

## Driverless vehicles: liability and new automotive technologies



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THE ADVANCE OF GPS MAPPING, RADAR and wireless systems are making the 'driverless car' a possibility, sooner than many may have anticipated. The widely reported trials of an automated vehicle fleet utilising Google technology has raised the profile of automated vehicles significantly. Following these successful trials, the US states of Nevada, California and Florida have all passed laws permitting automated cars to drive on their roads.

Sarah Croft and John Reynolds, of Shook Hardy & Bacon International, assess the evolution of driverless or partially autonomous vehicle technology and consider the product liability issues arising for automotive manufacturers in the UK.

### NO ONE DRIVING

The automotive industry has been working on driverless cars and related technologies for decades now. Significant landmarks include the achievements of the EUREKA Prometheus project, which successfully demonstrated autonomous driving in the 1990s.

Building on these foundations, while much of the focus in recent years has been on reducing emissions and increasing fuel efficiency, new features in the form of driver assistance continue to emerge from leading manufacturers. These include:

- braking systems monitored by radars or cameras which automatically activate the brakes to avoid a collision;
- self-parking to avoid contact with other vehicles and obstacles; and
- radar-controlled cruise control that maintains a constant speed and distance from other vehicles.

We are already seeing a gradual increase in the availability of driver aids, which are partially autonomous but which allow (and indeed require) driver intervention at times. These technologies are a stepping stone towards fully autonomous vehicles that sense and make judgments about the vehicle's environment and can 'drive themselves' with minimal or, ultimately, no human input.

Harnessing its internet mapping technology, Google has been developing systems which

it is envisaged would be installed into vehicles to contribute to the functioning of an automated vehicle.

This ability of automated vehicles to control and drive themselves has obvious commercial applications in terms of road freight, and there would be related benefits providing mobility to disabled or elderly people. In 2012, a much-publicised trial took place in which a blind man successfully drove an automated car.

Driverless vehicles could also yield environmental benefits, since automated vehicles which can communicate and transmit warnings have the potential to drive closer together thereby reducing congestion, saving fuel and reducing emissions<sup>1</sup>. So far as road safety is concerned, human error plays a central role in many accidents so reducing driver input has the obvious potential to reduce the number and severity of accidents.

Factors determining how soon and to what extent the autonomous vehicle becomes mainstream include the risks of liability associated with 'driverless' cars for vehicle manufacturers and insurers.

### LIABILITY IMPLICATIONS

So what are the liability considerations with partially and fully autonomous vehicles?

A pragmatic view is that devices and technologies which have significantly improved automotive safety have been introduced before. Examples are seatbelts, air bags and cruise control. The liability laws were not reinvented to accommodate these technologies and regulatory systems have evolved with them. The tort of negligence in particular, since it has reasonableness at its centre, will adapt to fit new circumstances. There has been litigation about each new technology of course, some of it extensive, but liability systems have adapted and developed as time has gone on. As was hoped, these devices have also played a very significant part in improving safety. No doubt this will happen with the partially autonomous drivers' aids<sup>2</sup>.

Many claims in automotive cases are not brought solely in negligence. It is common for claimants to allege that the vehicle was defective and that strict liability

should apply. On the hypothesis that current English product liability law remains unchanged and autonomous vehicles are permitted in England, if an autonomous vehicle crashed and caused injury due to a defect, the manufacturer would be exposed to strict liability imposed by statute and liability in negligence. Section 2(a) Consumer Protection Act 1987 would impose strict liability upon the producer<sup>3</sup> of an autonomous vehicle if, by crashing, it was not as safe as 'persons are generally entitled to expect'. This requirement is likely to be met unless the vehicle was operated contrary to its instructions or warnings.

Allegations that the design of the drivers' aids or the autonomous vehicle was defective because it did not pass the 'consumer expectation' test are of particular relevance. Claimants may allege they did not fully appreciate the safety features on the vehicle. They may have unrealistic expectations in terms of what the technology is capable of. There are bound to be disputes about whether the driver intervened when they should have. The more complex the technology the more acute this problem potentially becomes<sup>4</sup>. As technologies become more widely used and more familiar, the risks to manufacturers must diminish since the thresholds in the consumer expectation test will be easier to meet.

Interesting questions arise as to apportionment of responsibility in avoiding a crash and contributory negligence in the case of a partially autonomous vehicle. Such a vehicle may contain safety features such as a collision avoidance system or an alert to the driver that the vehicle has deviated from its lane. If the driver failed to take control when it was possible and reasonable to do so, the driver may be found to have been contributorily negligent and be allocated some or all of the responsibility for the accident.

In the future, the absence of certain drivers' aids may be an issue where the plaintiff agrees that an accident may have been prevented if a feature had been included as standard.

As a consequence, automotive manufacturers will undoubtedly be extremely cautious in the design of such aids, the inclusion of them in vehicles

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and in the drafting of warnings given to consumers. Manufacturers will be examining how to protect themselves in the face of concern that the advent of autonomous vehicles will expose them to greater liability.

Some authors have speculated that in a world of automated vehicles, there is a risk that the manufacturer or a party involved in the design or operation of the autonomous vehicle is likely to be held liable for a higher proportion of vehicle accidents than is currently the case for driver-operated vehicles<sup>5</sup>. Further, it has been suggested that, particularly with the development of fully autonomous vehicles, a paradigm shift in the law may be required, such as no fault liability for collisions involving two fully autonomous vehicles.

It has been suggested that legislative or regulatory change may be the better course, protecting manufacturers from certain liabilities on the basis that the overall, hoped-for safety improvements and reduction in accidents and injury would be worth it. The readiness of regulators to deal with the new technologies has been questioned. When quizzed on this issue in May 2013, the head of the US National Highway Traffic Safety Administration said they had a 'solid game plan' adding that he thought current standards were sufficiently flexible<sup>6</sup>. There is a lack of uniformity, however, even in the state laws introduced in the US to allow the technology to be tested. The Florida law protects the original manufacturer from liability for an alleged defect in the vehicle converted into a driverless car, as long as the defect was not present at the time of manufacture. The laws in Nevada and California do not contain an equivalent provision.

When considering liability of the automotive manufacturer, legislators and regulators should take into account two related

factors. First, autonomous (and partially autonomous vehicles) reduce the risk that driver error can cause an accident, which should in turn reduce the number of accidents. Second, autonomous vehicles are likely to be involved in less severe crashes<sup>7</sup>.

On 14 May 2013, the *Times* reported that BAE, Rolls Royce and others were collaborating in a project called Astrea to produce unmanned civilian aircraft which they expect to be flying by 2020. We should perhaps expect to see 'driverless' cars on the roads before we see an unpiloted plane in our skies.

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## NOTES

- 1) The *Economist*, 20 April 2013, 'Special Report: Driverless cars: Look, no hands'.
- 2) The *Economist*, 20 April 2013, 'Special Report: Driverless cars: Look, no hands', p589.
- 3) Pursuant to s2(c) Consumer Protection Act 1987, strict liability is also imposed upon the entity which imports a defective product from outside the EU into England.
- 4) AP Garza, 'Look Ma, No Hands!', 46 *New Eng L Rev* 581 2011-12.
- 5) Marchant and Lindor, 'The Coming Collision Between Autonomous Vehicles and the Liability System', 52 *Santa Clara L Rev* 1321.
- 6) 'NHTS Head Defends Agency's Readiness for Driverless Cars', *Law* 360 (15 May 2013).
- 7) AP Garza, 'Look Ma, No Hands!', 46 *New Eng L Rev* 581 2011-12.