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Product Liability and the Self-driving Car

In the latest in our series of articles arising from November's Tech Law Futures Conference, **Lucy McCormick** considers an important issue that has a momentum of its own

When will driverless cars come to market? The answer is that, to some degree, they already have. Mainstream cars already have 'quasi-autonomous' features, such as hands-free parallel parking and auto-overtaking on the motorway. Beyond the mainstream, Tesla sells cars equipped with the impressive but somewhat notorious 'Autopilot' technology. And while we might not have the 'Googlecar' in the UK, there are already several organisations testing fully autonomous prototypes in our public spaces. The technology is moving very fast, but is the law keeping up?

What do we mean by self-driving?

Before going further, it is helpful to explore what is meant by 'self-driving', 'driverless', 'autonomous' and so on. The terms are essentially interchangeable, although the industry tends to refer to CAVs – Connected and Autonomous Vehicles. A number of scales have arisen to distinguish more precisely between levels of autonomy. The most common is as follows:

- **Level 0 – No automation:** The driver is in charge.
- **Level 1 – Function-specific automation:** Single control functions such as electronic stability control or lane keeping are automated.
- **Level 2 – Combined function automation:** This level involves automation of at least two primary control functions designed to work in unison to relieve the driver of control of those functions. An example of combined functions enabling a Level 2 system is adaptive cruise control in combination with lane keeping assistance. The driver is expected to be available for control at all times and on short notice.
- **Level 3 – Limited self-driving automation**: The vehicle takes control most of the time. The driver is expected to be available for occasional control, with comfortable transition times. The 'Googlecar' is an example of limited self-driving automation.
- **Level 4 – Full self-driving automation:** The vehicle takes control all of the time. The driver is not expected to be available for control at any time. This includes both occupied and unoccupied vehicles.

As referred to above, there is a degree of variation in this scale. For example, some commentators add a 'Level 4b' to indicate cars which are both autonomous and connected, while some add a 'Level 5' to indicate cars which are capable of all tasks a human could do, including off road driving.

At present, commercially available cars are at 'Level 2', although some are nudging the bottom of 'Level 3'. For example, in 2016 Mercedes launched its new E-Class, which came with so-called 'Drive Pilot' technology. This system combines the existing technologies of adaptive cruise control, autonomous braking, lane keep assist, and steering pilot to drive the car autonomously at up to 130mph. It is even possible to flick the indicator to automatically change lanes, with the car assessing its surroundings and the traffic situation before performing the manoeuvre itself (although this last feature has not yet been enabled in UK versions). The driver is merely required to touch the steering wheel every few minutes to 'prove' that they are still paying attention. General Motors will launch a similar 'Super Cruise' system in its Cadillac CT6 in 2017. Interestingly, rather than relying on steering wheel contact, the latter system will use facial recognition systems to ensure the driver is keeping an eye on the road even when the system is engaged.

In terms of the timescale for 'Level 3' or 'Level 4' vehicles, it is anticipated that these will hit the consumer sector by 2025. Companies which have announced that they will release

a driverless car by that date include Volvo, Ford, Nissan, Audi, BMW and Jaguar/Land Rover.

The legal position in the UK

While the rise of driverless technology is a worldwide phenomenon, the UK is a particular hotbed for this industry. This is partly the result of a very pro-active approach by the UK government. The Department for Business, Innovation and Skills has invested £20 million in collaborative R&D projects and feasibility studies to stimulate developments in autonomous vehicles and connected transport systems. This is part of a £100 million investment by the UK government in research and development of 'intelligent mobility' announced in the March 2015 Budget. Their approach to legislation is similarly forward-looking.

The government has conducted a detailed review of existing legislation in its February 2015 'Pathway to Driverless Cars' document, concluding that:

> *'Real-world testing of automated technologies is possible in the UK today, providing a test driver is present and takes responsibility for the safe operation of the vehicle; and that the vehicle can be used compatibly with road traffic law.'*

The author with a LUTZ Pathfinder automated pod. Overseen by the Transport Systems Catapult, the Lutz Pathfinder project is using electric-powered two-seater 'pods' that operate on designated pedestrianised areas of Milton Keynes. It is one of many trials of fully-automated vehicles in public spaces in the UK.

This is actually fairly unusual, as in many countries primary legislation would be necessary to enable testing of driverless cars. In particular, many competitor countries are subject to the 1968 Vienna Convention on Road Traffic, which requires that 'every moving vehicle or combination of vehicles shall have a driver' and that 'every driver shall at all times, be able to control his vehicle', and this arguably precludes automated vehicles. Though amendment of the Convention is in progress, and many countries are taking steps towards legislative reform, the UK has a significant head-start.

The government has taken steps to build on this as follows:

- On 19 July 2015, the government issued (non-statutory) guidance for trials of automated vehicle technologies on public roads or in other public places in the UK. The guidance provides recommendations for maintaining safety and minimising potential risks. A range of vehicles is covered, from small automated pods through to cars and HGVs.
- On 18 May 2016, the Queen's Speech announced the advent of a 'Modern Transport Bill', including a proposal to create what is described as '*the world's first driverless car insurance legislation*'. Extensive consultation over this is ongoing, but broadly speaking it is anticipated that insurance will remain compulsory but will be extended to cover product liability for automated vehicles.
- Further legislative reform is planned, and by summer 2017 the government aims to review the allocation of civil liability between driver and manufacturer, consider the standard of driving to be required from CAVs and possibly amend the Highway Code and MOT.

Behind all this activity is an element of jurisdictional competition. The UK – like the other frontrunners the US, Germany, Sweden, Japan and Israel – is attempting to get the right balance of safety and openness to innovation in its legislation. The level of legal certainty will also play a part in where companies choose to carry out trials and invest. Getting this right could net the UK a significant slice of an industry anticipated to be worth £900bn a year globally by 2025. It can also be useful in other ways: on 16 October 2016 the Sunday Times reported that Nissan had been offered assurances in relation to driverless car testing as part of the package to persuade it to stay in the UK post-Brexit.

Product liability dilemmas

While significant strides are being made in relation to the insurance of driverless cars in the UK, there is rather more uncertainty in relation to product liability. Some of the key issues are below:

- **Consumer expectation.** The Consumer Protection Act 1987 defines a 'defective' product as one where the safety of the product is not such as persons generally are entitled to expect. However, customers may have unrealistic expectations in terms of what the technology is capable of. One vivid illustration of this is a May 2016 incident in which a Volvo XC60 ploughed into a group of pedestrians (video

available on YouTube). It appears that what occurred in that case is that the driver was trying to show off his new car's 'auto-braking'. While his car did have the technology to detect other cars, it did not in fact come with the more advanced (and expensive) 'pedestrian detection functionality' option. Fortunately, the pedestrians escaped with nothing worse than bruises. While in that case the fault was clearly with the driver not the technology, no doubt more nuanced examples will come before the courts.

- **Failure to warn**. Manufacturers have a duty to warn of hidden dangers and how to safely use a product. Generally, vehicle manufacturers will try to satisfy this through warnings in the owner's manual. However, highly automated cars may require more explicit and detailed warnings with a greater onus on ensuring such warnings are brought to the attention of consumers and understood. This is particularly important during this period of transition where the technology may *appear* wholly capable of taking over but in fact still requires human supervision. Tesla, for example, have historically dealt with this point by supplementing their manual with dashboard messages reminding drivers to 'Hold Steering Wheel'. Unfortunately, this was not sufficient warning to prevent the Tesla driver in the fatal May 2016 collision from allegedly watching a DVD rather than the road. Hence, no doubt, General Motor's decision to invest in facial recognition technology to *ensure* that the driver is still watching the road even when the car is partially automated.
- **Contributory negligence.** Where an automated feature fails on a vehicle and this leads to a collision, the manufacturer may seek to argue that the driver should have resumed control of the vehicle within a reasonable amount of time and averted the collision. However, research has shown that drivers require 4 to 8 seconds to re-take control, depending on the complexity of the situation. Given this, how realistic is it for drivers to be partly blamed for a fast-moving accident?
- **The 'state of the art' defence**. It may be the case that at the time the car was sold, the state of scientific and technical knowledge was not such that a design defect could have been discovered. For example, a software system on a vehicle may be 'hacked' by a third party causing the vehicle to be involved in an accident. Would it have been possible to envisage the nature of the 'hacking' at the time? For this reason, manufacturers would be well advised to keep detailed records of their state of knowledge during the development process.

There has been some suggestion in the press that manufacturers would voluntarily accept full strict liability for their products, avoiding the need for such debates. However, dig a little deeper and such statements are so heavily caveated as to amount to mere mood music. Accordingly, it is likely that lawyers will be wrestling with these issues for some time to come. ●

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