

Property & Casualty Trend Spotlight

Autonomous vehicles: Insurance is an important part of the journey

With over 90% of accidents caused by driver error, it's not surprising that governments and manufacturers are investing heavily in autonomous vehicles to improve safety. Moving towards a "driverless" environment is a challenge for the entire motor ecosystem, with the various stakeholders having to confront some sensitive questions:

- Is society ready to manage a high volume of autonomous vehicle traffic?
- Are traditional liability schemes going to change?
- What are the legal and moral issues involved in setting algorithms to determine how a vehicle should respond to a potential accident?

These are just some of the issues that warrant consideration before transitioning into the fast lane of driverless cars.

Who's in control?

Although autonomous vehicles are designed to operate on their own (i.e. without driver intervention), many do allow the operator to assume control in a variety of circumstances, allowing drivers to effectively share operation of the vehicle with the vehicle's autonomous technology. When vehicles are not operating in autonomous mode and being driven by a human, the driver will ordinarily still be subject to liability, even in the context of an autonomous vehicle accident.

The current phase of automation might give us a false sense of safety. In the UK, the motor insurance industry is warning car manufacturers against the use of the word "autonomous" in their marketing. A report for the Association of British Insurers says the way some advanced vehicles are described can convince motorists that they have self-driving cars, when in fact this is not the case. Case in point is the Tesla driver who was killed in an accident in Florida in March 2018 after using autopilot with his hands off the steering wheel. It is interesting to note that some manufacturers intend to produce only a fully autonomous model in order to remove any doubt as to who is responsible.

It will be more difficult to determine who (or what) is in control for partially automated cars. For example, in the event of snow or heavy rain the driver may need to take control. If an accident happens during this transition phase it may be unclear who is responsible: the driver or the vehicle.

The Recommendations to the EU Commission on Civil Law Rules on Robotics (2015/2103(INL)) made special note of this point: "The more autonomous robots are, the less they can be considered to be simple tools in the hands of other actors (such as the manufacturer, the operator, the owner, the user, etc.); whereas this, in turn, questions whether the ordinary rules on liability are sufficient or whether it calls for new principles and rules to provide clarity on the legal liability of various actors concerning responsibility for the acts and omissions of robots where the cause cannot be traced back to a specific human actor and whether the acts or omissions of robots which have caused harm could have been avoided."

Software system

A fully autonomous car is dependent on its sensors and AI. What happens if the AI itself malfunctions? Or, what if a connected car should malfunction? If you have a virus in the vehicle’s connection node, is it a product flaw?

Another issue arises if the driver has not uploaded the latest software. Is it the responsibility of the manufacturer, the software supplier or the driver to ensure that the current software is installed? In Germany and Italy, for example, the vehicle owner is responsible for uploading the software updates.

Algorithms: Who deserves to be saved?

Some car manufacturers are actively campaigning on the basis that they will program the car to protect the driver and occupants at the expense of any pedestrians. This is not only a liability topic; a moral decision will have to be taken first. For instance: if a driver and a pedestrian are both at risk of death, who “deserves” to be saved by the electronic brain?

If there were four people in the car and a single pedestrian in danger, what choices would we prefer the machine to make for us and for others? Defining the algorithms that will guide the autonomous vehicles will be a formidable challenge in the face of these moral dilemmas.

Infrastructure

“Smart roads” are another factor to be taken into consideration in the development of the autonomy of vehicles. In fact, it is clear we cannot have driverless cars without connected and digitized infrastructures.

Proper and shared regulation should take into consideration:

- Technological and digital adaptation of the road network and infrastructure
- A series of conditions and requirements for implementing trial testing
- Definition of characteristics of AV systems for admission to public road testing
- Identification of the obligations of the holder of authorization for testing

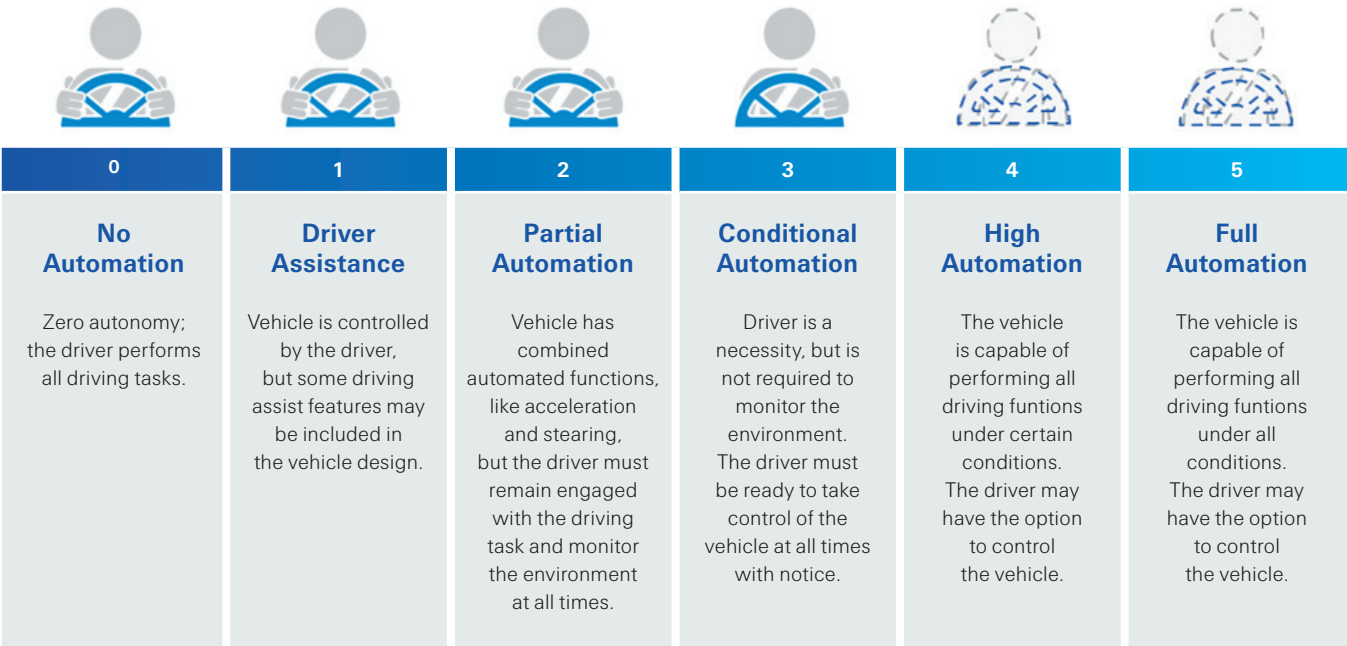
Data privacy

Careful consideration must be given to how autonomous cars will generate, collect and analyze data for multiple and varied purposes – from basic navigation to complex functionalities like traffic management, speed enforcement and driving proficiency.

It’s estimated that in the foreseeable future autonomous vehicles, in the US alone, will generate over 300 TB data each year. With so much data, the unavoidable question becomes: who will have access to this massive amount of data, and for what purposes? What, if any, protections will be afforded to the vehicle owner, the insurer or the manufacture?

Which policy will respond?

The introduction of autonomous vehicles will significantly impact the insurance industry due to the expected loss of premium income from motor policies. Liability will most likely shift to the car manufacturer’s product liability policy, although this is still not entirely clear. At what point this liability shifts and by how much will be a hotly contested issue. We can expect a gradual and steady shift from Motor Third party liability to Product liability as vehicles become more autonomous (see infographic below):



Source: Society of Automotive Engineers (SAE) Automation Levels

Liability (and related covers) of Level 4/5 will need to be a topic of discussion amongst the various insurer industry bodies and regulators to begin to define how this liability should be addressed.

Consider the spectrum of vehicle autonomy, where L0 leaves full control and decision making to the driver (i.e. no system intervention) all the way to L5, where the system is in complete control. Innovation and adoption will take place along this spectrum, as vehicles begin to roll out with increasing levels of automated assistance. We are already seeing some level of automation, such as advanced driver assistance systems (ADAS), which reduce accident frequency. We estimate that sophisticated ADAS (such as emergency brake assist) will reduce overall accident frequencies by over 4% and this trend will increase with further automation.

Coverage issues will take time to resolve, as is the nature of product liability lawsuits. There may also be reduced levels of cover. Whilst in some markets third party personal injury liability is unlimited, product liability is not. What happens if the insured runs out of cover? Drafting and adopting legislation to accommodate driverless technology may become a priority in many countries due to the many benefits the technology brings.

Based on these developments and the current outlook, drivers should continue to buy a single motor insurance policy to cover both manual and automated driving. Insurers should have a right to seek recovery, allowing them to obtain reimbursement of some costs from motor manufacturers, software companies or other parties in cases where the vehicle or technology was found to have been at fault.

Dual cover

Both the driver and the manufacturer may be sued due to questions surrounding which party is at fault for the accident. In such instances, establishing liability on one party or the other might be difficult, resulting in more complex lawsuits where manufacturers and drivers identify each other as the responsible party for a collision resulting in injury or damage.

Different jurisdictions have taken different approaches. In the UK, driverless vehicle owners will need 'two-in-one' insurance policies under new Government plans. Claims made against cars that crash while in driverless mode will be paid out by insurance companies, who will then recover costs from the responsible party, which may be the manufacturer.

By introducing dual cover instead of separate driverless car insurance policies, the Government is hoping to avoid confusion over whether victims of a collision need to make a claim against automated cars or their drivers. It is argued that dual policies would give innocent victims of a collision with an automated vehicle quick and easy access to compensation.

For economic reasons, manufacturers may provide an all risk cover, including product and driver's liability, which effectively will make them an insurance company as well. Manufacturers will likely front or distribute that cover.

Conclusion

The government, auto manufacturers and the insurance industry are at a cross roads in determining the role they should play in the future of autonomous vehicles. They have to balance the competing needs of safety, town planning and congestion, whilst ensuring that drivers do not become overly reliant on their vehicles to take control and make decisions. This requires collaboration across the public and private sector in order to provide a safe and cost effective solution. Insurance is at the forefront of this and must deliver the level of trust the consumers require in order to arrive at their destination safely.

We're smarter together

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