

Response to the Law Commissions' preliminary consultation on Automated Vehicles (Law Commission Consultation Paper 240; Scottish Law Commission Discussion Paper 166)

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What is your name?

Nicholas Bevan

What is the name of your organisation?

Nota Bene Legal Consulting

Are you responding to this consultation in a personal capacity or on behalf of your organisation?

[Respondents chose from the following options:

- Personal response;
- Response on behalf of your organisation;
- Other.]

Other (please state)

I am responding in my personal capacity as a consultant solicitor with many years of legal practice. At different stages of my career I have been retained by several large motor insurance clients and by numerous individual claimants. I was formally senior counsel of commercial law firm Bond Pearce. In 2016 I was awarded a doctorate in law from University of Exeter for my thesis on motor insurance law. In my lectures and published articles, I have a track record of accurately predicting significant developments in the law. The landmark decision in *Lewis v Tindale & MIB* in 2018 was predicated on my research. My public awareness and law reform challenges from 2013 to 2017 influenced and facilitated major reforms to the Motor Insurers' Bureau's two compensation schemes. I have received a number of awards for my pro bono law reform campaigning work.

CHAPTER 3: HUMAN FACTORS

A new role in driving automation: the "user-in-charge"

Consultation Question 1 (Paragraphs 3.24 - 3.43):

Do you agree that:

(1) All vehicles which "drive themselves" within the meaning of the Automated and Electric Vehicles Act 2018 should have a user-in-charge in a position to operate the controls, unless the vehicle is specifically authorised as able to function safely without one?

[Respondents chose from the following options: Agree; Disagree; Other.]

Other

1.I disagree that this should be a uniformly imposed requirement.

2.I recommend a diametrically opposed approach for the high and advanced levels of automation contemplated by the AEVA 2018: The imposition of a user in charge should be the exception and not the rule.

3.In my view, the role of a user-in-charge, as proposed, is antithetical to the concept of full automation at SAE L5. That said, it may have a role to play in exceptional circumstances. For example, it is conceivable that a user-in-charge might be justified at SAE L5 where, for example, dangerous substances are being transported by a fully automated vehicle. However, in such a scenario, the need for a user-in-charge would less attributable to the innate characteristics of the automated driving system (ADS), as opposed to its intended use.

4.The imposition of a user-in-charge should be largely confined to vehicles equipped with SAE L4 automation.

SAE Level 5 fully automated vehicles

1.I suggest that no vehicles should be marketed or sold as fully automated or as vehicles with a fully driverless capability (i.e. consistent with the SAE L4 or L5 or their equivalent UNECE classification) unless and until their technical capacity has been independently tested and officially classified as meeting that description. As a point of first principle: wherever practicable, public safety and consumer protection measures should always be addressed at the earliest opportunity: namely at the initial stages of design and manufacture and later in testing, licensing and type approval - prior to being placed on the market. The imposition of a user-in-charge is no fit answer to an intrinsically unsafe design.

2.Type approval and licencing of SAE L5 automation should be founded on the precautionary principle of risk prevention. At SAE L5 the ADS systems should be inherently safe to operate in driverless mode without the need for any physical human presence: including a user-in-charge.

3.Safety should be guaranteed by the product's fitness for purpose. There should be no need for a secondary stage of protection: namely, human intervention should not be necessary to achieve a minimal risk condition; even in the event of a serious systems failure.

4.I offer various reasons for not imposing a user-in-charge for vehicles equipped SAE Level 5 automation:

- First, if a user in charge is imposed on all advanced automated vehicles as a default requirement then this might undermine the transformative effect of this emerging technology (Ch 1, para 1.2; #3.59; App 1, para 1.1). The government should be wary of repeating history by ignoring its lessons. For example, I refer to the inappropriate restrictions introduced under the Locomotive Acts of the 1860s (AKA the Red Flag Acts). Arguably those excessive restrictions were largely motivated by misconceived and anachronistic perceptions concerning that emergent technology where its implications were not fully understood. Its

excessive precautions brought the law into disrepute. The government should avoid over-regulating ADS technology in this highly advanced form (which will probably not be realised for ten or more years anyway) if it wishes to avoid needlessly restricting the full potential of its commercial and social benefits.

- Another reason is that human intervention in this context [where the dynamic driving task (DDT) is not required to be actively monitored] is that it is unlikely to prove to be a reliability effective counter-measure for any unforeseen ADS failures that call for urgent or near instant human intervention. See Chapter 3 LCCR 240.

- Third, it seems reasonable to hypothecate that SEA L5 vehicles are also just as likely to break down for conventional causes that are not attributable to their ADS, such as a puncture or broken suspension. It is conceivable that stranded vehicles that are capable of achieving a minimum risk condition (MRC) could yet pose some degree of hazard to other road users and / or its occupants. If occupants are not otherwise required, why expose a user-in-charge to that danger, when, from a technical ADS viewpoint, their presence is unnecessary for its safe operation? Conceivably this avoidable danger might also extend to the recovery or emergency services who may feel the need to assume greater than normal risks in rescuing a stranded user-in-charge than for an unoccupied parked up fully automated vehicle that has broken down due to a mechanical or software defect.

- Fourth, the SAE L5 vehicles of the future are likely to be connected (presumably via advanced forms of 5G networks) to their owners and or their service providers or the highway authority services. Accordingly, they should in theory be capable of being controlled remotely (to achieve a minimum risk condition, where this has not yet occurred due to a systems or mechanical failure, or to move on to a more convenient location). Alternatively, one would expect that the vehicle's connectivity would allow for the ADS to issue an automated call for assistance to a service provider for a conventional recovery vehicle to be dispatched, who in turn could notify the local traffic police and Highway Agency as needed.

- To insist on the presence of a user-in-charge where it is not needed is likely to cause confusion in the minds of the vehicle's users and the public at large without necessarily achieving an effective enhancement in safety.

- Finally, to insist on a user-in-charge in this context seems about as anachronistic as insisting on a rear guard's presence on a modern inter-city train. Either a vehicle is fully-automated (because it does not require human intervention for its safe operation) or it is not. If it is, then there should be no need for a user-in-charge. Put another way, a fully automated vehicle that needs a user-in-charge seems to be a contradiction in terms.

5. Accordingly, provided the type approval is properly regulated to ensure that fully automated vehicles' specifications and capabilities match up to that advanced classification, then I suggest that a user-in-charge is neither necessary nor desirable. Full automated vehicles should only be classified as such where they are, by definition, capable of achieving a minimal risk condition independently and of further recovery without the presence of a user-in-charge. This does not require the vehicle to be fully autonomous; just sufficiently automated to achieve, to a safe standard; a simulacrum of autonomy. A major attraction of full automation is likely to be their ability to travel unoccupied to a predetermined pick-up destination or to make unmanned deliveries to a

consumer or to undertake a school run. To impose an unnecessary restriction will simply add unnecessary cost.

SAE level 4 highly automated vehicles

6. I would also argue in the negative for some for SAE L4 vehicles, particularly where the ADS has a highly restricted operational design domain (ODD) that minimises any residual risk to the user or the wider public.

7. It is not difficult to envision a scenario where a relatively rudimentary level of automation is nevertheless capable of satisfying both the regulatory and statutory criteria (as well as meeting the SAE classification) in certain low risk environments. For example, when confined to an otherwise pedestrianised concourse and set to very low speeds with highly sensitive ultra-sonic and pressure sensors and / or geo-fenced to restrict their operation to exceedingly low risk locations (such as could be achieved within a one-way exclusive conduit with physical barrier). In such a context, even if the vehicle grinds to a complete and unexpected halt it is highly unlikely to create a significant hazard; whether to its occupants or the public at large. Indeed it is not difficult to conceive of a mix of ADS and ODD that would, by default, guarantee an inherently minimum risk. Accordingly, the imposition of a user-in-charge for all SAE L4 in all circumstances would be an unjustifiably inflexible and disproportionate safety measure.

8. Against this, it is anticipated that a user-in-charge may have an important role in some SAE L4 highly automated vehicles. For example, automation is relatively unsophisticated but where its highly prescriptive ODD permits its deployment in driverless mode (as an SAE L4 vehicle) in areas where there it could pose an unacceptable risk to any passengers or other road users if it broke down for any reason and where its ADS is unable to achieve a MRC.

9. A user-in-charge is likely to be particularly appropriate for privately owned vehicles that may not have a remote back-up or road recovery service. These are likely to have ADSs that offer a 'something, everywhere' capacity.

Generally

10. I agree that an independent automated driving system entity (ADSE) should be responsible for classifying / type approving vehicles in conformity with internationally recognised standards. I believe this is critical if consistent consumer standards and public safety is to be maintained. I anticipate that the type approval classifications need to have a much higher technical specificity than the present taxonomies allow for and there may well be a need for more categories, going forward. Every motor vehicle possessing automation from SAE L2 to 5 should bear standard Kitemark identification that is clearly visible to other road users.

11. It is understood that the government will need to ensure compliance with the UNECE road traffic conventions which are currently under review and which do not currently permit truly driverless vehicles to be used on roads and public places.

(2) The user-in-charge:

- (a) must be qualified and fit to drive;
- (b) would not be a driver for purposes of civil and criminal law while the automated driving system is engaged; but
- (c) would assume the responsibilities of a driver after confirming that they are taking over the controls, subject to the exception in (3) below?

[Respondents chose from the following options: Agree; Disagree; Other.]

Other

Answer:

1. Subject to the qualification given above, Yes to (2) and (3)
2. Additional officially approved training and testing of the user-in-charge's role and clarification as to the standard of care, are all essential.

(3) If the user-in-charge takes control to mitigate a risk of accident caused by the automated driving system, the vehicle should still be considered to be driving itself if the user-in-charge fails to prevent the accident.

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

Consultation Question 2 (Paragraph 3.45):

We seek views on whether the label “user-in-charge” conveys its intended meaning.

Yes

Consultation Question 3 (Paragraphs 3.47 - 3.57):

We seek views on whether it should be a criminal offence for a user-in-charge who is subjectively aware of a risk of serious injury to fail to take reasonable steps to avert that risk.

[Respondents chose from the following options:

- Yes, it should be a criminal offence;
- No, it should not be a criminal offence;
- Other.]

Other

Answer:

Probably yes for SAE level 4 but not for SAE level 5 once ADS is engaged for the reasons given in the Law Commission's paper at para 3.47 and paras 3.54-56.

I do not anticipate that any new criminal liability is called for in fully autonomous vehicles at SAE L5.

When would a user-in-charge not be necessary?

Consultation Question 4 (Paragraphs 3.59 - 3.77):

We seek views on how automated driving systems can operate safely and effectively in the absence of a user-in-charge.

See my answer to Q1 above.

Type approval as fully automated (SAE L 5) should be restricted to vehicles that have the capacity to operate in a completely driverless mode throughout its journey. I believe that this is likely to require its ADS to identify and respond appropriately to every sensory input that a human driver is required to identify and react to appropriately and to at least the standard of an experienced and competent driver (if not higher). This would include, distance of vision, hand signals and temporary road signs, weather conditions, unanticipated occurrences (#3.60) and nuanced scenarios where appropriate precautionary response / manoeuvre or to assume a minimal risk condition.

Clearly this level of automation has yet to be achieved and I am informed by those who are in a better position to know that this may not be so for at least ten years.

Certain specified SAE L4 vehicles may have the capacity to operate safely without a user-in-charge where the automated dynamic driving task (DDT) is confined to a very low risk operating design domain (ODD) that either facilitates an easily achievable minimal risk condition (MRC) without the need for human intervention or whose properties are such as to constitute a MRC by default.

Consultation Question 5 (Paragraphs 3.59 - 3.77):

Do you agree that powers should be made available to approve automated vehicles as able to operate without a user-in-charge?

[Respondents chose from the following options: Agree; Disagree; Other.]

Other

Such approval should be the default position. See my response to Q1 above and the danger of over regulating new technology.

I do not believe that a user in charge should be necessary or desirable for:

- (i) full automation (SAE L5) which should be able to operate unmanned, and
- (ii) Some highly automated vehicles (SAE L4) that have a highly prescriptive low risk ODD that cannot be overwritten in transit, where they can easily assume a minimal risk condition without human intervention and
- (ii) the unmanned being fully compliant with the relevant international regulations governing road traffic: e.g. the UNECE Vienna and Geneva Conventions (#2.51; #4.14) and the EU Framework Directive 2007/46/EC (#4.19) in each instance, as amended or replaced.

When should secondary activities be permitted?

Consultation Question 6 (Paragraphs 3.80 - 3.96):

Under what circumstances should a driver be permitted to undertake secondary activities when an automated driving system is engaged?

- 1. I note that the reference to 'driver' in the context of a vehicle operating an ADS does not necessarily exclude highly and fully automated vehicles contemplated by s1 AEVA 2018 as even vehicles with full automation are likely to have a manual override option. Even so, I infer that this question is primarily intended to refer to vehicles whose dynamic driving task(DDT) is controlled by automated driving systems (ADS) of existing

and close to market levels of automation (i.e. partial automation (SAE L2) and conditional automation (SAE L3)) because where a vehicle is driven under normal manual control, existing civil liability rules and safety standards (which prohibit distractions) would apply.

2. There is no simple answer that allows for a one size fits all regulation.

3. The issue is a nuanced one that depends as much on the vehicle's technical capacity as on its ODD (i.e. its operating environment/context of use); the appropriate international standards, such as the UNECE conventions (currently undergoing review), as well as the minister's discretion under s1 AEVA 2018 (and / or any criteria set by a supervising agency, such as the LC's proposed entity, the ADSE).

4. On a general point, there needs to be a close and clear correlation between physical standards expected of a 'driver' and the level of sensory sophistication and processing capacity of vehicle automation.

5. The present general proscription on distractions should apply (modified only to permit viewing screens to undertake remote self-parking, listening to the radio etc) for all vehicles with ADS below SAE Level 4.

6. It is important to emphasise that the government's limited terms of reference set out at Appendix 1 appear to exclude the present and urgent need to regulate existing SAE L2 automation that is already on our roads (not to mention the SAE L3 automation that is close to market). It almost goes without saying that no distractions should be permitted where a driver is actively monitoring a vehicle running in a driver assist mode in a vehicle equipped with SAE L 2 automation. The driver's attention should always be focused either on the road ahead or in undertaking peripheral road safety observations.

7. A user-in-charge of a vehicle equipped with SAE level 4 (and possibly also SAE L5) should never be expected to intervene in the capacity of a 'fallback driver', - so secondary activities should generally be permitted to encourage a general state of alert receptiveness, except perhaps in certain relatively high-risk environments, such as locations shared by pedestrians. Where a user-in-charge is required, the individual must always remain conscious, sober and able to drive, even if full attention is diverted away from the DDT whilst the vehicle's ADS is actively engaged.

Consultation Question 7 (Paragraphs 3.80 - 3.96):

Conditionally automated driving systems require a human driver to act as a fallback when the automated driving system is engaged. If such systems are authorised at an international level:

(1) should the fallback be permitted to undertake other activities?

[Respondents chose from the following options: Yes; No; Other.]

Other

1. Much turns on what 'a request to intervene' involves see paras 2.09(4); 2.17) and the intrinsic reliability and responsiveness of the ADS: e.g. whether a safety critical intervention is needed in the face of an emergency or only as part of a more sedate handover.

2. This question features close to market automation that the government has indicated is unlikely to be classed as an 'automated vehicle' within the meaning

of sections 8 (1) and 1(4) of the AEVA 2018 by the minister. See LCCR 240 para 2.56 and footnote 83.

3.Q 7 (1) Yes, as a basic proposition but one that is subject to certain qualifications. This qualified permissive approach reflects the following:

First, that human intervention in this context [where the DDT is not being monitored actively] is unlikely to prove to be a reliability effective counter-measure for any ADS failure or other exigency that requires urgent or near instant human intervention. Fall back drivers are unlikely to be in a position to respond with sufficient speed to address a serious system failures in fast moving traffic on dual carriageways and motorways. Neither would a fall back driver be likely to be able to respond sufficiently promptly to a burst tyre or to correct loss of control caused an oil spillage at 50 or 60 mph on an A road. In both examples the human factors considered, at#3.7; #3.12; #3.85 and Appendix 3 apply. The point here being that secondary activities are unlikely to have a consistent causative effect on the safety of the driving.

Second, that any ADS system that requires, for safety reasons, that a driver either actively supervise the vehicle's dynamic driving task or requires a fallback driver to respond promptly to a system alert or some other unforeseen problem when operating in its ODD - ought properly to be classified as an SLA L2 vehicle. My suggestion is that the fallback driver's intervention should never be depended on for safety critical interventions, for reasons already alluded to.

Third, this level of automation is premised on a yet to be achieved level of technical sophistication and the ability, through software programming, that enables the safe operation of SAE L3 automation, in almost any context, without requiring an instant response by the fallback driver to intervene with a safety critical intervention. Conditional automation should only be licensed for use save in highly specific low risk ODDs.

4.To elucidate further, approval of SLA L3 conditional automation should be made conditional on the following:

(i) The first point incorporates the aforementioned concern, namely that the type approval of conditional automated vehicles must first be contingent on it being officially established that each variant of SLA L3 vehicle automation (ie. each model, class or type) is sufficiently safe and reliable for use when deployed within its operational design domain – independently of any human intervention, excepting the safe and preplanned engagement and disengagement of the ADS. I understand that this level of operational reliability has yet to be achieved for normal every-day road use.

(ii) The safety of every vehicle model should be certified by an independent body (perhaps the ADSE agency proposed by the LC) applying internationally recognised criteria and this needs to be undertaken to an equivalent standard as in the aviation industry. Manufacturers should not be allowed to self-certify their products.

(iii) Type approval should be restricted for use within specified low risk environments that comprise their operational design domain ODD. The ODD may factor in weather and other road conditions as well as road types and locations near playgrounds and school etc. I would envision the geographical ODD of SLA L3 vehicles will need to be restricted initially to dedicated lanes along non-pedestrianised routes where the risk to vulnerable road users (pedestrians or cyclists) is minimal or non-existent or at very low speeds along clearly

designated routes (similar to tram lines) and be accompanied by audible and visual signaling to alert other road users that an ADS is engaged. Paradoxically, a vehicle ostensibly equipped with SAE L3 automation might be capable of qualifying as highly automated (at SAE L4) and / or of being listed under s1 AEVA 2018 as an automated vehicle that is subject to the direct right conferred by s2 of the Act if its ODD is so highly restricted that it is safe to operate without a fallback driver because no human intervention is required to meet a safety critical contingency.

(iv) Each vehicle model should be hard-wired to prevent the ADS from operating outside its certified ODD and unless such use is lawful for that model and the change has been preplanned and authorised by the insurer. It should not be possible for the owner / user to override the vehicle's ODD (outside any predetermined permissive parameters) without first obtaining authority through an officially sanctioned reclassification process.

(v) Every journey where ADS is intended to be used should be preplanned / preprogrammed whilst the vehicle is stationary and the system connected to online traffic reports, safety-critical software updates and weather data: either before embarkation or at an en route parking point (where a change in destination can be programmed). This ADS should not otherwise engage. Clearly the ADS will need to have the capacity to alter its route, during a journey, in response to weather and traffic conditions, etc.

(vi) All secondary activities should be banned or suspended (e.g. radio) in the moments leading up to the hand-over to human control as the vehicle approaches the end of its geographical ODD. This should be enforced by on board haptic and visual sensors and vehicle-use data that must be disclosed to the vehicle's insurer. Inappropriate or illegal use could result in higher premiums.

(vii) Section 2 of the Automated and Electric Vehicles Act 2018 should be amended to include these transitional levels of automation (SAE L2 & 3), especially if it is decided that an SAE L3 fallback driver is needed to perform a safety critical intervention in an urgency. This is necessary because the Government has already indicated that the minister is unlikely to exercise his wide discretion under s1 AEVA so as to classify conditional automation as an 'automated vehicle' because it cannot achieve a minimal risk condition: see #2.56 and 3.25. This is unsatisfactory because this transitory level of technology (at SAE L3) seems to be inherently less safe and susceptible to misunderstandings as to its capability and reliability than the futuristic levels of automation envisioned by some SAE L4 and all SAE 5 automation that qualify for s2's direct right. Indeed, the government's actions could be equated to a shipping line that equips its vessels with life rafts that can only be deployed in fine weather.

The public interest reasons for imposing strict liability under s2 AEVA for high and advanced levels of automation apply with equal force, if not even more so, to driver assist (SAE L2) and conditional automation (SAE L3), especially if there is reasonable cause to believe that the poorly understood human machine interaction involved at these levels make them comparatively less safe than the futuristic levels of near-autonomy promised by SAE L5 technology. Users and third-party victims are entitled to expect the same level of civil law protection from the risk of loss or injury from automated transport, whatever its type classification or sophistication. This is not provided under the existing common law and statutory framework for product defects in vehicles equipped with SAE L2 and 3, see below the response to Q18. This lacuna needs to be urgently addressed.

(2) if so, what should those activities be?

Consuming cold drinks or snacks, passive activities such as reading, listening, conversing, phone use should be permitted in vehicles with conditional automation but phone use should be remotely connected via an onboard phone console and any reading managed by the car's systems and positioned so as to minimise distraction from the view ahead). No typed emails or texts should be permitted, nor online shopping or form filling or other tasks that require concentrated undivided attention. In short most activity that can be stopped almost instantly and which leave the fallback user in the driving seat, correctly positioned and orientated, ready and able to respond to the call to action should be permitted.

The urgent and immediate need to reform existing civil liability rules for transitional forms of automation.

I refer to my response to Q18 on the urgent and compelling need to reform the civil liability and insurance provision for driver assist and conditional automation at SAE Ls 2 & 3. In my opinion, it might be easier for all concerned if the definition of 'automated vehicle' in s1 was amended to include all forms of ADS, including driver assist automation at SAE L2.

In my view, the government appears to have missed a rare opportunity to persuade the motor insurance industry to accept a root and branch reform of the muddled and inconsistent statutory provision in this area (especially Part VI Road Traffic Act 1988) to bring its protection into line with the minimum standard of compensatory guarantee that applies on the continent. The opportunity arose from the high probability that the prospect of highly and fully automated vehicles (with its resulting public and product liability implications) amounted to an existential threat to motor insurers, whose business model is based on the personal fault-based liability of vehicle users. Yet the motor insurance industry has effectively secured a monopoly to underwrite the product liability risk of advanced futuristic vehicle automation. This advanced technology is likely to present a relatively low business risk for motor insurers: due in part to the insurer's statutory right of recovery and partly to compelling commercial pressures on manufacturers to offer a Volvo style no-fault compensation guarantee in return for low premium rates. The government appears to have allowed the motor insurance industry to deftly evade the real and pressing need to provide mandatory cover for injury or loss caused by vehicle defects of existing and close to market technology that conceivably present an even greater risk to road safety than the more sophisticated levels of automation contemplated by the AEVA 2018.

The government risks being accused of mapping out the legislative framework of the relatively safe high ground of highly advanced automation but failing completely in its responsibility to attend to the urgent task of mapping the treacherous path leading there.

CHAPTER 4: REGULATING VEHICLE STANDARDS PRE-PLACEMENT

A new safety assurance scheme

Consultation Question 8 (Paragraphs 4.102 - 4.104):

Do you agree that:

(1) a new safety assurance scheme should be established to authorise automated driving systems which are installed:

- (a) as modifications to registered vehicles; or
- (b) in vehicles manufactured in limited numbers (a "small series")?

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

Regulation of this technology should apply the preventative principle of eliminating any risk by safe design; in preference to educating, testing and enforcing safe use (which will also constitute an important element in any comprehensive regulatory framework).

(2) unauthorised automated driving systems should be prohibited?

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

The need is self-evident.

(3) the safety assurance agency should also have powers to make special vehicle orders for highly automated vehicles, so as to authorise design changes which would otherwise breach construction and use regulations?

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

This is a sensible discretionary power but it must be one that is exercised by applying consistent and publicly available criteria and be subject to public scrutiny and judicial review.

Consultation Question 9 (Paragraphs 4.107 - 4.109):

Do you agree that every automated driving system (ADS) should be backed by an entity (ADSE) which takes responsibility for the safety of the system?

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

It is essential that the safety of all automated driving systems (including SAE L1 & 2) should be tested and certified as safe for use within its lawful ODD by an independent body that exercises its powers in a publicly accountable manner and subject to clearly articulated policies and criteria. There may well be considerable advantages were this body to operate in conformity with an international body, possibly under the aegis of UNECE: to facilitate a vehicle type's lawful use abroad as well as encouraging foreign trade and exports.

Consultation Question 10 (Paragraphs 4.112 - 4.117):

We seek views on how far should a new safety assurance system be based on accrediting the developers' own systems, and how far should it involve third party testing.

This is not my area of expertise. However, it seems fairly self-evident that whilst any safety insurance system should be informed by best practice in the industry, it should undertaken independently, preferably by a publicly accountable NGO.

Consultation Question 11 (Paragraphs 4.118 - 4.122):

We seek views on how the safety assurance scheme could best work with local agencies to ensure that is sensitive to local conditions.

No comment.

CHAPTER 5: REGULATING SAFETY ON THE ROADS

A new organisational structure?

Consultation Question 12 (Paragraphs 5.30 - 5.32):

If there is to be a new safety assurance scheme to authorise automated driving systems before they are allowed onto the roads, should the agency also have responsibilities for safety of these systems following deployment?

[Respondents chose from the following options: Yes; No; Other.]

Yes

Yes and this applies to Partial and Conditional Automation also. This should be addressed as a matter of considerable urgency, given what is said at paragraph 3.12 of the LC report.

I am awaiting a Freedom of Information Act request on the number of Tesla Model S currently on our roads. Some online sources indicate that this could be in excess of 2,000. Tesla plans to launch its new mid range Model 3 into the UK market this year, presumably in much greater numbers. See my concerns about the danger posed by driver assist technology in my response to Q7.

The government risks being accused of mapping out the legislative framework of the relatively safe high ground of advanced automation but failing completely in its responsibility to attend to the urgent task of mapping the treacherous path leading there.

If so, should the organisation have responsibilities for:

- (1) regulating consumer and marketing materials?
- (2) market surveillance?
- (3) roadworthiness tests?

[Answers chosen from list of options above:]

- (1) regulating consumer and marketing materials.
- (2) market surveillance.
- (3) roadworthiness tests.

We seek views on whether the agency's responsibilities in these three areas should extend to advanced driver assistance systems.

[Respondents chose from the following options:

- Yes, extend to advanced driver assistance systems;
- No, do not extend to advanced driver assistance systems;
- Other.]

Other

Yes to all forms of automation: Driver Assist, Partial and Conditional Automation (SAE L 1 -3) as well as to High and Full Automation (SAE L4&5).

Driver training

Consultation Question 13 (Paragraphs 5.54 - 5.55):

Is there a need to provide drivers with additional training on advanced driver assistance systems?

[Respondents chose from the following options: Yes; No; Other.]

Other

Yes, to training for all forms of automation, every safety critical skill must also be incorporated within the syllabus for a mandatory driving proficiency test. Careful consideration needs to be given to extending the driving licence categories to reflect the special additional skills needed to supervise partially automated vehicles and conditional automation.

A failure to address this urgent need to educate, test and licence emerging levels of automation as well as advanced automation would not only be anomalous but it would compromise public safety.

If so, can this be met on a voluntary basis, through incentives offered by insurers?

[Respondents chose from the following options: Yes; No; Other.]

Other

No.

Guidance should continue to be provided by the government within the Highway Code and enforcement of safe driving by state authorities. This is a responsibility that should be delegated to commercial interests. The Highway Code needs to be updated to accommodate the skills and standards appropriate to this new technology.

Every driver skill, standard or theory that is safety critical should be incorporated within the compulsory driving test syllabus be subject to mandatory testing. It may be necessary to issue new vehicle categories for the driving licence and to require additional training to qualify to drive certain classes of automated vehicle.

Accident investigation

Consultation Question 14 (Paragraphs 5.58 - 5.71):

We seek views on how accidents involving driving automation should be investigated.

This is not my field of expertise, but my experience in practice of local police forces is that their standard of investigation is variable.

A national government agency should be incepted, possibly along similar lines to the Air Accidents Investigation Branch. A single authoritative national agency would be best placed to apply a consistent approach to the same standard. A national body is needed to develop a strategic view as well as a specialist knowledge in ADS, motor engineering, data recording and collection et cetera. This might be a suitable role for a dedicated sub-division of the proposed Safety Assurance Agency.

We seek views on whether an Accident Investigation Branch should investigate high profile accidents involving automated vehicles? Alternatively, should specialist expertise be provided to police forces.

It might be sensible to restrict the agency's involvement to serious accidents involving an injury where a police report has confirmed (i) that an automated vehicle was present at the scene of the accident and (ii) that in the view of the officer it's presence may have led to or otherwise contributed to the accident's occurrence. It would probably be necessary to impose a strict time limit to ensure prompt notification, if the accident data is to be preserved.

I feel uneasy about the term 'high profile'; I realise that the LC are not suggesting that newsworthiness should form any basis for the decision to investigate nor for the exercise of the rule of law.

Setting and monitoring a safety standard

Consultation Question 15 (Paragraphs 5.78 - 5.85):

(1) Do you agree that the new safety agency should monitor the accident rate of highly automated vehicles which drive themselves, compared with human drivers?

[Respondents chose from the following options: Agree; Disagree; Other.]

Agree

(2) We seek views on whether there is also a need to monitor the accident rates of advanced driver assistance systems.

[Respondents chose from the following options:

- Yes, monitor advanced driver assistance system accident rates;
- No, do not monitor advanced driver assistance system accident rates;
- Other.]

Other

This monitoring process should extend to accidents featuring partial and conditional automation. To exclude these transitional stages of automation would be anomalous, particularly as the human machine interaction is not well understood and may, in conjunction with other unknowns, present an even greater hazard to public safety than the far more advanced (as yet unrealised) forms of automation.

The technical challenges of monitoring accident rates

Consultation Question 16 (Paragraphs 5.86 - 5.97):

(1) What are the challenges of comparing the accident rates of automated driving systems with that of human drivers?

No comment

(2) Are existing sources of data sufficient to allow meaningful comparisons? Alternatively, are new obligations to report accidents needed?

No comment

CHAPTER 6: CIVIL LIABILITY

Is there a need for further review?

Consultation Question 17 (Paragraphs 6.13 - 6.59):

We seek views on whether there is a need for further guidance or clarification on Part 1 of Automated and Electric Vehicles Act 2018 in the following areas:

(1) Are sections 3(1) and 6(3) on contributory negligence sufficiently clear?

The product liability provisions within Part 1 of the Automated and Electric Vehicles Act has clear parallels to the Consumer Protection Act 1978. Both make provision for strict liability and then confer the defendant's entitlement to raise a defence of contributory negligence. However, although s 2(1) of the Consumer Protection Act provides for liability on the producer/supplier where any damage is "wholly or partly caused" by a defect, s 2 of the Automated and Electric Vehicles Act does not make it clear that the insurer will be liable for damage partly caused by the vehicle.

S 2(1) of the Automated and Electric Vehicles Act merely provides that where an accident is caused by an automated vehicle...the insurer is liable for that damage".

It appears to be the intention of the 2018 Act that the insurer should be liable if damage is partly caused by the vehicle, as section 8(3) provides that "a reference to an accident caused by an automated vehicle includes a reference to an accident that is partly caused by an automated vehicle. Although this clarified in section 8(3), the different wording referred to above in s2(1) introduces an entirely unnecessary divergence that will probably need to be resolved by a court.

I believe that there would be better legal certainty if section 2(1) provided that insurers are liable where damage is wholly or partly caused by the vehicle.

When the courts consider the allocation of damages for contributory negligence, they must weigh up not only the causative contribution of the parties in terms of to what extent are the parties responsible for precipitating the accident but they must also taking into account the causative potency of the victim's negligence. This was considered by (then) Lady Justice Hale in the case of *Eagle v Chambers*, and later unanimously approved by the Supreme Court in *Jackson v Murray and others* [2015] UKSC 15:

'It was noted by Hale LJ in *Eagle* that there were two aspects to apportioning liability between the claimant and defendant, namely the respective causative potency of what they had done, and their respective blameworthiness...The court had consistently imposed a high burden upon the drivers of cars, to reflect the potentially dangerous nature of driving. '

In relation to automated vehicles, the causative potency of the manufacturer or producer's culpability ought to take into account the fact that by making and / or marketing the product that they have introduced a potential hazard to the road using environment. A driverless car could be equated to a heavy guided missile. Consequently, its potential to cause harm or the likelihood of the harm being high is obviously significant. In which case it is appropriate that the causative potency for any manufacturing or software defect should reflect this moral responsibility. The same could be said of the known effects of automation on a human driver, which are said to be detrimental on their level of attention and the appropriateness / effectiveness of any reaction.

(2) Do you agree that the issue of causation can be left to the courts, or is there a need for guidance on the meaning of causation in section 2?

[Respondents chose from the following options:

- Leave to courts;
- Need for guidance;
- Other.]

Need for guidance

See the answer to the previous question.

(3) Do any potential problems arise from the need to retain data to deal with insurance claims? If so:

- (a) to make a claim against an automated vehicle's insurer, should the injured person be required to notify the police or the insurer about the alleged incident within a set period, so that data can be preserved?
- (b) how long should that period be?

Ideally, relevant data should be preserved and disclosed. The practical considerations of implementing this is a technical issue that I am unable to comment on in any detail or authority. However, it stands to reason that data storage, presumably from multiple sensors, is likely to involve large quantities of memory and so the ability of automated vehicles to store a long operational history is likely to be limited.

Accident's should be reported to the AVSE within 24 hours and the relevant data uploaded to that destination within 72 hours. Consideration should be given to deciding whether it would be appropriate to impose a legal presumption following an unjustified or unexplained failure to upload or preserve this data.

My personal experiences in practice of different Police forces around the country suggest their ability to administer accident recording and data retention either efficiently or consistently is limited. Perhaps this is a role that should be assigned to the AVSE.

Civil liability of manufacturers and retailers: Implications

Consultation Question 18 (Paragraphs 6.61 - 6.116):

Is there a need to review the way in which product liability under the Consumer Protection Act 1987 applies to defective software installed into automated vehicles?

[Respondents chose from the following options: Yes; No; Other.]

Other

Preliminary note on the question's scope

I infer from the Law Commission's limited terms of reference, that this question is primarily concerned with secondary claims brought by motor insurers under s5 AEVA 2108; not the primary accident victims whom the entire edifice of Part VI Road Traffic Act 1988 and S2 AEVA 2018 is supposed to benefit. In which case, strictly speaking this question only concerns those vehicles likely to be listed under s1, i.e. high or full automation – (see LCCR 240 para 2.55 and footnote 83).

Yet the Law Commission expressly concedes the need to widen the scope of its consultation (see para 1.14) and this much is clear from some of its questions, such as Q6, 7,8 and 12.

The Consumer Protection Act 1987's - fitness for purpose for insurers

The Consumer Protection Act 1987 (CPA) fully implements the Directive 85/374/EEC on Product Liability and can be easily revised after Brexit should need arise. Two important concerns, raised in para 3.9 of the Government Response to its consultation on Advanced Driver Assistance Systems and other automated systems, from January 2017, are that this legislation might be inadequate for insurers wishing to invoke their statutory right of recoupment, because (i) product liability is optional, and (ii) no statutory minimum amount of cover is set. Against that, it should be acknowledged that motor insurers are in an advantageous commercial position to limit their exposure to risk by negotiating effective reimbursement guarantees from manufacturers and suppliers, in return for offering competitive (and from the ultimate consumer's perspective, affordable) premiums. Manufacturers who fail to incept a Volvo style compensatory guarantee are likely to find that the cost of insuring their vehicles might make their products unattractive to consumers. Problems will nevertheless arise where causation is disputed or needs to be apportioned. However, the motor insurance industry is best placed to confront these challenges as it has the necessary expertise and resources as well as a strategic overview that few private individuals could hope to command. It is conceivable that the MIB could co-ordinate collective actions against manufacturers and or develop a specialist expertise in these claims, as opposed to individual insurers. The government should ensure that its regulation of motor insurers ensures that the industry has taken all appropriate measures to safeguard its exposure to insolvency and to guarantee that victims recover their full compensatory entitlement. This is not something that can safely be left to the industry to self-regulate with complete autonomy.

The Consumer Protection Act 1987's - fitness for purpose for individual claimants

If the strict liability provisions of s2 are to be confined to highly and fully automated vehicles then this discriminates against victims of what are arguably even more dangerous forms of automation that are already on our roads or which will shortly be introduced (SAE L2 & 3 automation).

The UK's adversarial civil justice system, whilst striving to ensure fairness and to put individual parties on an equal footing on a case by case basis, has serious shortcomings when it comes to an unequal contest between private individuals and international corporations. Fixed recoverable costs and the proportionality rule shift the tactical advantage heavily to the advantage of a corporate opponent who can afford to adopt untenable or unreasonable stances in individual cases if it serves its wider commercial interests. Private individuals generally do not have the same expertise and usually nothing approaching a parity of resources. Accidents caused by existing and close to market levels of vehicle automation (SAE L2 & 3) are likely to prove to be fiendishly technical, time-consuming and costly. Modest value claims are likely to be disproportionately expensive to investigate, let alone litigate, and so many will be uneconomic to pursue. The effective abolition of public funding in this area exacerbates these inequalities.

The limited scope of the strict liability provisions of the 1987 Act is unlikely to assist victims in many of these cases. I consider some of its deficiencies in my New Law Journal article, Driverless Vehicles: a future perfect? (Part 2) 30 November 2018. These include:

- The imprecision and subjectivity of the definition of 'defect' , based as it is on the reasonable expectations of the public at large test is too nebulous a measure and subject to change. Accidents contributed or caused by semi-automated / transitional stages of automation will attract great public interest in the media, which risks lowering the public's expectations in this regard;
- The exclusion of wear and tear;

- The continuing uncertainty as whether all types of software are covered;
- The ability of manufacturers to issue lengthy disculpatory warnings in their manuals and literature, in the full knowledge that it is likely to be ignored by some (if not many) consumers;
- The relative ease with which a manufacturer like Tesla will be able to deploy the s4(e) defence that applies to cutting edge technology;
- The government's failure to regulate mandatory PL cover and minimum levels of liability
- The ten year long stop limitation.

Furthermore, in addition to the inadequacies of this legislation, an individual claimant who is unable to establish strict liability under the 1987 Act will be faced with a forbidding evidentiary burden in establishing what was the true cause of the accident. It is conceivable that one of many individual component manufacturers would be responsible for a systems failure. It is equally conceivable that the software was susceptible to hacking by a malicious third party or that the cause of accident was contributed to the driver / user's negligence . These are all unknowns (i.e. litigation risk) that undermine legal certainty and the prospect of an accident victims recovering his or her proper compensatory entitlement.

With all due respect, the inequality in access to justice that pervades the UK's civil justice system is not something that any responsible government should ignore. Nor should it overlook the fact that by licencing these evolving levels of automation for use on roads it has actual or at least constructive knowledge of the correlative risks associated with their deployment. The government has a moral obligation to ensure not only that the vehicles it licences are fit for their intended use but also that victims are fairly treated and fully compensated if and when something goes wrong. The present artificial dichotomy between advanced automated vehicles at SAE Ls4 & 5 and all other forms of automation lacks moral coherence and is unjustified.

It is appropriate to note the government's longstanding failure to fully implement Article 3 of Directive 2009/103/EC which requires any compulsory motor insurance for any civil liability (not just the personal fault of the user / owner / insured) and which extends to a much wider class of vehicle as well as private premises.

Urgent steps need to be taken to safeguard the interests of accident victims (which need to be given at least the same attention as the insurance industry). The most obvious solutions would be either to reform the CPA 1987 or to bring driver assist and conditional automation into the scope of the strict liability provisions of the AEVA 2018.

Consultation Question 19 (Paragraphs 6.61 - 6.116):

Do any other issues concerned with the law of product or retailer liability need to be addressed to ensure the safe deployment of driving automation?

Other related issues concerning the sufficiency of the AEVA 2018
What standard?

It is unclear whether the standard of care for the automated system is that of a reasonably careful driver, a highly skilled driver, a reasonably proficient software or of perfection. Nowhere in the Act is this specified, and I do not believe that this should be left to the courts. Private individuals injured by AV would be required to endure potential ruinous appeal to clarify the law. The law should be clear and comprehensive from the outset, with no need to rely on the courts to make decisions on the interpretation of the Act.

Untraced Drivers Agreement 2017 and the Uninsured Drivers Agreement 2015

The deficiencies alluded to at LCCR 240 para 6.18 et sequentia should be addressed immediately. Strict liability should attach to accidents caused by automated vehicles operating in driverless mode. The MIB has a history of obfuscation and delay and the government should take the initiative by dictating appropriate amendments to be agreed forthwith. Even with a Brexit, it would be sensible and possibly necessary to apply the continental principle of equivalence here.

Is section 2(6) of the 2018 Act sufficiently precise?

In ordinary motor insurance policy claims brought under s151 Road Traffic Act 1988, an insurer can apply under section 152 of the 1988 Act for the policy to be voided where the policy was induced through a fraud. Different tests apply, depending on whether the policy was a consumer or commercial contract. Where such an application succeeds in a voidance declaration, the policy is treated as though it never occurred. Strict liability under section 2 is premised on a policy being in force at the date of the accident.

Although s 2(6) of the 2018 Act provides “Except as provided by section 4, liability under this section may not be limited or excluded by a term of an insurance policy or in any other way”, it is unclear whether the phrase “any other way” provides an absolute prohibition on insurers avoiding liability after a policy has been issued. It is unclear whether it precludes an insurer from applying under section 152 for a declaration that the policy is void ab initio.

Incidentally, section 152(2) of the 1988 Act does not conform with EU law, see the CJEU ruling in Fidelidade Case C-287/16.

This uncertainty present by this imprecision in s2(6) of the 2018 Act creates a risk that without clarification, insurers will argue that strict liability does not apply, because strict liability under the Act only applies if insurance is in place. In these circumstances, a court could easily conclude that (i) insurance was not in place because the policy holder deliberately misled the insurer, voiding the policy as if it never existed and (ii) that this does not contravene section 2(6). Insurers can and do regularly raise these defences to evade liability under s 151 of the 1988 Act. Although this is prohibited under European law, these rulings have not been implemented/followed, and so in the absence of any UK precedent, their influence is set to be lost on Brexit, along with the EU law doctrine of direct effect. As such, it is even more vital that there be some clarification as to whether, under s2(6), insurers are precluded from applying under s 152 of the 1988 Act for a declaration that the policy is void, thus avoiding liability.

The review of insurance arrangements mandated by s7 of the 2018 Act is no answer. Insurers will be able to take a strategic view not to rock the boat during the first 2 years of the new regime coming into force.

Ideally, the government should abandon its long track record of laissez faire when it comes to regulating the wording of the policy terms of cover in this state regulated oligopoly of motor insurance. This would not compromise the ability of insurers to offer competitive rates and services, nor would it affect their ability to price risk against driver / user performance, or indeed to price in the risk presented by the ADS.