



Computer says: stay in your lane

“Self-driving vehicles could be on UK roads by the end of this year.” Those words appeared in an announcement by the UK government in April. The news sparked a number of press headlines - and excitement in some quarters that the future of driving could be with us sooner rather than later. The reality doesn't quite match the headlines but as Neil Barrett explains, there is a notable milestone to be found.

IF, like me, you're interested in new vehicle technology, you might have noticed – and been quite surprised by – the rollout of vehicle automation happening so quickly here in the UK.

Headlines and reality often differ. Looking at all the details, the announcement was mainly about paving the way for fully automated lane-keeping systems to be introduced into vehicles.

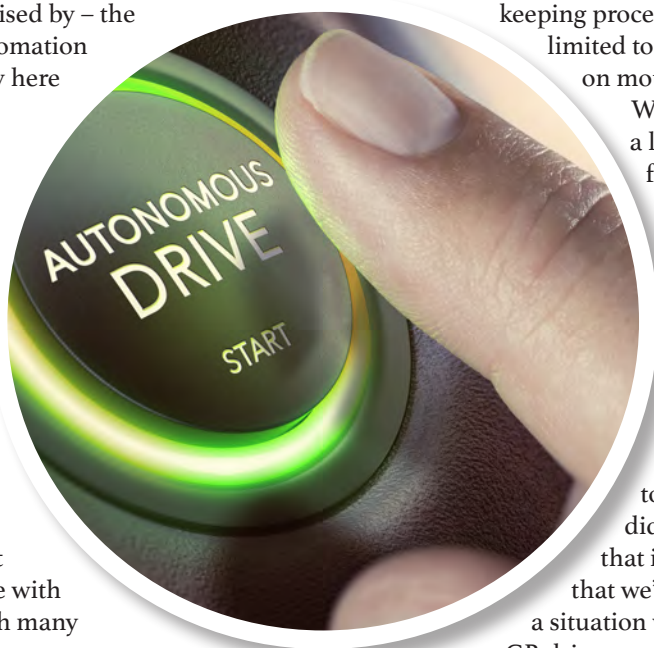
To be clear, we're not just talking about the helpful assistance with keeping in lane which many cars already provide.

With the feature as it stands now, you still need to keep your hands on the wheel and pay

full attention. With this announcement, we are talking about full autonomy of the lane-keeping process. It'll initially be limited to 37 miles per hour on motorways.

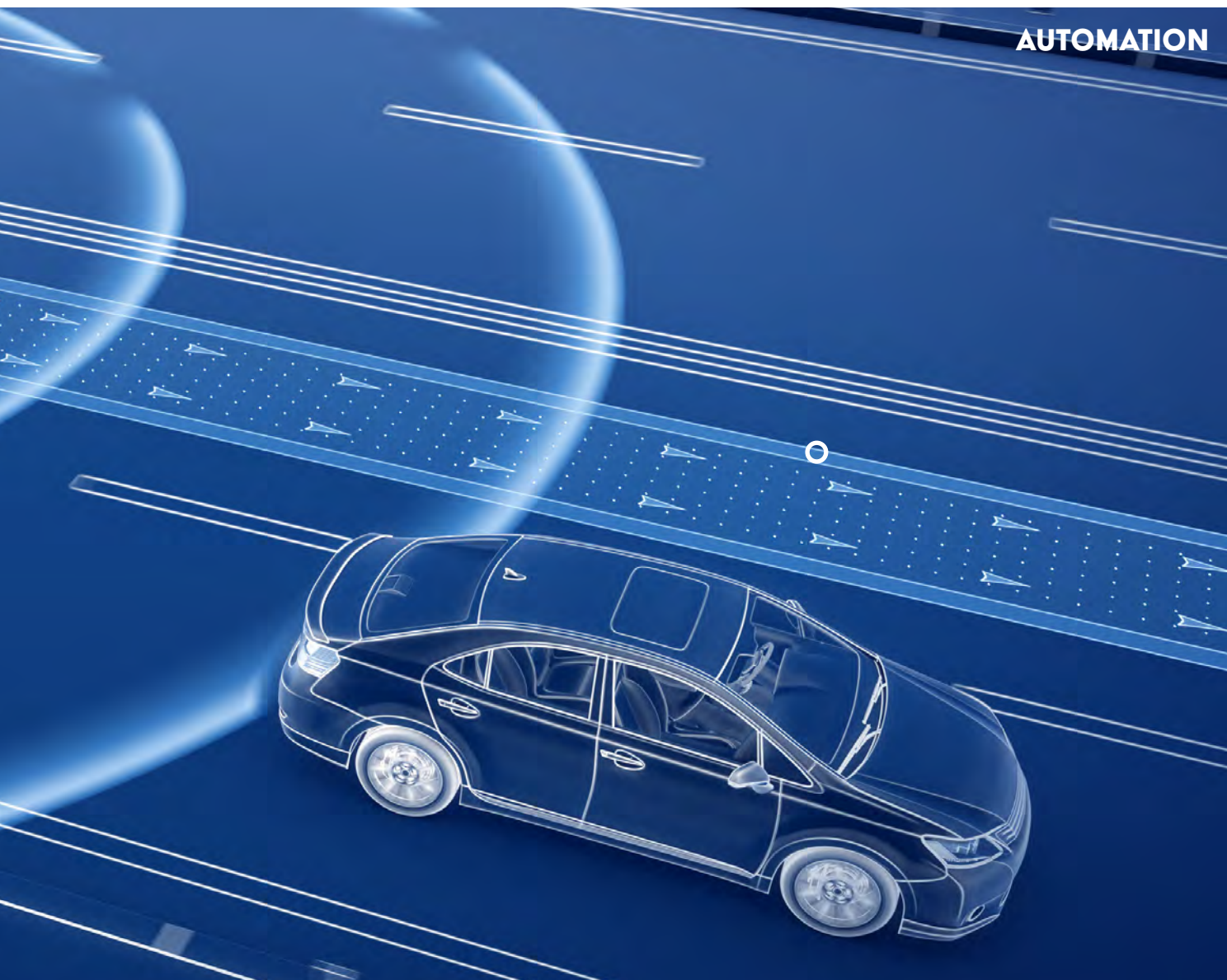
Whilst we are still a long way from full self-driving – “level 5” on the well-established international scale of vehicle automation (you kept your Autumn 2020 *Good Motoring* for the handy guide to autonomy levels, didn't you?), the reason that it's quite a big deal is that we're crossing over into a situation where the message to GB drivers moves towards this: “... you do not need to pay attention to the road.”

That's a quote from a piece of the proposed



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new Highway Code wording. Of course, it would initially only apply to the lane-keeping system on specifically approved vehicles - and drivers would need to remain in their seat, ready to take over when prompted. Nonetheless it's a significant shift in the balance of control of the vehicle and the expectations placed on the driver.

STATUTE BOOK

The legal framework for all of this is the Automated and Electric Vehicles Act 2018. This quite extensive piece of law got onto the UK statute book around three years ago but it is now, in 2021, that large parts of it are being activated, ready for the rollout of autonomous driving in Great Britain. (A point of detail: Northern Ireland has various driving and road regulations of its own and it wasn't included in the Automated Vehicle part of this Act.)

As well as setting out the official definition of an automated or autonomous vehicle (AV) and establishing a central register of makes and models which have officially certified features, the new law has extensive provisions on

insurance and liability, going into a fair amount of detail including limiting an insurer's liability when the owner hasn't been maintaining the vehicle's software with safety-critical updates.

The implications of this significant step and the progress which could follow soon after it are wide-ranging.

For example, how do we educate not only the drivers of AVs themselves but other road users?

How do traffic constables navigate their way around the rules on a day-to-day basis when policing laws which suggest that someone could legally be watching a movie or otherwise distracted at the wheel?

Who foots the bill when there is a collision of two cars which are being used correctly and legally in AV mode?

Do we create specific legislation covering deliberate misuse of AV functionality?

PLAYING TRICKS

The last question is influenced by a number of stories about drivers (or perhaps we should call them vehicle users) tricking their car into thinking they are at the wheel, putting it into >>

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AUTOMATION

>> an assistance mode, then getting into the back seat.

Some of these stories include almost inevitable tragic consequences.

With great power comes great responsibility, as the saying goes. Whilst we can't eliminate the irresponsibility we can certainly try to deter it, for the sake of all road users.

I don't particularly like headlines and articles which suggest, through the amount of focus on the vehicle, that its ability to provide some autonomous assistance was the main cause of that sort of incident, where the root cause was a driver unsafely gaming the system for their own thrills.

There are better "driver presence" checks that vehicles could do – and a recent software update has added camera-based driver attention monitoring into one high-profile EV/AV brand's cars - but can we close every loophole that can be used to trick AVs?

HUMAN ERROR

On the subject of the human factor, most studies show that at least 90 per cent of all motor vehicle crashes involve human error in some form, so a logical conclusion to draw is that the rollout of automation would reduce the human element.

But at what cost? Would the rollout, especially in its infancy, push up the level of automation errors to a similar extent or would we see a

genuine overall reduction in collision numbers?

I recently hosted a podcast episode talking about AVs (GEM's chief executive, Neil Worth, was one of the guests) and this question came up. The view was clear: we are a long way from full autonomy and – perhaps more importantly – the transition period will probably be very challenging.

As long as our roads have a minority of vehicles which can perform only a minority of features in full automation – and the availability and use of those features will differ between makes, models and drivers – we're unlikely to see improvements in the statistics overnight or perhaps even in the medium term.

I'm quite optimistic about what could be achieved but there are more big steps to take before we can see a positive direct impact on the numbers.

We're a long way from full automation. It's the fact that we could just be a few months away from legally allowing drivers to switch off from a part of the driving process that is the big news at the moment.

As a vehicle tech fan, I'm still excited about these next steps and the overall goal, especially as there's some billionaire-backed commercial competition to be the best at all of this. There will be some challenges, however, as automated features get rolled out. Lane keeping in slow-moving motorway traffic seems like a good place to start. ■

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A safe autonomous future? The #ProjectEDWARD podcast

As mentioned above, GEM chief executive Neil Worth was a guest on a recent episode of the Project EDWARD podcast. With many parts of the Automated and Electric Vehicles Act 2018 being activated in 2021, the Automated Lane Keeping System could be on our roads very soon. In the UK, this will mark the start of a rollout of features which won't usually require the driver's attention on the road when they're being used. This milestone on the long journey to so-called Level 5 full autonomy is significant, with many



implications for insurance, driver education, public awareness and policing. Neil and fellow guest Colin Paterson of DriveTech discuss all this and some possible

next steps. The Project EDWARD podcast publishes a new episode every fortnight until early December. Editions already published include ■ a discussion on post-crash care with Nick Simmons of RoadPeace and Cheryl Pinner of HCC Solicitors ■ a look at efforts from the West Mercia Police and Crime Commissioner to reduce levels of higher-level road offending ■ developments in emergency driver training - including the positive impact of GEM's own 'Blue Light Aware' resource.

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