might mean that weight sensors would have to be calibrated - particularly if their data was to become admissible evidence in court. [TE](#)

