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Over the last 12 months a number of governments around the world have proposed or enacted laws designed to facilitate trail of autonomous vehicles, generally with a stated objective of providing a statutory safe harbour that will encourage trials of vehicles driving in autonomous mode with the relevant jurisdiction.

In this context so called 'autonomous vehicles' or 'driverless vehicles' today are almost always conventional driver operated vehicles when operated using functionality that enable the driver to switch the vehicle to autonomous mode. The current Tesla models are the best known examples.

For example, in June 2016, the South Australian Parliament enacted the <u>Motor Vehicles (Trials of Automotive Technologies) Amendment Bill 2016.</u> This new legislation provides a framework to facilitate on-road trials, testing and development of driverless vehicles and other advanced automotive technology on South Australian roads. As the government website announced it, "South Australia is open for business and

the South Australian Government actively encourages on-road trials, testing and development of driverless vehicles and advanced automotive technology in South Australia - http://dpti.sa.gov.au/driverlessvehicles.

Of course, many Internet of Things (IoT) services enable devices to make actionable decisions without human intervention. All IoT devices making actionable decisions without human intervention raise novel questions as to legal responsibility for those decisions, particularly where the consequences suffered are difficult to foresee or might reasonably be attributed to a user being lulled into a false sense of reliance upon the device being both operational and making the correct decision. For many IoT services launching in 2017, questions of foreseeability of or responsibility for consequences of undue reliance or incorrect decision making by humans are perceived as important but somewhat speculative – not an immediate business concern.

Motor vehicles are different to most other autonomous devices. There are three principal reasons why this is the case.



First, most humans over a certain age are only too aware that lives depend upon their careful use. Autonomous vehicles can and will kill humans and damage valuable property. The quality of their programming will determine how often and how many they kill or how much they damage. That quality is manifest in the algorithm - or to put it emotively, the decision making calculus as action - and ultimately a legal analysis as to whether that calculus was reasonably determined and competently embodied in the executable code. Cars are mission critical devices operating in an unpredictable hostile environment where code can't anticipate all possible scenarios of hostility. Compare most IoT applications. Many operate within closely defined and relatively controllable operational parameters. And even within that more controlled environment, consumer expectations as to reliability are often lower than for a car. Often the practicalities of everyday life determine reasonable expectations: the best home monitoring system will not deliver security of your home if you walk out the door leaving it open or the IoT service alert can't get through to your mobile phone because you are out of network coverage.

Second, driver behaviour reflects the full gamut of human behaviour, from the considerate and careful to the just plain crazy: insurance premium calculation endeavours to encourage the former and discourage careless or crazy driving. And perhaps not surprisingly, early studies suggest that well learnt vehicles perform significantly better than many distractible human drivers. No surprise, really: the computer doesn't respond to emails while driving, stress over what is happening in the back street, or take an interest in the person on the footpath. Often the issue should be not whether or when the driver should have taken back control, but rather whether the human should have control at all.

Third, a key difference between motor vehicles and other IoT devices is that motor vehicles operating in autonomous mode drive straight into highly developed private insurance markets where (at least in in most jurisdictions not being non-fault jurisdictions for the particular category of loss) the allocation and

apportionment of liability for negligent decisions by human drivers determines which insurer bears the burden of the loss or damage to humans and property occasioned by an insured driver's negligence.

So it is reasonable to expect that autonomous vehicles will be the canary in the coal mine for development of IoT ready laws as to assumption, allocation and apportionment of insurable risk. And which jurisdiction could be more experienced at putting canaries down coal mines than the United Kingdom.

The UK Government last week presented the Vehicle and Technology Aviation Bill 2017 (VTA Bill) to the House of Commons. The VTA Bill, amongst other matters, sets out new rules for the insurance of autonomous vehicles. If enacted, the VTA Bill will requires insurers to offer insurance policies which provide the owner of the vehicle with cover when either the driver is in control of vehicle or the vehicle is in autonomous mode.

The VTA Bill deals quire cleverly with the obvious question of which automated vehicles should get the benefit of its coverage: dodgy lemons beware. The Secretary of State must prepare, and keep up to date, a list of all motor vehicles that are or might be used on roads or in other public places in Great Britain and are in the Secretary of State's opinion designed or adapted to be capable, in at least some circumstances or situations, of safely driving themselves without having to be monitored by an individual. The Secretary of State must publish the list when it is first prepared and each time it is revised. An automated vehicle is only a vehicle so listed.

In situations where the autonomous vehicle is involved in an accident which was not the fault of the claimant, the insurer would compensate the claimant and statutorily disabled from contracting out of that liability. Contributory negligence apportionment as between the insurer or vehicle owner and the injured party would apply.

What of the inattentive driver? The Bill proposes that the insurer or owner of an automated vehicle is not liable to the person in charge of the vehicle where the



accident that it caused was wholly due to the person's negligence in allowing the vehicle to drive itself when it was not appropriate to do so.

Other matters relevant to attribution of liability and recovery of damages would occur in the background between insurers and those persons who may have a share of liability including the vehicle manufacturer, vehicle and parts service providers, software developers and/or data providers.

The VTA Bill also anticipates those vehicle owners who can't be bothered installing updates to the software, or who like to dabble in workarounds. The Bill permits insurers to exclude liability where the insured has knowingly permitted alterations to the vehicle's operating system or knowingly failed to install software updates and such alterations or failure to install the software update caused or contributed to the cause of the accident.

As of March 2017 the Bill is under consideration by the House of Commons.

The UK Government also noted that there are a number of other legal and regulatory issues associated with the development, testing and deployment of autonomous vehicles which remain to be addressed and resolved. These include privacy, data collection and sharing, intellectual property and product liability issues as to design and production of autonomous vehicles, their components and software.

Expect to see a lot more legislative activity in this space, particularly in sectors where humans place undue reliance upon autonomous devices or where such devices make actionable decisions that have unintended consequences. Both the law and insurance markets will struggle to keep pace.



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